Chapter 13
Review of Quantity Surveying Training in China Between 2002 to 2022 Based on CiteSpace

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ABSTRACT

China's construction sector embarked on a journey of transformation with a "new engineering" strategy, beginning in 2016. Notably, two areas that have captured the attention of both industry and academics are the enhanced quality of quantity surveyors (QS) and the sustainable growth of the QS industry. This study focuses on the literature related to personnel training for QS over the last two decades. Utilizing the CiteSpace software for analysis, the authors examined the research status, focus, and trends in QS personnel training. The findings indicate growing scholarly interest in the training of QS personnel, with strong research focus on areas encompassing the definition of quantity surveying, higher vocational education, personnel training, innovation, and development. Furthermore, emerging areas such as new engineering, vocational education, curriculum ideology, political aspects, and BIM are anticipated to attract a lot of attention in the future.

INTRODUCTION

Recently, new engineering education reforms have been developed with the goal of cultivating fresh talent for the development of new technologies and industries. And also, with the development and national policy guidance of the construction industry, the industry has been reformed. This is especially so with the increased industry's usage of prefabricated construction technology and building information

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modelling (BIM) technology, which not only has a great impact on traditional construction technology but also on quantity surveying management and talent training (She, 2021).

Reform and Innovation of Talent Training Modes

In order to adapt to the new era and cultivate useful talents, the Ministry of Education is aggressively promoting the "new engineering" building plan. Meanwhile, Fudan Consensus, Tianda Action, and Beijing Guide were developed sequentially. Besides, "Notice on the Development of New Engineering Research and Practice" (MOHURD, 2017) as well as "Notice on the Promotion of New Engineering Research and Practice Projects" (MOHURD, 2017) are issued in order to explore a Chinese model or Chinese experience in engineering education. The documents released a list of the first batch of "new engineering" research and practice projects, including 202 "new engineering" comprehensive reform projects and 410 "new engineering" professional reform projects (MOHURD, 2017). Among them, the professional reform category of "new engineering" covers 19 project groups with hot "new engineering," such as artificial intelligence, big data, and intelligent manufacturing (Wang & Zhu, 2021). That is to say, with the concept of "new engineering" proposed by China for the first time in 2016, the Ministry of Education actively promotes the construction of "new engineering," which is a major strategic choice for engineering education reform against the backdrop of a new scientific and technological revolution (Wang & Zhu, 2021), a new industrial revolution, and a new economy (MOHURD, 2017). It is also a new idea and a new way for China's future engineering education (Zhang & Wang, 2020). The aim of "new engineering" construction is to cultivate new talents for the development of new technology and new industries. Therefore, the most critical task in the construction of "new engineering" is the reform and innovation of talent training modes (Wang & Zhu, 2021).

Changes of industry demand for quantity surveyors

Quantity surveying (QS) is a prominent building specialty that emerged as a result of China's market and economic development. The increasing expansion of the construction sector propels the QS industry forward. Moreover, the comprehensive quality improvement of QS personnel is the core element of the QS industry's sustainable and rapid development (Hou, 2021). With the industry's change, employment requirements for QS fresh graduates' abilities continue to improve, and the shortcomings of the traditional talent training model are also highlighted (Zhang & Wang, 2020).

As Wu & Li (2020) stated, with the development of the market economy, the value of the QS consulting industry and quantity surveyors has become more obvious. Enterprises will require whole-process QS consulting service capacity and enterprise informationization construction levels in order to respond to future development (Wu & Li., 2020). The rise of the whole process business and overseas markets opened up new growth opportunities for the QS consulting industry.

As Zhu et al. (2020) pointed out, China's QS industry has a good development trend and strong market demand, but there are also problems such as unbalanced development and talent shortages in the industry development. The training and management of QS talents are related to the quality of QS service and the level of professional level, closely related to the changes in the QS industry and the level of transformation and upgrading of construction industry.