

Research on the Cultivation Path of Craftsman Spirit Among Construction Site Workers

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Abstract: In order to improve the craftsman spirit of on-site construction personnel and accelerate the smooth transition of construction products from the development period to the mature period, a questionnaire survey method was used to investigate the characteristics of construction personnel of different levels and the problems existing in the cultivation of craftsman spirit. The results show that there was lack of awareness in understanding craftsman spirit among construction personnel, the consciousness of their own craftsman spirit cultivation was insufficient, and no effective measures have been taken to cultivate the craftsman spirit. Based on the research results, the ways to cultivate the craftsman spirit of on-site construction personnel are given.

Keywords: Construction personnel; Craftsman spirit; Cultivation path

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1. Introduction

The process of pursuing high quality and performance of construction products to energy saving, emission reduction, and recycling is of great significance to the cultivation of craftsman spirit of construction workers on site in line of the “double carbon” strategy.

Starting from the connotation of craftsman spirit, some scholars believe that “craftsman spirit” is a value upheld by employees, which belongs to the category of professionalism. It is the concept of paying attention to details, patience and concentration, and striving for perfection of products^[1]. Other scholars have studied the correlation between craftsman spirit and product quality from the perspective of professionalism^[2-4] and professional skills^[5]. It was found that craftsman spirit had a significant effect on reducing the scrap rate of enterprise production and improving enterprise performance. Based on this, scholars have studied the path of craftsman spirit cultivation from different perspectives such as government, school, enterprise and market^[6-8], but there are few studies on the of craftsman spirit cultivation construction personnel at construction sites. Thus, we proposed a research on the cultivation path based on actual situations.

2. Research methods and data sources

This study uses “Questionnaire Star” electronic questionnaire and random telephone interview to conduct online research, in consideration of factors such as gender, occupation, age, and so on. Investigation was

also carried out on the personnel of construction sites. A total of 252 questionnaires were distributed, recovered, and all questionnaires were valid and collected. The basic information of this survey sample is shown in **Table 1**. This basic information provides data support for the research on the cultivation path of craftsman spirit of construction site workers.

Table 1. Basic information questionnaire

Item	Option	Head / Proportion	Item	Option	Head / Proportion
Age	18-25	116/46.03%	Type of work	Manager	132/52.38%
	26-30	68/26.98%		Line technician	84/33.33%
	31-40	32/12.7%		Frontline operators	16/6.35%
	41-50	28/11.11%		Special operation personnel	20/7.94%
	51-60	8/3.18%		Junior high school and below	24/9.52%
	60+	0/0%		Senior high	24/9.52%
Job level	0-3	96/38.1%	Record of formal schooling	College for professional training	120/47.62%
	3-5	44/17.46%		Regular college course	64/25.4%
	5-10	64/25.4%		Master degree and above	20/7.94%
	10-20	16/6.35%		Male	176/69.84%
	20+	32/12.7%		Female	76/30.16%

3. Analysis of research results

3.1. Lack of awareness of independent understanding of craftsman spirit

Craftsman spirit is not only reflected in the level of professional skills, but also in the level of professionalism. Construction site construction personnel should take more initiative in understanding the connotation and concept of craftsman spirit, pay attention to the cultivation of their own craftsman spirit, improve their skill level while improving their ideological and political literacy, and strive to be a great craftsman for the country.

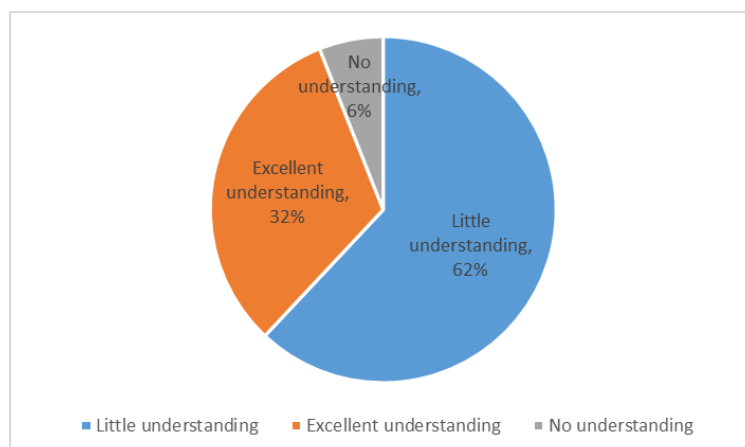


Figure 1. Understanding of craftsman spirit

Figure 1 shows that most of the construction personnel do not know much about craftsman spirit, with some completely oblivious to it. When the meaning of craftsman spirit is not understood fully, follow-up work is difficult to carry out.

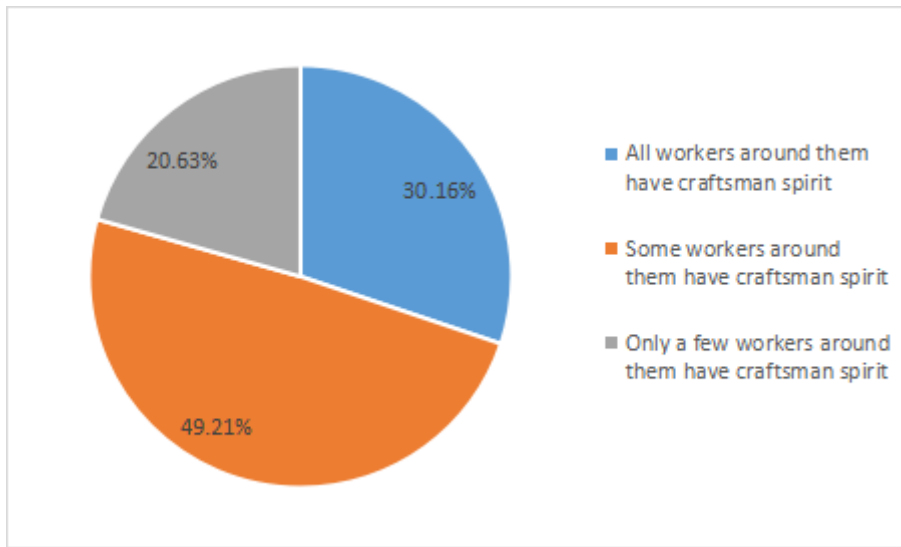


Figure 2. Investigation on the current situation of craftsman spirit in construction site

Figure 2 is results of a survey on construction workers who are very aware of craftsman spirit. It was found that about half of the respondents believe that only a small number of people on the construction site have craftsman spirit. The lack of understanding of the connotation of craftsman spirit, the biased understanding of craftsman spirit, and the lack of attention to craftsman spirit affect the cultivation of craftsman spirit. Therefore, it is crucial to cultivate the craftsman spirit of on-site construction personnel.

3.2. Lack of self-consciousness in the cultivation of craftsman spirit

When there is lack of awareness of cultivating craftsman spirit, the number of people who actually have craftsman spirit will not increase.

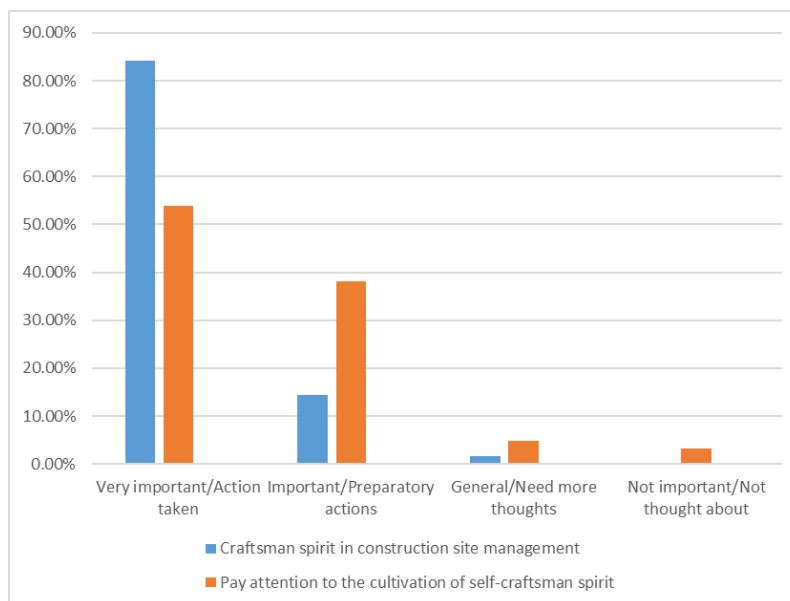


Figure 3. Investigation on the matching of craftsman spirit in construction site

It can be seen from **Figure 3** that the construction workers on the construction site are aware of the importance of craftsman spirit, but they do not pay enough attention to the cultivation of their own craftsman spirit. Both personal effort and a good objective environment for craftsman are needed in order to instil craftsman spirit among workers. An objective environment includes the current situation of the cultivation of craftsman spirit in the construction site, construction industry and society, the current publicity effect of craftsman spirit, and the guidance of craftsman spirit by enterprises and the state. Only when all the construction personnel begin to pay attention to the cultivation of their own craftsman spirit and take themselves as the centre of divergence can they promote the cultivation of craftsman spirit in the whole industry and even the whole society.

3.3. Different understandings of the connotation of craftsman spirit

China has a fine tradition of carrying forward the craftsman spirit since ancient times. With the change of the times, the connotation of the craftsman spirit has been advancing with the times.

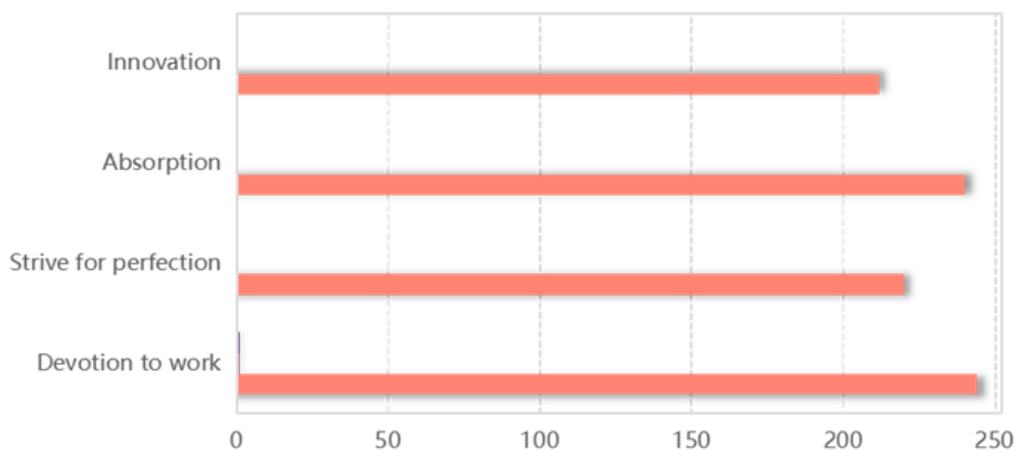


Figure 4. Understanding of craftsman spirit

It can be seen from **Figure 4** that the understanding of the connotation of the craftsman spirit by the construction personnel on the construction site is not uniform. The one-sidedness of cognition has made the cultivation of craftsman spirit difficult. Craftsman spirit can only be developed by understanding and internalizing the its connotation.

3.4. Propaganda effect is not ideal

There have always been problems in the construction industry, and the development of the craftsman spirit in the new era has provided new opportunities for the development of the construction industry. Therefore, it is particularly important to promote the cultivation of craftsman spirit in different ways so that construction workers can understand and embody craftsman spirit.

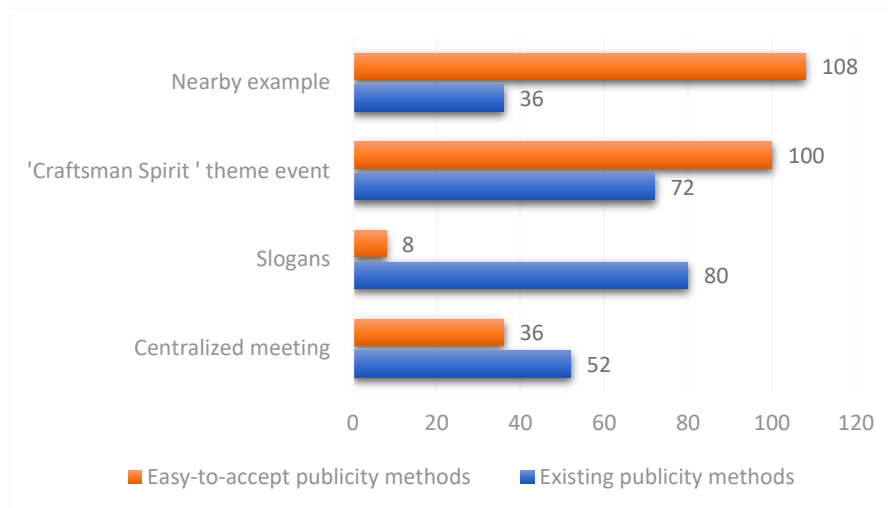


Figure 5. Craftsman spirit publicity research

It can be seen from **Figure 5** that the degree of investment in existing publicity methods is not proportional to their acceptance. The result of this phenomenon is due to the unsatisfactory publicity effect. Taking the most invested slogans and the most accepted role models as examples, it can be seen that most of the investigators understand craftsman spirit from the propaganda slogans, but in this way, the inheritance of the craftsman spirit is the least accepted; while only a small number of building site construction workers among the survey understand craftsman spirit from examples or role models around them, but the survey shows that it is the highest level of acceptance. The unequal publicity channels and information reception lead to unsatisfactory publicity effect of craftsman spirit and waste of publicity resources. Therefore, the preferences and acceptance of construction personnel on different publicity methods needs to be understood, followed by investment in corresponding resources, so as to balance the acceptance of construction personnel and the investment of publicity methods, and achieve reasonable publicity effect.

4. Conclusion and suggestions

4.1. Innovative talent training mode and promote craftsman spirit

4.1.1. Role of professional training in the cultivation of craftsman spirit

The construction site construction personnel requirements are increasing with time, more and more talents from colleges and universities are invested in teams of construction personnel at the construction sites. As one of the main training positions for construction personnel on the construction site, colleges and universities shoulder the important responsibility of cultivating people with morality. They should give full play to professional education, based on characteristics of architecture-related majors. In the process of education and teaching of architecture-related majors, cultural literacy and technical literacy are equally important in cultivating the craftsman spirit of college students and creating a professional construction of ideological and political elements with craftsman spirit.

4.1.2. Role of college and university curriculum in the cultivation of craftsman spirit

Professional courses have a strong supporting role in cultivating craftsman spirit. Colleges and universities should provide sufficient curriculum ideological and political education in the talent training program to realize reformation and strengthen the curriculum education orientation. Using the experiences of students

who became professionals, combined with the principles of curriculum design, as well as the exploration of effective teaching methods, the students will be more enthusiastic and the craftsman spirit can be cultivated.

4.1.3. Role of practical courses in learning craftsman spirit

Practical courses are a very important part as a training before students enter the working world. Colleges and universities can integrate the development strategy of science and technology culture at provincial and municipal levels, create an internship platform with various enterprises, initiate collaborations with enterprises, integrate the needs of society and enterprises into the practical courses, and guide students in choosing suitable internship positions according to the characteristics of each major, so as to realize a school-enterprise collaboration system. Grasping the construction of craftsman spirit plays an important role in the cultivation of talents in colleges and universities, providing more excellent basic conditions for students' inauguration and future development in their careers, and improving students' competitiveness after entering the society^[9].

4.2. Enrich skill improvement platforms and practice craftsman spirit

4.2.1. Importance of role models in cultivation of craftsman spirit

The power of role models is of great significance to the cultivation of craftsman spirit. Pioneers may appear in all types of work on the construction site. Role models play a leading role in the construction site, driving the whole construction site to achieve the goal with high quality, thus promoting the cultivation of craftsmanship of all construction personnel. The construction personnel not only improve their own technological level in actual work, but also cultivate their own craftsmanship spirit through exposure. As the saying goes "take the example as a teacher", other construction personnel can learn from their firm ideals and beliefs, and actively practice the spirit of craftsmanship of a great country in the new era, and promote the spirit of craftsmanship in the whole enterprise, industry and society.

4.2.2. Master and apprentice culture inheritance craftsman spirit

Craftsman spirit is not formed instantaneously, but is passed down from generation to generation of Chinese people. Model workers, technical craftsmen and others can be invited to participate in the training and teaching of novice construction workers, so that the participants can be influenced by the craftsman spirit of the master. The work behavior, ability to solve problems, professionalism and so on of the experts, combined with the teaching of theoretical knowledge, can drastically improve the professional abilities of the novice construction workers. School-enterprise collaboration and work-study combination will be beneficial for students to adapt to the working environment and cope with a series of challenges encountered in the work process, and finally become a great country craftsman with craftsman spirit.

4.2.3. The socialist core values lead the craftsman spirit

The socialist core values include "patriotism, dedication, integrity, and friendliness" at an individual level, and the craftsman spirit, as a spirit of concentration and single-mindedness, is the enrichment and development of the core values of dedication. Therefore, the craftsman spirit should become the core value and principle that should be established in all industries^[10]. As an important part of the construction industry, construction workers should understand and internalize the socialist core values and cultivate their own craftsman spirit based on the values.

4.3. Improve the quality of training methods, nurturing the spirit of artisans

4.3.1. Role of corporate culture in nurturing the craftsman spirit

Enterprises should first change their concepts, establish the belief of building a century-old store and national brand, regard craftsman spirit as life, and regard perfect quality as the added value of products ^[11]. An enterprise culture that values technology and values talents with the spirit of craftsmen as the core should be created. Besides, quality improvement and the establishment of a corporate brand should also be emphasized, so that the spirit of craftsmen can be inherited and continued. Influential corporate brand culture activities should be carried out, as well as craftsman-spirit themed activities, seminars and other activities. Experiences of craftsman can also be shared around, as well as passing down unique cultural characteristics, set up a model with craftsmanship, play the role of model worker education, and truly cultivate high-quality enterprise talents with good will quality, professional ethics, responsibility and innovation.

4.3.2. Role of environmental culture in the cultivation of craftsman spirit

The function of environmental education should be highlighted, integrate the characteristics of construction site, integrate enterprise culture and professional culture into the construction site, and form an educational environment that highlights the spiritual connotation of craftsmen. A good environment has multiple positive effects. Construction personnel with the spirit of craftsman will always maintain their own progressive ideas and do their best to complete their work., This can make the construction site construction personnel who do not have the craftsman spirit begin to realize their own shortcomings, learn from the excellent construction personnel, and gradually be at par with or even surpass the excellent personnel ; In a long run, when all the construction personnel to achieve their own progress, a high-quality completion of the project can be achieved, leading to the improvement of the enterprise's image and helps in establishing a good corporate brand, and is therefore conducive to the sustained development of enterprises.

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Disclosure statement

The authors declare no conflict of interest.

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