

Research on the Skill Improvement System of Migrant Workers in the Construction Industry Based on the “Training Package” Model—Take Shandong Province as an Example

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Abstract: This paper takes the re-education of migrant workers in the construction industry in Shandong Province as the research object, and discusses the problems existing in the skills training of migrant workers in the construction industry at present, including the fixed form, limited resources, differences in educational background, and the lack of systematic and long-term training mechanism linked to academic qualifications. Based on this, this paper proposes to build a improvement system of technical ability based on "training package" in parallel with academic qualifications and certificates. This paper argues that a training system should be established under the unified management of the government, with higher vocational colleges as the main training force, and further set up a "training package" group to develop personalized teaching resources and modes that meet the characteristics of migrant workers, in order to achieve the parallel of academic qualifications and professional qualification certificates, it lays the foundation for the improvement of the educational level of migrant workers and the connectivity certification of ordinary colleges and Universities.

1. Introduction

In August 2019, the people's Government of Shandong Province issued the "Shandong Province Vocational Skills Improvement Action Implementation Plan (2019-2021)" [1], which takes the "action of migrant workers to study and realize their dreams" as a key work. As a labor-intensive construction industry, it has always been one of the main industries for migrant workers in Shandong Province to find employment in urban areas. With the industrial upgrading of the construction industry and the vigorous development of construction mechanization, assembly, intelligence, and green building, the requirements of the construction industry for the cultural level and vocational skills of its employees are also increasing. The traditional low-threshold manual

labor will not be able to meet the labor demand of the construction industry in the future. At the same time, the new generation of migrant workers in Shandong Province also has a strong demand for their own career planning and vocational skills training. In December 2018, the Shandong Provincial Department of Housing and Urban-Rural Development issued the "Implementation Plan on Launching the Construction Worker Management Service Information Platform to Promote the Real-Name Management of Construction Workers with High-Quality" [2], which effectively promoted the transformation of migrant workers in the construction industry to industrial workers. Under the current situation, higher vocational colleges in Shandong Province should fully respond to the call of the government, strive to explore and practice the new mode of skills improvement of migrant workers, take positive action to comprehensively improve the vocational skills, cultural level and professional quality of the new generation of migrant workers in the construction industry, and promote the upgrading and transformation of traditional peasant workers to "craftsman" industrial workers as soon as possible.

2. Problems Existing in Skill Training of Migrant Workers in Construction Industry

2.1. The Training form is Solidified, and the Learning Resources are Limited

At present, the training form of migrant workers in the construction industry in our province is still focused on centralized training, and the organizers are mostly enterprises, governments, and social training institutions. Centralized training is often carried out in the way of a fixed sites, gathering students and unified teaching. This traditional and solidified form of training is often ineffective [3]. First of all, the number of trainees is large, and the classroom organization and teaching design are mostly based on traditional teaching, which is difficult to mobilize the enthusiasm of students, and the interaction and participation of students are not high; secondly, the learning basis of the trainees is uneven, and there are great differences in the understanding and mastery of the teaching content; In addition, the learning resources of this training form are limited and single, which are text resources mostly, and can not be effectively shared with every student. Even if the classroom handouts or teaching courseware are shared with all students, the utilization rate of this kind of learning resources by students in their future work is very low.

2.2. The Learning Base of the Training Subjects is Uneven, and it is Difficult to Achieve Personalized Skill Improvement

Migrant workers who participate in skills training are often engaged in simple and repetitive basic labor or skilled skill operations in actual work. When they are employed, the employers do not have strict regulations and uniform screening for their academic qualifications. Therefore, migrant workers often have uneven learning foundations and diverse educational levels. With the rise of the new generation of migrant workers after the 1980s and 1990s, there are not a few migrant workers with high school, technical secondary school, or even college degrees. Therefore, in the skills training, there is a problem that the learning basis and learning ability of the training subjects are quite different. It is difficult to integrate training plans suitable for all academic levels, which brings difficulties to the centralized training of migrant workers. In the past, any kind of centralized training is difficult to provide personalized learning programs for migrant workers with different educational levels and learning bases. The lack of personalized learning programs is one of the important obstacles to the accumulation of learning interests, the improvement of knowledge and skills, and career planning of migrant workers, and further increases the mobility of migrant workers.

2.3. Lack of Systematic and Long-Term Training Mechanism Linked to Academic Qualifications

Subject to time and benefit factors, the skill training organized by enterprises, governments, and social training institutions shows the characteristics of short-term. Whether it is prejob training, project training, or other special training, it is centrally organized and completed in a short time. Considering the large mobility of migrant workers, some construction enterprises do not pay enough attention to the training of migrant workers. The special skill training of migrant workers still depends on the traditional apprenticeship and is taught by the "master" in the actual production and operation. Migrant workers in the construction industry still lack a systematic and long-term training mechanism linked to their academic qualifications. Only by establishing a systematic and long-term training mechanism can help migrant workers establish a perfect professional knowledge system, continuously consolidate and improve the skill level of migrant workers, and normalize the reeducation of migrant workers. If the training and reeducation of migrant workers can be linked with their academic qualifications, it will be of great significance for the improvement of the overall quality and ability of migrant workers and career planning, and will greatly promote the transformation and upgrading of traditional migrant workers to industrial workers [4].

3. The Necessity of Building a Skill Improvement System for Migrant Workers in the Construction Industry

3.1. Inevitable Requirements for Industrial Upgrading in the Construction Industry

With the development of economy and the progress of science and technology, the pace of industrial upgrading in the construction industry is accelerating, and prefabricated buildings, smart buildings, and green buildings are booming. The construction industry is facing unprecedented opportunities and challenges. At the same time, industrial transformation and upgrading also put forward higher requirements for employees in the construction industry. The repetitive, single and low threshold manual labor in the traditional construction industry will eventually be gradually replaced by industrialized and mechanized operation methods, and high-quality industrial workers with both academic qualifications and skills will become the labor force of the construction industry in the future. Based on this, it is an inevitable requirement for the industrial upgrading of the construction industry to build a skill improvement system for migrant workers in the construction industry in higher vocational colleges.

3.2. Necessary Conditions for Career Planning of the New Generation of Migrant Workers

The new generation of migrant workers mostly refers to urban migrant workers with rural household registration after the 1980s and 1990s. The new generation of migrant workers and traditional migrant workers are not only different in generation and age, but also have very different growth environments and ways of thinking. The new generation of migrant workers generally have a higher educational level than their parents, have high expectations for their career prospects, and have a strong willingness to receive reeducation and self-improvement. However, the current forms of vocational skills training for migrant workers in the construction industry are mostly traditional apprenticeships, construction enterprise-led training, and commercial profit training. It is difficult to meet the personal skills improvement and career planning of the new generation of migrant workers. It is imperative to improve the skills of migrant workers in the industry.

3.3. The Inevitable Way of Open, Socialized and Diversified Development of Vocational Education

Building a skill improvement system for migrant workers in the construction industry in higher vocational colleges is an inevitable way for vocational colleges to better serve regional economic construction and seek the road of socialization and diversified development. Vocational colleges can take advantage of the opportunity of building a skill improvement system for migrant workers in the construction industry, innovate and develop education and teaching ideas, and learn from the advanced experience of western countries, such as the "training package" model in Australian vocational education, to realize self-renewal and improvement. Vocational colleges can also broaden their development ideas: (1) reform the management system, unify the management system, and build a "training package" system for improving the skills of migrant workers in the construction industry that combines academic qualifications and training; (2) implement open schools and reform the curriculum system to realize the integration of school education and vocational qualification education; (3) implement flexible learning systems such as the credit system, and the flexible learning system creates conditions for construction farmers to receive re-education.

4. Build a Skill Improvement System Based on the "Training Package" in Parallel with Academic Qualifications and Certificates

The foreign vocational education skill improvement model with "training package" as the carrier has profound reference significance for the construction of the skill improvement system of migrant workers in my country's construction industry. Australia's vocational education for skills improvement under the "training package" model is relatively mature and complete, and has been linked to the national academic education through the qualification education framework, realizing the unified connection between academic education and vocational skills improvement. Based on this, drawing on the foreign "training package" model, this paper proposes to build a parallel training system of "academic degree + certificate" for migrant workers in the construction industry, to make vocational education and academic degree certification interconnected, realize the new mode of unifying government management, standardizing learning standards and integrating career promotion.

4.1. Unified Management by the Government

Encourage migrant workers to receive reeducation, reduce the education promotion threshold of migrant workers in the construction industry, realize the mutual certification of vocational education and vocational qualification training, and realize the parallel of education and vocational qualification certificate. First, we must ensure the seriousness of vocational education and academic education of migrant workers. Therefore, the construction of the training system must be carried out under the unified management and supervision of the government, the training quality of the training institutions for migrant workers in the construction industry must be seriously assessed, the assessment and certification of vocational training should be strictly controlled, and the connection of the two systems of vocational education and academic education should be strictly formulated.

4.2. Higher Vocational Colleges as the Main Force for Implementing Training

There are three reasons for taking higher vocational colleges as the main training institutions: First, compared with social training institutions for profit, higher vocational colleges have a higher

ideological position and a more sound and rigorous organizational structure; Second, higher vocational colleges have a complete set of teaching resources, such as teaching venues, teaching equipment, training venues, teachers, teaching management mechanisms, etc; third, taking higher vocational colleges as the main force for implementing training will promote school-enterprise cooperation, promote higher vocational colleges to serve the local economy, and broaden the development path of higher vocational colleges.

4.3. Form a “Training Package” Team

Table 1: Framework for migrant workers in the construction industry

Grade	Education	Skill appraisal and diploma	Appropriate culture degree	Use of knowledge and skills	Post
Grade I		Skills upgrading certificate	Primary school	Grade I level skill application	Grad I post 1
					Grad I post 2
					Grad I post 3
				
Grade II	Vocational secondary school	Technical secondary school diploma	Junior high school	Grade II level skill application	Grade II post 1
				
Grade III	Higher vocational college	Diploma of higher vocational college	High school	Grade III level skill application	Grade III post 1
				
Grade IV	Higher vocational undergraduate	Higher vocational undergraduate diploma	High school	Grade IV level skill application	Grade IV post 1
				

Table 2: Construction Technology Professional Talent Training Program Training Package

Professional category	Major	Grade	Post	Environment of position	Talent training program training package	Education	
Civil construction technology	Construction technology	Grade I	Grad I post 1	Investigate and build the working environment of migrant workers. Lay the foundation for talent quality requirements and assessment scheme formulation.	Post 1	Identification certificate	
			Grad I post 2		Post 2		
			Grad I post 3		Post 3		
						
		Grade II	Grade II post 1		Professional talent training program	Vocational secondary school	
		Grade III	Grade III post 1		Professional talent training program	Higher vocational college	
		Grade IV	Grade IV post 1		Professional talent training program	Higher vocational undergraduate	

A "training package" research and development team is jointly established by education authorities, higher vocational colleges, and industry enterprise experts to accurately determine the

job skills requirements and environmental characteristics of migrant workers in the construction industry, and develop talent training programs and courses corresponding to the positions. On the basis of investigating the job needs of construction enterprises for migrant workers and classifying and positioning the job needs, we build a professional qualification framework for migrant workers in the construction industry, see Table 1. And do a good job in the development and coding of "education + certificate" parallel "training packages". The curriculum training package is prepared according to unified standards, and the training unit must develop corresponding curriculum teaching resources and assessment schemes according to the requirements of the curriculum training package. The "training package" research and development team should further investigate the structure of migrant workers to understand their learning needs and learning characteristics. Actively accept feedback on the training package from various communication channels, and constantly revise and improve, see Table 2.

4.4. Develop Personalized Teaching Resources and Teaching Modes that Meet the Characteristics of Migrant Workers

Although migrant workers in the construction industry have different educational levels and learning foundations, and their knowledge structure is not perfect, they have accumulated a certain amount of practical experience in actual work, and they have a strong goal of receiving reeducation. In the process of teaching implementation, migrant workers should be the main body, and the on-site teaching method should be used to avoid perfusion teaching. Effective use of online courses, video teaching, demonstration teaching, and other intuitive teaching methods to develop flexible and diverse teaching resources suitable for the characteristics of construction migrant workers. On the basis of apprenticeship, order training, part-time work-study, and other training modes, the time factor and economic conditions are fully considered, and the flexible school system and credit accumulation model are adopted to better apply to the individual development of migrant workers with different educational backgrounds, see Figure 1.

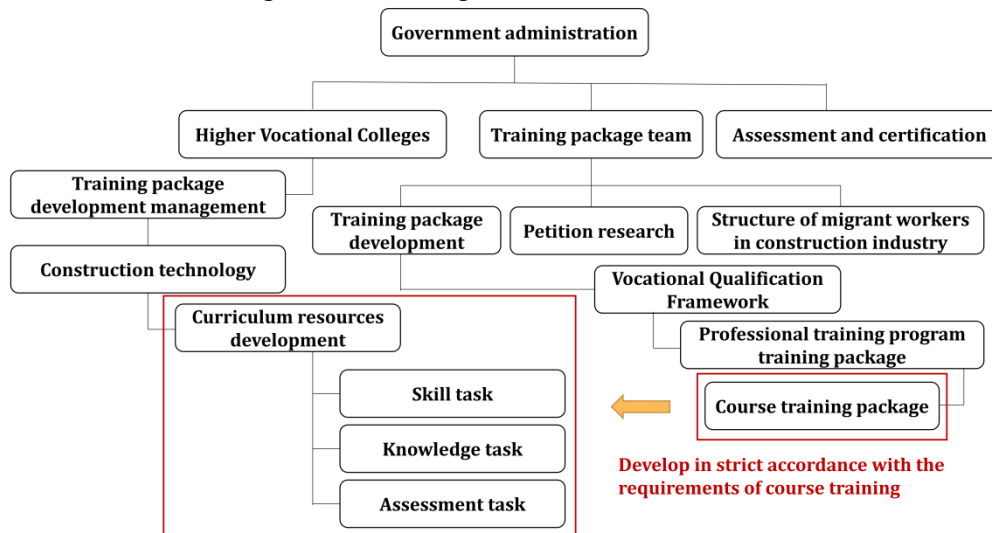


Figure 1: Skill upgrading system of construction migrant workers

5. Conclusions

The industrial upgrading of the construction industry has put forward higher requirements for the cultural level and vocational skills of its employees, the Shandong Provincial Department of

Housing and Urban-Rural Development issued the "Implementation Plan on Launching the Construction Worker Management Service Information Platform to Promote the Real-Name Management of Construction Workers with High-Quality" [5], it has further promoted the pace of transformation and upgrading of migrant workers in the construction industry to industrial workers. However, the current skills training of migrant workers in the construction industry is mainly short-term and concentrated training, and the form is fixed and resources are limited. Facing migrant workers with different educational levels, it is difficult for them to receive reeducation and improve their career planning. demand. Therefore, this paper draws on the "training package" model in Australian vocational education and proposes the construction of a training package-based skills improvement system in parallel with academic qualifications and certificates. Suggestions are given in four aspects of innovative teaching resources and models. It provides a reference for exploring the new mode of skill improvement of migrant workers and new ideas for the development of higher vocational colleges.

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