

Design and Research of Civil Engineering Courses under the Guidance of “The Belt and Road” Strategy Based on Craftsman Spirit

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Abstract—Based on the craftsman spirit and under the guidance of “The Belt and Road” strategy, this paper serves as the supplementary civil international course system for vocational education courses, which is used for the development and utilization of blank. This paper also combines with our school cooperation with the actual demand for infrastructure construction and technical personnel of Tanzania enterprise, China-Africa cooperation projects in Tanzania, further establishing and improving the “school of Luban” civil engineering curriculum system; and detailed design a set of integrated into the spirit connotation of curriculum system and reasonable arrangement of courses and lessons so as to carries on the practice and application in the project to promote.

Keywords—*Craftsman spirit; The Belt and Road; Luban college; Civil engineering course system*

I. INTRODUCTION

“The Belt and Road” strategy is the inherent requirement for the reform of the global governance system, the practical path for building a “community of Shared future for mankind”, and the new ideas and schemes for improving the global governance system [1]. Since “The Belt and Road” initiative and strategy were put forward, vocational education cooperation among countries along the belt and road between China and Africa has been gradually put on the agenda. Since 2015, China and ASEAN vocational education joint exhibition BBS was held to kick off the belt and road initiative. “cooperation in training talents and boosting “The Belt and Road” is the central topic of BBS. The purpose of BBS is to build an international cooperation platform for vocational education and strengthen the cooperation between China and ASEAN countries in the field of vocational education. In October 2016, “The Belt and Road” industry-education synergy summit was held in Beijing, and the initiative and call for the establishment of industry-education synergy alliance was launched, providing an opportunity and a hotbed for the in-depth development of industry-education synergy in countries along “The Belt and Road” [2]. In June 2017, the “opening ceremony of silk road education cooperation and exchange conference under the silk road expo 2017” was grandly held in xi 'an, and “The Belt and Road” vocational education alliance was formally established. From April 25 to 27, 2019, the second “The Belt and Road” international

cooperation summit BBS was held in Beijing, with fruitful results.

We, as professional educators, culture of human is our fundamental task for education, based on the Craftsman spirit, to research and development of practical teaching system of international cooperation project between colleges of Tanzania for pilot and starting point, actively seek the cooperation of countries along the same, one step at a time to promote the implementation of the education teaching, stresses the education results in cultural fusion, bit by bit in civil engineering or related course curriculum design as the carrier, the Craftsman spirit to education into the curriculum system construction, adhering to the open coordination, cooperation, innovation as the concept [3-4], truly “teach them to fish”, to seek the coordinated development of vocational education and industry, To further guide vocational education to respond to “The Belt and Road” strategy, expand vocational education exchanges and cooperation in countries and regions along the belt and road, and provide support for the establishment and implementation of Luban college of our university [5].

II. BACKGROUND RESEARCH ON CRAFTSMAN SPIRIT AND CIVIL ENGINEERING COURSE SYSTEM CONSTRUCTION

“We will build an army of knowledge-based, skilled and innovative workers, promote the spirit of model workers and craftsmen, and foster a glorious social practice of working and an ethos of dedication to excellence. “This is the relevant requirement for vocational education in the spirit of the 19th CPC national congress [5]. “Craftsman spirit” is the spirit of product refinement, excellence, the pursuit of excellence, and continuous innovation. The core lies in not only regarding work as a means of making a living, but also establishing the reverence for work, the focus on career, the responsibility, the persistence on quality and the pursuit of perfection, and internalizing these qualities in the heart and externalizing them in the practice [6]. Vocational education is a kind of cross-border education with both educational and economic attributes.

In the course design of “The Belt and Road” civil engineering school-enterprise cooperation, it is necessary to build a talent cultivation mode and curriculum system different from the previous one based on the spirit of craftsman. The talent cultivation mode and curriculum system determine the

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quality of talent cultivation and are the core link of "The Belt and Road" construction. Based on the spirit of craftsman and under the guidance of "The Belt and Road" strategy, the integration and implementation of civil engineering curriculum system and school-enterprise curriculum highlight the dual-subject education mechanism of school-enterprise co-construction and co-education. University-enterprise cooperation course of financing and smooth implementation, the spirit is to guarantee and improve the core and key of the quality of personnel training, for the "area" Luban college classroom teaching implementation of the pilot project experience, further from the level of higher vocational colleges support the implementation of the strategy of "area" and the implementation, also contributed to the school international development path [7].

III. INHERITING THE SPIRIT OF CRAFTSMAN AND STUDYING THE MODE OF "THE BELT AND ROAD" SERVICE

We are all familiar with the saying: "teachers, imparting knowledge and knowledge to dispel doubts." Among them, "preaching" takes precedence over "imparting knowledge" and "dispelling doubts". The report of the 19th national congress of the communist party of China put forward the requirement of "comprehensively implementing the party's educational policy and carrying out the fundamental task of cultivating virtue" when talking about the education work. In the part of "implementing the new development concept and building a modern economic system", it is proposed to "build an army of knowledge-based, skilled and innovative workers, carry forward the spirit of model workers and craftsmen, and create a glorious social fashion of working and a spirit of dedication to excellence.

To thoroughly study and apply new era xi the ideas of socialism with Chinese characteristics and the party's 19 big spirit, in-depth implementation of the ideological and political work conference spirit, adhere to khalid ents as fundamental, to the socialist core values education as the main line, dig deep refining contained all kinds of professional course of ideological elements and function of moral education, study design contains ideological elements in civil engineering design and application of specialized courses, forming education curriculum and the educational pattern of course ideological work. Through application and analysis, the excellent model of "curriculum ideological and political education" is promoted to improve the quality of classroom teaching, enhance the effect of education and realize the goal of "three aspects of education" [8]. Colleges and universities must take correct value guidance and common ideal and belief as the bright background of socialist college classes through curriculum construction, and truly make all kinds of courses "keep a canal and plant a good field of responsibility". Course education "construction foundation in key course, focus on ideological building, construction in the construction of teachers, beginning in the construction of teaching materials, results in the students, this article is based on the spirit, to civil engineering class curriculum construction as the center, keep the spirit to carry forward a model, the ideological and political education into the professional teaching, ideological education should play the role of guidance.

The practical significance of the spirit of craftsman lies in that although its benefits are small, it benefits the world for a long time. Craftsman spirit is to constantly carve their own products, constantly improve their craft, enjoy the product in both hands in the process of sublimation. At the same time, we have high requirements for details, pursue perfection and perfection, and insist on and pursue high-quality products. In the field of civil engineering, the implementation of China - Africa cooperation projects is mostly about infrastructure construction, which is related to the national economy and people's livelihood as well as long-term and stable use. This spirit is even more important.

In the construction of Luban college's international cooperation project, we take cultivating the spirit of craftsman as one of the soul of teaching, and infiltrate the spirit of craftsman into field teaching. Through the renewal of the curriculum design and teaching idea, combining Luban exhibition and Luban forum, as the theme, in the spirit of craftsman professor workman spirit of excellence, adhere to professional, serious and responsible, love the quality of the labor [3-4], let love of students and workers infected and edification, seize the spirit to cultivate students the foundation, cultivate talents construction high quality technical skills, in the construction of "area", director of the play and become China's vocational education the innovation of the brand of "going out", vigorously carry forward the nation spirit, spread good Chinese vocational education's "good sound".

IV. RESEARCH SIGNIFICANCE OF "THE BELT AND ROAD" CIVIL ENGINEERING SCHOOL-ENTERPRISE COOPERATION COURSE DEVELOPMENT BASED ON CRAFTSMAN SPIRIT

Macroscopically speaking, for "The Belt and Road" construction, the construction of infrastructure is the first, so the development of civil engineering is particularly important. All the way on the micro level, for the "area" the development of vocational education alliance and the depth of the fusion education implementation, build based on the spirit of "area" construction class specialized curriculum system, course system and application of the practical teaching, "Luban college" in the project implementation in Tanzania and correction, is time request of the play to the ideological education, and service in the construction of "area" depth fusion reality of vocational education teaching needs. "The Belt and Road" civil engineering course design, in a broad sense, includes technical skills construction and cultural construction. Among them, the spirit culture to focus on to the connotation of mining and dissemination as the main way, into the "area" all the way along the country's culture amorous feelings, the modern civil engineering professional development in our country as China's modern business card, by shaping and dissemination of Chinese construction power image interpretation and transfer Chinese modern civil engineering construction of culture idea, show the image of country. From a narrow sense said, we need to build a specific professional curriculum system, in the professional teaching conscious education into the spirit connotation, with "Luban college" as the pilot, combining the actual demand of Tanzania cooperative enterprise of talent, establish relevant theory and

practice of the course, and reasonable arrangement of courses and lessons, the actual practice of the strategy of "area" [9].

At the beginning of 2018, our college studies the unit engineering professional technology institute and Chongqing international co., LTD in Dar-es-Salaam, Tanzania Chinese-invested enterprises joint construction jointly launched "the Luban institute", the main purpose of the open "the Luban institute" is in order to develop the cooperation unit of employees, the Tanzania to impart the skill mature infrastructure construction in China love of people, especially the relationship between national economy and people's livelihood such as bridge, tunnel, municipal infrastructure construction technology. Luban college and distance education center in Tanzania is the first localized online training platform for senior management and technical personnel in construction industry jointly carried out by universities and enterprises in Chongqing. The project will carry out training for senior managers and technical personnel in Tanzania construction enterprises through the cloud platform independently developed by the school. In the later stage, the project will plan to recruit students and carry out academic education. On March 19, 2019, at 4:00 PM (Beijing time on March 19, at 21:00), the opening ceremony of Luban college and distance education center in Tanzania, which is a cooperation between our school and united construction international co., LTD., was held in the conference room of united construction international co., LTD. The listing ceremony was highly valued by the local government and media. Huaqiao weekly, a local Chinese newspaper, daily news, a local Tanzania newspaper, and AZMA TV all reported the activity on the spot and interviewed the guests, laying a foundation for the subsequent civil engineering course design and practical application.

The construction of the curriculum system of "Luban college" should be closely combined with the connotation of craftsman spirit and set around the needs of Tanzania's local social development and industrial enterprises, which can greatly meet the needs of local civil engineering talents. Civil engineering courses teaching design and practice of the study and implementation of, on the one hand, to our country's advanced technology infrastructure and excellent vocational education theory, the method to share technical personnel to Tanzania, opened up a country to get more insight into the level of road and bridge construction in our country and the window of the higher education level, but also for our students to set up overseas training and practice base, also improved the level of our vocational education and technical personnel of international vision, also for other universities under the background of "area" all the way to carry out the transportation vocational education courses for design and practice of teaching Chinese and foreign cooperation projects to provide the reference.

V. CIVIL ENGINEERING COURSE SYSTEM DESIGN

On the basis of Craftsman spirit, according to the "dual" between colleges BanKuaiShi personnel training mode, and love of joint construction international co., LTD., a joint research result on formulating the talent training scheme, by analyzing the love between higher professional teaching team construction workers and students the knowledge, skills and

professional quality requirements, from the cognitive law, such as teaching content relationship continuity levels, reconstructed the spirit of civil engineering curriculum system, aimed at by the institute of foreign teachers in our school in the Luban Tanzania construction management staff and students training, cultivating civil engineering management for Tanzania Tanzania senior management staff, The training period is 3 months (360 class hours).The specific content of the curriculum design of school-enterprise cooperation theory is as follows:

(1) Project Management (120 hours)

Overview of craftsman spirit;

Project management overview;

Organizational theory of project management;

Basic principles of project objective control;

Project investment control;

Project schedule control;

Project quality control;

Project management in the engineering design, procurement, construction and operation stages.

(2) Foundation for Road and Bridge Engineering (100 hours)

Route, vertical, horizontal design, plane cross and three-dimensional cross design;

Line selection and fixing;

Field work in highway surveying;

Composition of roadbed and pavement;

Subgrade and pavement engineering materials;

Subgrade and pavement construction technology and quality inspection;

Culvert and retaining wall construction;

Basic components of the bridge;

Understand the structural type of the bridge;

Cognitive bridge structure chart;

CAD drawing of bridge engineering drawings.

(3) Construction Engineering Technology (80 hours)

Underground engineering construction;

main engineering construction;

Concrete and reinforced concrete works;

Building mechanics;

Steel structure;

Earthwork construction;

prefabricated building, etc.

(4) Building Engineering Informatization (60 hours)

BIM basis;

Revit foundation and practical operation;

Basic methods and skills of CAD drawing.

VI. CONCLUSION

Under the guidance of "The Belt and Road" strategy, the civil engineering course setting takes the post ability cultivation as the goal, the craftsman spiritual connotation as the main line, highlights the dual ability cultivation of quality and ability, and establishes the course system that is compatible with the training objective. The course content highlights the knowledge improvement and practical skills training of the training personnel. Students through training, further comprehension of the read of the engineering drawing and mapping, surveying, construction technology, detection technology, software application, organization and management knowledge, improve comprehensive quality and responsible for civil engineering construction management knowledge and management level, for the "area" construction and the construction of " A community of shared future for mankind ".

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