

Interface Governance: Exploring the Development Path of Faculty Teaching Development Centers in Chinese Universities

Chunyan Xu¹, Lian Wang² and Jianmin Zhou^{1,*}

¹Wenzhou Medical University, Wenzhou Zhejiang, 325035, China

²Wenzhou Polytechnic, Wenzhou Zhejiang, 325000, China

Abstract

In recent years, the development of teaching in higher education has been a hot topic in the field of education at home and abroad. As a professional body that promotes teacher development, the role of Faculty Teaching Development Center (FTDC) is prominent in meeting the needs of teachers and improving their teaching abilities. However, the analysis of the data of 221 samples reveals that the current FTDC in Chinese universities have weak organizational structure, single functional orientation and insufficient professionalism and research; strong awareness of collaborative development, but limited regional exchange platform; weak cohesive synergy of related teaching institutions within the university and poor external operating environment. This study is based on the theory of interface governance based on Herbert Simon's idea of artificial science, which guides the centre to form a horizontally linked and vertically supported governance interface from both vertical and horizontal dimensions, while reshaping and developing the centre on the basis of advocating collaborative and shared governance among diverse subjects, with value cultivation as the root, institutional construction as the foundation and technological empowerment as the focus.

Keywords

Faculty Teaching Development Center; Organizational Development; Interface Governance.

1. Introduction

Rapid economic and social development has created a demand for higher education of higher quality. In China, Faculty Teaching Development Center(FTDC) is a specialized institution set up within universities to provide teaching and research services for teachers, with the goal of improving teachers' teaching ability and promoting their overall development, playing an irreplaceable role in improving teachers' teaching level, achieving teaching innovation and promoting teaching reform[1]. Since the establishment of Demonstration Centers at the national level in 2012 and the policy to promote the establishment of the center, there has been a gradual boom in the establishment and research of similar institutions in universities. Previous research on FTDC by domestic scholars has mostly used case studies, conducted comparative studies, or used textual analysis, and some scholars have done nationwide small sample surveys. The study found that although most colleges and universities have established FTDC at present, and most of them actively carry out activities with rich contents and various forms, which promote teaching development to a certain extent, they also show some limitations of the current centers in terms of organizational operation and function play[2].Therefore, this study conducts an empirical investigation and analysis of selected FTDC in China in the form of a questionnaire survey to propose targeted countermeasures for center governance while understanding the current operational status of the centers based on interface governance theory. FTDC in China was established from the top down and developed

with the support and promotion of the government, and the study of its governance has important practical significance for the development of the whole country and society.

2. Research Overview

The study of FTDC cannot be separated from a grasp of the concept of university faculty development. The concept of faculty development in higher education emerged in the 1960s in developed countries and regions such as Europe and the United States to meet the needs of their rapidly developing economies and societies. There are three theoretical models of teacher development in the United States, the first was proposed by William H. Bergquist and Steven R. Phillips in 1975, which argued that university faculty development consists of a combination of pedagogical development, organizational development, and personal development, and functions on three levels: process, structural, and attitudinal, respectively[3]; the second was proposed by Jerry Gaff in the same year, whose faculty development consisted of instructional development, teacher development, and organizational development, and focused more on the teacher's curriculum design with the goal of promoting improved student learning[4]; Later, William H. Bergquist and Steven R. Phillips expanded and deepened the first two theories, introducing the concept of community development into the field of university faculty development, opening up new perspectives for subsequent scholars' research[5]. American educator John A. Centra's four-level theory of college faculty development also adds organizational development to the traditional three elements of faculty development: personal development, instructional development, and professional development[6]. The above research has laid the theoretical foundation for the organizational development of college teachers, and the practice of college teacher development can only reap effective results if we pay attention to organizational development and create the corresponding organizational structure and environment.

The world's first FTDC was established in the United States in the aftermath of World War II, when a sustained scientific research boom in colleges and universities led to a decline in teaching and teaching research, a decline in the quality of higher education, and a conflict between supply and demand for education. With this background, in 1962 the University of Michigan established the Center for Research on Learning and Teaching (CRLT), the world's first FTDC, similar organizations have since sprung up, including The Derek Bok Center for Teaching and Learning (DBCTL) at Harvard University, the Institute for the Advancement of University Learning (IAU) at Oxford University, and the Association for the Development of Teaching and Learning (ADT) in Japan. Foreign studies related to FTDC are abundant, and Cook, director of the University of Michigan CRLT, in his book *Enhancing University Teaching Capacity-The Role of Teaching and Learning Centers*, provides a comprehensive description of the center's system, institutional settings, program activities, and operations[7], which is the authoritative book on examples of FTDC operations. Gillespie, Schumann, Dezure D[8], and Catherine Haras have also done studies on the macro-organizational development of the center, concerning its development model, its academicized services, and its international cooperation approach.

In the late 1990s, China experienced a serious contradiction between supply and demand due to the low quality of education after the expansion of higher education and the demand for economic and social development, and the concern of the government and all sectors of society for the development of teachers then increased. Some high-level schools have begun to explore the establishment of professional faculty development institutions, such as Tsinghua University, which established a teaching research and training center in 1998[9]. In 2012, the Chinese government approved the establishment of 30 national faculty teaching development demonstration centers, including Xiamen University, and guided universities to establish FTDC

according to the actual situation of each university with policies. Since then, the establishment and study of related institutions have been a hot topic in China. In the early stage of the establishment of the center, scholars mainly focused on the nature and functional positioning of the center, and introduced the experience of foreign centers' construction. Scholar Zhiyong Chen defines FTDC as a specialized service organization that applies the results of teaching research to university faculty teaching development for the purpose of enhancing and improving teaching and learning, and discusses its functions of cultural dissemination, teaching instruction, teaching research, and teaching evaluation[10] ; Professor Dunrong Bie believes that the FTDC should be a specialized institution integrating academic and administrative aspects, and its function is to strengthen teaching professional cognition, enhance teaching professional ethics, cultivate teaching professional culture, and promote the overall improvement of school level and talent cultivation quality[11], and his team conducted a survey and research on the operation of FTDC in 54 colleges and universities nationwide in 2014, and found that the centers have the problems of academic independence, weak professionalism and lack of inspirational power[12]; other scholars have found that there are centers that are empty shells and do not perform substantive functions; the centers also suffer from a perception bias and legitimacy crisis[2]. As a new member in the management structure of higher education in China, there are still great challenges in the construction and operation of FTDC, and further investigation and research on the Center are urgently needed to solve the various challenges faced by the Center's development.

3. Study Design

3.1. Theoretical Basis

The theoretical basis of this study is the theory of interface governance, which is based on the progressive development of Herbert Simon's ideas of artificial science[13]. The concept of interface was originally used to describe the interface between various instruments and equipment in the field of engineering, but was later introduced into management to describe the state in which connections between elements occur. Interface governance theory emphasizes that governance consists of four elements: interface, internal structure, function and environment, etc. Interface is the channel of various material, information and energy transfer between related units in the system or between the system and the external environment, and is the sum of contact methods and mechanisms between related units. Specialized division of labor, information asymmetry, goal differences, and cultural conflicts are the causes of interface disorders[14]. The governance function is realized through the governance interface, and the realization of the governance function depends mainly on the reasonable resolution of conflicts between its internal structure and the external environment at the interface[15]. The theoretical adaptability of interface governance theory to the governance of FTDC lies in: On the one hand, the relevance of FTDC to the entire higher education system outlines the governance interface and governance environment, while on the other hand, the alignment of FTDC with other relevant departments within and outside the university in terms of pedagogical goals lays the foundation for the plasticity of its internal organizational structure.

3.2. Questionnaire Design and Recall

3.2.1. Questionnaire Design

The questionnaire consists of three parts: the first part contains basic information about the sample, including questions about the type of school, the name of the center, and when the center was established; the second part contains questions related to the internal structure, personnel, functions, and goals of the center; and the third part contains questions related to

the external environment of the center. The internal consistency reliability of the 14 scale items, except for some descriptive items, was tested using SPSS 26.0, and the Cronbach's α coefficient was 0.981, indicating that the reliability of the questionnaire was good.

3.2.2. Subjects of Survey

This study was conducted with a random sample of FTDC in several universities in China by sending questionnaires online through the Internet. A total of 230 questionnaires were collected, and after eliminating some invalid questionnaires, 221 valid questionnaires were obtained, with an effective rate of 96.09%. The survey was conducted for full-time staff of the Centers. In terms of the types of schools surveyed, 47.5% were comprehensive, 20.36% were medical, 14.03% were Science and Engineering, and 6.3% were humanities and social sciences; in terms of establishment time, 1-2 years accounted for 18.6%, 3-4 years accounted for 29%, 5-6 years accounted for 19.9%, 7-8 years accounted for 13.6%, and 9 years and above accounted for 19%. In terms of the names of the centers, 38.5% of the centers were for teacher development, 42.1% were for teacher development, 4.5% were for teaching promotion and teacher development, and 3.2% were for teaching and learning development, the subjects of this study include all of the above-named centers, which are referred to as Faculty Teaching Development Center (FTDC) in this paper.

4. Empirical Findings and Analysis

Through the survey, it is found that the organization and construction of FTDC in Chinese colleges and universities have shown some progress, and the centers have shifted from learning from domestic and foreign experiences to actively exploring the development paths of teachers in our universities, setting up special departments or sections to undertake the tasks related to teacher development, and actively designing and innovating projects and activities. However, it cannot be ignored that there are still some problems in the construction of the Center and the work of teacher development, which are manifested in the following aspects.

4.1. Weak Organizational Structure, Single Functional Orientation, Insufficient Professionalism and Research

The weakness of the organization is reflected in the structure, personnel, functions and objectives of the center. The structure of the center mainly includes two aspects: management model and sub-departmental settings. The management model refers to the affiliation of the center, i.e., whether the center is set up independently or operates in conjunction with other organizations on campus, and reflects not only its position in the university's organizational structure, but also lays out its internal hierarchy. The management modes of FTDC in China present a variety of models, both independently set up and co-located. The independently set up centers belong to the university and are directly managed by the university and can undertake professional faculty development work, while the co-located centers operate in conjunction with the corresponding departments, with restricted actions and limited resources, but can work with the authority of the co-located departments. The survey found that the independent establishment accounted for 39.37% and the co-location accounted for 60.63%, among which 29.86% were co-located with the Academic Affairs Office, 16.29% with the Personnel Office, 7.24% with the Assessment Center, and 5.88% with the Modern Education Technology Center, which reflects that although the center is not currently independent, it shows some progressiveness compared to the results of a 2017 survey that showed an independent establishment of 24.6% of its surveyed sample. In terms of sub-section settings, 77.38% of the centers with consulting and training sections were set up, 38.91% with educational research sections, 20.36% with educational (teaching) evaluation sections, 18.10% with educational technology sections, and 21.72% with educational supervision sections. This

indicates that some centers have incomplete functional sections and limited carriers to undertake various functions of the center, then the corresponding function play and professionalism is also limited.

In terms of personnel, the number is insufficient and the professionalism and research are not strong. As can be seen from Table 1, in terms of numbers, 78.73% of the centers have 1-6 full-time staff, with 1-4 staff accounting for 57.01% of the total. As an professional institution that undertakes development for teachers, a lack of full-time staff makes it impossible to refine and divide the work; in terms of degrees, 33.5% of the centers with none of the full-time staff having a PhD; in terms of the nature of work, 32.6% of the centers have no research staff for the time being. The basic teaching and research work is not undertaken by professional staff, indicating that the academic support of the center is insufficient. Meanwhile, in terms of disciplinary background, 44.34% have no background in education and 36.65% have no background in management. As a new member of the teaching management structure, the center for faculty teaching development is both academic and administrative, and the center should be an organic combination of people with professional disciplinary background knowledge in education and management.

Table 1. Staff composition

Numble	0	1-2	3-4	5-6	>6
full-time staff	5(2.3%)	73(33.03%)	53(23.98%)	48(21.72%)	26(11.76%)
part-time staff	64(29.0%)	68(30.77%)	21(9.50%)	21(9.50%)	47(21.27%)
PhD degree	74(33.5%)	96(43.44%)	25(11.31%)	9(4.07%)	17(7.69)
Technical Service Staff	73(33%)	101(45.7%)	12(5.43%)	15(6.79%)	20(9.05%)
Managerial staff	3(1.4%)	146(66.06%)	34(15.38%)	21(9.50%)	17(7.69%)
Researchers	72(32.6%)	102(46.15%)	16(7.24%)	11(5.0%)	20(9.05%)
On-campus experts	30(13.6%)	45(20.36%)	27(12.22%)	24(10.86%)	95(42.99%)
Off-campus experts	62(28.1%)	51(23.08%)	26(11.76%)	32(14.48%)	51(22.62%)

In terms of functions and objectives, the functions are limited and mainly focused on teachers for teaching and training, while the effectiveness of some activities is not high and key projects and activities need to be further developed, designed and cultivated. After the survey, the four major functions were found to be of varying importance in the center, with the highest to lowest importance being teaching training (4.57), teaching research (4.07), teaching consultation (4.04), and teaching evaluation (3.97). In addition, by investigating the training objectives of the center, it was found that improving teachers' teaching design ability (4.55) and promoting advanced educational teaching concepts (4.49) were the primary training objectives, but improving teachers' disciplinary research ability (3.92) was not given corresponding attention, which indicates that some universities have a single orientation for FTDC, focusing only on the teaching technical ability at the current teaching level and on the popularization of advanced educational concepts, but not paying corresponding attention to the basic role of teaching scholarship. It is also noteworthy that the frequency and evaluation of activities held by the centers also show some inconsistencies. As shown in Table 2, the effectiveness of salon seminars and workshops are rated higher, but their frequency of holding is lower, and the frequency and evaluation of the three activities of teaching research, individual consultation and teaching evaluation are lower, which to some extent shows that the effectiveness of the operation of some centers still needs to be improved. At the same time, salon seminars and workshops, which can create an atmosphere of pedagogical discussion and research for teachers and stimulate their intrinsic initiative, are now valued and actively carried out by teacher development centers abroad[16] and are reflected in this survey. From the above

survey, it can be seen that the current research, consultation and evaluation functions of the center have not received corresponding attention and support, and the professionalism of the FTDC in some universities is not high, and some functions have not been given proper play.

Table 2. Frequency and evaluation of activities

Activity Name	Frequency	evaluation
Training	4.25	4.23
Academic Lecture	4.22	4.09
Teaching Competition	4.08	4.09
Report Session	3.92	4.05
Salon Seminar	3.91	4.10
Classroom observation	3.87	3.95
Workshop	3.86	4.17
Online Classes	3.80	3.85
Outbound Exchange	3.76	3.90
Teaching Research	3.58	3.75
Educational Consultation	3.43	3.73
Teaching Evaluation	3.42	3.70

4.2. A Strong Sense of Synergistic Development, But Limited Regional Exchange Platform

As an important platform for "resource sharing, complementary advantages and quality improvement", the Teacher Development Alliance has been recognized for its role in promoting the collaborative development of universities and regions and improving the overall teaching quality of the country[17]. Through the survey, 90.5% of the centers indicated that they were willing to participate in regional and national faculty development consortium exchange activities and felt that they had gained a lot from previous exchange activities. However, there is currently insufficient policy guidance at the national level for the establishment and operation of alliances, and although documents on educational development and teacher training have been issued in recent years, such as *the Opinions on Implementing Excellence in Teacher Training Program 2.0* in 2018, *China Education Modernization 2035* in 2020, and *Opinions on Strengthening the Teacher Workforce in the New Era*. However, the specifics related to the establishment and operation of the Alliance for Guided Teacher Development were not addressed, and the legitimacy and authority of the establishment of the Alliance was insufficient, this corroborates the lack of assurance of the regularity and institutionalization of the operation of the faculty teaching development consortium investigated in this study, 87.3% of the centers indicated that the number of alliance exchange activities held was low and the regularity of the activities was not guaranteed. This indicates that the current awareness of collaborative development of FTDC in China is strong, but the relevant policy support and guidance are insufficient; therefore, the operation of the alliance lacks legitimacy and authoritative support, and the regional exchange platform of the centers is limited.

4.3. Weak Cohesiveness of Related Institutions on Campus and Poor External Operating Environment

In interface governance, the interface and the function of the governance unit constitute the core and key of governance, the internal structure is the support, and the environment is the constraint. Therefore, while understanding the current state of the center's internal construction, this study also attempts to explore the center's external operating environment in order to explain the current state of the center's internal structure and functional performance.

The survey found that there was insufficient support for the center from the school and weak cohesion between the institutions on campus. Firstly, the centers are funded from a single source, with 90% of the centers' operating funds coming mainly from the university's appropriation, while 23.53% of the centers indicated that their operating funds were insufficient, indicating a low level of financial support from the university for the centers. Secondly, although most of the centers indicate that they have office space and modern teaching equipment to meet their needs, 16.7% of the centers indicate that the university has not yet provided them with teaching and research space, which shows the limitation of the functions of the centers in some universities, and this is one of the reasons why the centers cannot carry out the relevant functions. Finally, the center needs to communicate with relevant institutions in order to obtain information about teachers and teaching on campus and to facilitate the proper functioning of teaching. The survey found that the frequency of communication between the center and related institutions, from high to low, were the Academic Affairs Office (3.98), the Personnel Office (3.82), the Educational Technology Center (3.65), the Party Committee Propaganda Office (3.48), the Research Office (3.35), the Labor Union (3.30), and the Student Affairs Office (3.29). The large difference between the center's connection with functional departments and its connection with academic and research departments also indicates, to some extent, the high influence of functional departments on the center. The author learned through communication with some of the leaders of the center that at present, because the center is co-located with the Office of Academic Affairs and the Office of Personnel, a considerable part of its work is planned directly by it and task indicators are given to faculties and departments, therefore, there is less contact and cooperation with other departments, showing the lack of collaboration mechanism, which is to a certain extent not conducive to the cohesion of synergy among institutions.

5. Suggested Countermeasures for the Governance of the Interface of Faculty Teaching Development Centers

5.1. Interface Reconfiguration in Both Vertical and Horizontal Dimensions

FTDC needs to reconstruct the interface from both vertical and horizontal dimensions, combining vertical uploading and transmitting with horizontal connection and communication, promoting inter-organizational three-dimensional communication and cooperation while continuously improving the legitimacy and authority of the center, and creating an excellent internal and external teaching and learning environment in universities.

The reconfiguration of the vertical interface of the center requires a hierarchical support system that combines national policy guidelines, university support, and the professionalization of the center. Firstly, more detailed policy guidelines on FTDC should be issued at the national level, and corresponding integrated planning and arrangements should be made to scientifically guide the construction of the centers, while at the same time, support and management of regional and national teacher development alliances should be increased to promote the legitimacy and authority of their operation. Secondly, the university should increase the financial, human and material support for the center to provide a solid foundation for its development, and actively promote the independent establishment of the center. Last but not least, it is important to strengthen the professionalization of the center, improve its authority and influence, and provide professional services and leadership for the professional development of teachers, supported by reasonable staffing, quality programs and perfect services.

The horizontal interface reconfiguration of the center requires linkages between related organizations. On the one hand, the center needs to maintain the communication between the center and the functional departments, teaching and support departments and research

institutions related to teachers' teaching development through linkage, synergy and cooperation, to build a comprehensive system of teachers' teaching development, and to improve the coordination and operation mechanism of each department from the university level, so as to clarify the authority and responsibility. On the other hand, the center should also communicate closely with the faculty development organizations of other universities to learn from each other's experiences. Centers with strong capabilities and good operation can provide consultation services for teachers outside the university while meeting the needs of their faculty, which will not only expand the influence of the center, but also improve the reputation of the university. Through these two aspects, multiple parallel interfaces are established within and outside the university to jointly ensure the smooth implementation of faculty development and the improvement of the quality of higher education.

5.2. To Guide the Restructuring of the Center's Internal Structure and its Functions and Objectives at the Three Levels of "Value, System and Technology"

Firstly, value cultivation is fundamental. The value cultivation of the center covers the implication of three aspects: social value, subject value and personal value. Social value refers to the significance of FTDC as a professional teacher development institution that radiates its effective functions to its region and spills over to the whole society; Subjective value refers to the degree to which the center, as the main institution within the school that aims to improve teachers' teaching abilities and conduct teaching research, meets the development needs of the group of teachers it serves; Personal value refers to how well the center meets the personal development needs and personal values of its internal staff. The mission is value-oriented and the value cultivation of the center is reflected through the mission. Therefore, the Center should establish a clear and mature development mission, collaborate and mobilize relevant institutions, faculty and staff to foster a campus culture that values teaching and the pursuit of teaching excellence, continuously research and improve teaching, and promote the return of the centrality of teaching in the overall campus activities. At the same time, the center should not ignore the role of informal organizations for the center's sustainable development. While paying attention to faculty development needs and building a learning community for faculty, the center should also cultivate its unique organizational culture and enhance the staff's sense of belonging, dependence and personal value through effective means.

Secondly, system construction is the foundation. In order to improve its professionalism, the center must statute its organizational activities with institutional design, and develop an internal management system in line with the development of the organization according to its school situation, including decision-making system, responsibility system, and incentive system. In decision-making, the director of the center should uphold the democratic decision-making concept of seeking common ground while reserving differences, accommodating different suggestions and voices, and combining the scientific and democratic aspects of decision-making; the center should improve the relevant responsibility system, to clarify job responsibilities, while the degree of completion of goals into the assessment and evaluation of relevant departments and personnel to promote the standardized operation of the center; finally, the motivation of staff and experts cannot be mobilized without the corresponding incentive system, and the center should combine material rewards with spiritual incentives.

Finally, technology empowerment is the focus. Technology governance is a key element that drives structural change and functional alignment within the center. The governance of FTDC in the "Internet+" era cannot be separated from the application of information technology, not only should we pay attention to the maintenance of the website, WeChat subscription number, the supply of online quality online class resources and a series of their own information construction, but also focus on the formation of regional, even domestic and foreign integrated

information technology development pattern, such information technology development pattern requires the joint construction of multiple forces, including the government, domestic and foreign universities and even third-party professional technology companies. The fast-developing demonstration centers can share their quality activities and achievements through organic carriers in the whole region, while domestic universities can also learn from the advanced development concepts and construction experience from abroad. Some scholars suggest promoting the four-in-one university faculty development center model based on the *University Faculty Development E Home*, which integrates the administration of FTDC directly under the Ministry of Education, 30 national model centers, and university faculty into a system based on university faculty development and the *University Faculty Development E Home*, actively realizing exchanges and joint development among faculty, between faculty and centers, and between centers [18].

6. Conclusion and Future Outlook

As the central hub of the teaching network system within universities and as the coordinator of the organizational transformation of universities and related institutional development, the development of FTDC has become unstoppable. The study of interface governance of faculty development centers in the context of socialist higher education is not only of practical importance for their own organizational development, but also an essential part of effective governance for the effective operation of the entire higher education system. This paper extends the existing research on interface governance by applying it to the governance of internal organizations of universities and studying the governance of faculty development centers in the context of interface governance. A study on the governance of Chinese FTDC based on interface governance theory leads to the involvement of multiple subjects in the governance of the centers by reconstructing the organizational interface from both vertical and horizontal dimensions, and guiding the changes in the internal structure, functions and goals of the centers through value cultivation, institutional construction and technological empowerment, so that the organizational interface of the centers can adapt to the changes in the environment to which they belong. The famous American management scientist Nassim Nicholas Taleb also said that "survival depends on the interaction of adaptation with the environment".

At the same time, there are certain shortcomings in this study, but this is where future research will break through. First, in terms of the target population, this study limited the perspective to internal full-time staff and center directors, while future studies would like to include their service recipients - teachers - in the study and do a comprehensive satisfaction evaluation survey. Second, in terms of the number of survey samples, due to the difficulty of obtaining detailed center samples, the collected samples have certain limitations, and the center's samples of science and technology and humanities and social science categories account for a small percentage, and the corresponding sample size will be increased in future studies. Third, as the content of the study was limited to the structure, functions and goals of the center and the external environment, only the current situation was investigated and analyzed, future studies will combine the governance of the center with the type of school to make the study more relevant.

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