

The Governance of Faculty from the Perspective of Self-Organization Theory

Meng Chai Sichun Lu

(School of Education, Jiangxi Normal University, Nanchang, 330022, China)

Abstract: Self-organization theory is devoted to solving the problem of the nature, power, and development form of an organization that is not subject to an external specific intervention. Its axiological characteristics and methodological paths are consistent with the value orientation and practical needs of the governance of faculty. The faculty of the university is a relatively independent self-organizing system with the characteristics of openness, less external intervention, coordination of internal factors, non-equilibrium, non-linearity, etc. Its central dilemma is reflected in the subjectivity of college governance, the distribution of governance power, knowledge production and other levels. From the perspective of self-organization theory, the governance logic of university faculty requires openness of self-organization, realizing the co-catalysis within the university departments, and maintaining the stability of the organizational structure in the governance of the university departments.

Keywords: self-organization, comprehensive university, faculty, development

Writer Introduction: Chai Meng, female, a graduate student of the School of Education, Jiangxi Normal University, research direction is education management; Lu Sichun, female, a graduate student of the School of Education Jiangxi Normal University, research direction is education economy and management;

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1. Introduction

The governance of faculty is an integral part of the modernization of higher education governance system and governance capabilities. It is a vital issue to stimulate the vitality of university education and improve its efficiency. It is also the core research field under the current double-first-class construction. Some researchers believe that the connotation of state and social governance includes the emphasis on attracting multiple subjects to participate, the two-way interaction of top-down and bottom-up in the process of power operation, and the "endogenous" role of institutions and rules^[1]. Under the premise of modern university governance, the governance of faculty is facing a series of crises and challenges, which is the problem facing by most universities. Self-organization refers to the process of a system that automatically drives from simple to complex, from disorder to order. It continuously improves its complexity and fineness

driven by the internal mechanism. Its value theory characteristics and method paths are following the value orientation and practical needs of faculty governance, which makes it theoretically feasible to discuss the logic of university department governance with the help of self-organization theory.

2. The development and connotation of self-organization theory

Self-organization theory is a system evolution theory that was established and developed in the late 1960s. It clarifies a system composed of multiple agents and promotes the process and laws of system self-organization evolution through the interaction between agents^[2]. The self-organization theory includes the new three theories (dissipative structure theory, synergetics, catastrophe theory) and hyper-cycle theory, fractal theory, chaos theory, which is the second stage of research achievements in the development of system science^[3]. Among them, the primary theoretical support is dissi-

pative structure theory, synergetics, and catastrophe theory.

In 1969, Belgian scientist Ilya Prigogine proposed Dissipative Structure Theory and won the Nobel Prize in Chemistry in 1977. The theory of dissipative structure answers the question between self-organization and environmental conditions, mainly revealing that the open system is far from the equilibrium state. Through the continuous exchange of matter, energy and information with the outside, it causes some non-linear variables of the organization system. Sudden change is a non-equilibrium phase change. It accumulates to a certain degree and reaches a critical point and produces fluctuations. It changes from the original chaotic disorder state to an ordered state in time, space, or function. In the same year, the West German scientist Hermann Haken first proposed the term "Synergetics". Synergetics is regarded as the core content of self-organization theory and focuses on solving the problem of the source of power for organizations. Synergetics believes that the motivation for self-organization comes from the interaction between various parts or subsystems within the system, and its mechanism of action includes competition and collaboration. Catastrophe theory is based on stability theory, using advanced mathematical tools, such as topology, singularity theory and structural stability to study various discontinuous sudden changes in nature and society, and intuitively describes how the system changes continuously with external conditions and cause a sudden leap change in structure.

The self-organizing theory is composed of dissipative structure theory, synergetics, and catastrophe theory. They are dedicated to solving the problem of the nature, power, and development form of an organization that is not subject to an external specific intervention. First, the primary connotation of self-organization is that self-organization is an open system. Openness is the functional basis of the system for material exchange and internal coordinated development and change. An open system manifests itself in the transfer of matter and energy between the system and the environment rather than a self-sufficient "closed organization"; second, from the perspective of the development of the system, there is no single source of power for the internal development of complex organizations. In short, the competition and collaboration of open subsystems produce the influence of organiza-

tional development. That is, the internal structure movement generates power; third, the stability of organizational development lies in whether the organization can smoothly transition from one state to another. The transition includes two forms: mutation and gradual change. The essential difference between variation and incremental change is not whether it changes hasten, that is, whether the rate of change is different, but whether the nature of the rate of change around the point of change is discontinuous.

3. Demands for the governance of faculty under realistic orientation

3.1 The position of the university faculty in the university system

Under the background of modernization of university governance and double-first-class construction, the development of university departments has taken on more responsibilities and pressures than ever before. Faculty, as a subsystem of the complex system of the university, benefits from academic power. In terms of its nature, the faculty organization of the university can be regarded as a relatively independent self-organizing system. There are sufficient material and energy exchange between the self-organizing system of the faculty and the external environment, and the university organization provides financial support for scientific research, the introduction of senior talents, high-tech platforms, and academic resources for the secondary colleges. The college is responsible for the cultivation and output of expertise, providing a large number of intellectual achievements, output theory, and technology; the dual nature of the college's role ensures its "less external intervention" feature as a self-organizing system. In addition to its role as an administrative-level unit, the college also appears like a basic academic organization and this identity is even more important in the context of the current double-first-class construction. It is manifested in the production and innovation of knowledge, the professionalization of teaching staff, and the knowledge system relatively independent; the faculty is a relatively independent technical system that produces and disseminates knowledge based on specialized disciplines. Different faculties are independent of each other. There is general competition and collaboration among teachers as individual faculties, which promotes the academics of the faculty. Development and teaching progress also make departments and

organizations in an internal non-equilibrium state; the particular knowledge production nature of scientific research guarantees the "non-linear characteristics" of the self-organization characteristics of colleges and universities, that is, their inputs and outputs are difficult to obtain through simple calculations measured, and there is a sudden change in the time domain. It is difficult to predict, which is reflected in the work of teaching and scientific research.

3.2 The real predicament of faculty governance

Faculties have the dual characteristics of "academic" and "administrative", so that the reform of the governance structure of the faculties shows the complex aspects of the relationship between responsibilities and rights^[4]. As a self-organizing system, the faculty of the university faces unprecedented challenges both in the power structure and the functional field, in the context of modernization. In the process of being pushed forward by the torrent of social development, it faces many linear constraints on itself. Development dilemma mainly reflects in:

On the subjective level of faculty governance, the governance subjectivity of university faculties is threatened. As self-organization, faculties have the problem of insufficient participation enthusiasm in the process of participating in university organizational governance. In an environment dominated by governance ideas in the field of public management, decentralization and the rule of law have become the target path of many organizational reforms, and many universities have also explored ways to reform the governance model of decentralization of power to faculties. The faculty's governance subjectivity is reflected in a relatively complete administrative power system, with independent decision-making power in the school's internal fund allocation, governance system construction, talent introduction, and management. The existing general governance power is represented by the distribution of some non-critical powers in the delivery, and the vital powers are still concentrated in the hands of university administrative departments. These vital powers include not only executive powers, but also academic powers. Also, under the influence of the long-term bureaucratic management model, the administrators of faculties more define the faculty as a subordinate department of the university rather than a critical component. They are used to accept orders and complete tasks. This makes the faculty less active in

participating in university governance and passively passive in its participation attitude. Although many schools have tried to mobilize colleges to participate in the overall management from the system and participation channels, the effect is still difficult to achieve the desired goals.

The administrative barriers between peer faculties exacerbated the barriers between knowledge systems, making interdisciplinary communication and cooperation between universities difficult. In the context of high-level development of disciplines and specialties, in the governance content structure of universities and faculties, the construction of disciplines is mainly undertaken by faculties. In the discipline construction, each faculty relies on the relatively independent knowledge system that has been formed in the subject, based on the existing knowledge, through the internal metabolism and external circulation of knowledge to promote the expansion of the discipline knowledge system, and thus achieve the fundamental development of the discipline construction. In the process of disciplinary development and construction, the cycle of knowledge is no longer regenerated within the original knowledge system under the new mode of production, but the creation of new knowledge is achieved through the interaction of knowledge across disciplines. While this appears to be a question of knowledge, the secondary governance model of school-faculty involves inter-faculty resource allocation, patterns of collaboration, and mechanisms for sharing benefits. In the current situation where the horns and boundaries of academic and administrative power are generally unclear within the university, different faculties are in different situations in terms of disciplinary status, degree of contribution, and disciplinary development process, and the external differences between faculties do not seem to be closely related to knowledge links. Still, they invariably reinforce the barriers between different disciplinary knowledge systems. From the stakeholder's point of view, researchers and managers in different faculties have different key points of interest, which directly affects the interdisciplinary communication and collaboration affects the mobility of researchers and the development of scholarly activities across faculties, and for the self-organizing faculties, reinforcement of self-limitation is made at the expense of openness to the outside of the organization.

The distribution of power within university facul-

ties is characterized by low participation of faculty in governance, insufficient level of institutional regulation, and unfair distribution of academic resources. The hierarchical characteristics of academic power are apparent. The core leadership of the faculties, including the dean, secretary, deputy dean, and deputy secretary, is located at the core of decision-making. They lead the decision-making process; the directors of other faculties heads are located at the center of decision-making, and ordinary Teachers are at the marginal level of decision-making. Teachers have lost their dominant position and become the dominant objects in administrative management. The phenomenon of "subject upside-down" is serious^[5]. The complexity of the power structure within the faculty has diminished compared to university organizations. Still, under the governance system, all the Stakeholders, including college leaders, faculty, administrators, and students, have the right to participate in college governance. It is not common for ordinary teachers and students to participate in college affairs management, and there is a lack of institutional safeguards. The internal governance of the faculty is more likely to be discussed and decided by the Faculty Affairs Committee, which is a minority management model.

On the one hand, this model of minority decision making is directly detrimental to the democratic decision making within the organization. On the other hand, it also increases the risk of the individual's bias. The probability of inequity in the allocation of academic resources is due to the lack of a "minority governance" system and interest bias. The distribution of academic resources is in the immediate interest of each faculty member under the current system of research management, and this "minority rule" decision-making. It is effortless to ignore the legitimate interests of some of the faculty members, thus reducing the level of democracy and fairness of faculty governance.

4. The faculty governance in self-organization theory

4.1 Ensuring the openness characteristic of self-organization

The openness characteristic of self-organization is the primary logic of contemporary university faculty governance. The purpose of openness is to facilitate the exchange of material and energy between the internal and external environment of the organization more flu-

idly and scientifically. Transparency in university faculty governance exists on two levels: The interaction between the internal elements of the organization and the external environment does not mean that the external environment completely controls the internal affairs; the internal structure of the faculty's organization is complete, vital, and highly coupled, not loose and lowly coupled.

The openness of university faculties as self-organizing forms is directed both internally and externally. Internal transparency is reflected in the orderly domination and movement of the various elements of the organization to facilitate systemic evolution and to reduce the risk of intra-organizational teaming and degree of disorder. In the process of internal openness, the organization adapts itself to respond to changes and developments in the environment. And from the perspective of dissipative structure theory, internal transparency is not only a synergy of elements but also a multifaceted competition, such as teaching tasks and competing for research mandates, conflicts between administrative duties and academic research, trade-offs between short-term benefits and long-term goals, multiple leadership and roles of conflict, etc. External openness is manifested in the strategic and tactical deployment and adjustment of faculties to university requirements and national needs to meet externally. Cover external needs and obtain external resources to promote organizational development. Internal openness and external openness are mutually unified, and there is internal consistency in the objectives. It lies in getting sufficient resources, integrating internal and external resources, and realizing the rational allocation of resources to ensure high-efficiency output and forming a benign development super-cycle.

4.2 Strengthening intra-faculty synergy

Synergy within university faculties as self-organization varies across role domains. Regardless of which role internal synergy is under, it is necessary to achieve self-organizing internal catalysis. Self-organizing theory suggests that the process of system autocatalytic is always accompanied by a rising and falling action, so that for any organizational system, the development process begins with a small rise and fall and gradually develops into overall ups and downs, calls "emergence" ^[6].

The focus of collaboration within the faculty is the innovation of management methods, that is, the

novelty of collaborative approaches in human, financial, and physical aspects. Any part of the All do not exist independently, but intersect and influence each other. Institutional reliance is the main point for achieving synergistic autopoiesis within faculty governance; moreover, Peter Drucker notes that "knowledge-based Organizational systems, essentially a 'self-conducting' organizational paradigm, are necessarily a 'self-organizing' and 'self-managing' paradigm," and that within the field, "the synergy of differences between units is the driving force behind the evolution of things"^[7]. The internal synergy of the university faculties is the collaborative innovation of scientific researchers, scientific research teams, scientific research resources, and subject knowledge systems. As a self-organizing system of knowledge innovation, faculties are composed of academic professionals in different secondary disciplines and various knowledge fields. The collaborative innovation of academic professionals allows information and knowledge to flow and collide to generate new knowledge. The deconstruction and reorganization of existing knowledge structures trigger the emergence of an endogenous drive for academic self-organization.

4.3 Maintaining organizational stability in the governance of university faculties.

The self-organizing systems of human society can be broadly divided into "human-thing systems" and "human-human systems." Any individual can be regarded as a subsystem of the self-organizing system of the human-human system^[8]. The organization of university faculties originates from a group of academic-minded "academics" who come together based on the law of contract, thus creating an internal identity. A joint organizational mission and struggle is formed and put in to collective practical action. There is a significant difference in the way of thinking and action mapping between individuals who are in the business of knowledge production and traditional sectional organizers. This difference makes the maintenance of the structural stability of university governance under the conditions have individual characteristics. The key to the stability of the organizational structure is the establishment of a scientific, normative and democratic institutional system based on the academic logic of disciplinary diversity. In the collective, replace individual rationality with public rationality in decision-making

and establish fair rules for group collaboration and mechanisms for the distribution of benefits, supervision, and evaluation. This is to ensure the regularity of the organization's functioning. In the gradual development process, the role of contracts and professional norms must be maximized, and under the premise of consolidating necessary teaching work, the individual subjective initiative should be ensured.

Furthermore, the establishment of an organizational vision provides the spiritual impetus for the stable development of university departments. The vision based on the members' ideals and beliefs and in line with the organizational development requirements can give full play to the individual's active role. A fair and procedural evaluation feedback mechanism is of great significance for coping with mutations and reducing organizational entropy load.

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