Study on the Construction of Teaching Team Based on College Teaching and Research Section

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Abstract: Teaching and research sections in universities are inherently connected to university discipline construction and talent cultivation. These sections inherently possess a team nature and serve as the foundation for building teaching teams. This paper analyses the differences and inherent connections between teaching and research sections in universities and teaching teams. It proposes strategies for the coordinated development of teaching and research sections in universities and teaching and research sections in universities and teaching teams, focusing on cultivating the team spirit of teaching and research section teams, establishing a team-oriented performance evaluation system, strengthening the selection and appointment of section directors, and emphasizing intrinsic development. Constructing teaching teams based on teaching and research sections in universities can effectively integrate the functions of teaching teams and grassroots teaching organizations, which is of great significance for comprehensively improving the quality of university teaching.

1. Introduction

Teaching and research sections in higher education institutions, as the core of grassroots teaching organizations, are important entities established according to the actual teaching needs and the trends of discipline development [1]. Their responsibilities not only include undertaking various teaching tasks and participating in teaching management, but also involve planning and evaluating discipline, major, and curriculum settings. Teaching and research sections play a crucial role in the higher education system, serving not only as implementers of teaching but also as major drivers of teaching reform and research.

Improving the quality of higher education teaching is a topic of high concern for the Chinese Ministry of Education and Ministry of Finance. The "Engineering Project for Teaching Quality and Teaching Reform in Undergraduate Education in Higher Education Institutions" issued in 2007 clearly emphasizes the importance of teaching team construction. The construction of teaching teams is not only a requirement for talent cultivation but also an inherent requirement for the improvement of the quality and level of teaching in universities [2]. Therefore, the integration and coordinated development of teaching and research sections with teaching teams have become an urgent task in the current higher education system. As an important carrier of teaching team

construction, if teaching and research sections can effectively leverage their organizational and management advantages with the support of institutional building and policy guidance, it will greatly promote the comprehensive improvement of teaching quality in universities. By deepening the construction of teaching teams within teaching and research sections, fostering a good academic atmosphere and teaching environment, and enhancing teachers' teaching abilities and research levels, solid foundations will be laid for the sustainable development of higher education.

2. The Relationship between Teaching and Research Sections and Teaching Teams

2.1 Functions of Teaching and Research Sections in Universities and the Construction of Teaching Teams

Teaching and research sections in universities are centered around undertaking teaching tasks, with teaching and research being unified, and with the fundamental goal of improving teaching quality and cultivating qualified talents [3]. Teaching and research sections are grassroots teaching units in higher education institutions, important grassroots organizations for teaching and research activities, and also the makers and implementers of teaching plans [4].

The main functions of most teaching and research sections in universities include the allocation and implementation of teaching plans, the formulation and execution of teaching syllabi, professional development, curriculum and teaching material construction, teaching research and reform, laboratory construction, and the construction of the teaching staff. Additionally, some teaching and research sections in universities may also be responsible for organizing teachers to conduct teaching and research, applying for and constructing teaching and research projects, and assisting departments in conducting regular teaching inspections.

Teaching teams are important organizations established by higher education institutions to better carry out teaching work, expand influence, and ensure the improvement of teaching quality and talent cultivation, which is also one of the important projects of many universities' "quality engineering" construction [5]. The purpose of teaching team construction is to promote the exchange of teaching experience among team members through effective team cooperation mechanisms, jointly develop teaching resources, promote the combination of "senior, middle-aged, and young" teachers, carry forward the role of "passing on knowledge," strengthen the training of young teachers, and form a reasonable teaching echelon. This is to comprehensively improve the teaching quality of team members and play a leading and exemplary role. The construction, reform of educational and teaching methods, construction of teaching staff, and scientific research [6]. Among them, the construction of team mechanisms centered on team culture construction and the construction of teaching staff are important contents of teaching team construction.

2.2 The Differences and Inherent Connections between Teaching and Research Sections and Teaching Teams

2.2.1 Differences between Teaching and Research Sections and Teaching Teams

Teaching and research sections and teaching teams differ in terms of their establishment methods, administrative status, personnel composition, and demonstration roles, as detailed in Table 1 below.

Essentially, teaching and research sections in universities are just the most basic part of the three-tiered teaching management system in higher education institutions, which includes universities, faculties, and teaching and research sections. Although not a primary administrative organization, teaching and research sections themselves have a distinct administrative color. In

contrast to teaching and research sections, which are grassroots teaching organizations, teaching teams have a more open personnel composition and a stronger academic atmosphere [7]. They are academic groups established by universities through project establishment to strengthen discipline and major construction, enhance their own influence, and play a leading and exemplary role.

Item	Teaching and Research Sections	Teaching Teams
Establishment Method	Administrative order	Initiative application
Establishment Difficulty	No difficulty	Difficulty exists
Administrative Status	Grassroots teaching organization	Academic group
Personnel Composition	Closed	Open
Discipline Scope	Relatively narrow	Relatively wide
Demonstrative Role	Weak	Strong
Team Collaboration	Weak	Strong
Support Intensity	None or weak	Strong

 Table 1: Differences between Teaching and Research Sections and Teaching Teams

One of the important differences between teaching and research sections and teaching teams is whether they emphasize "team" collaboration. Universities generally have corresponding support policies and funding guarantees for teaching team construction, as well as corresponding incentive and evaluation mechanisms. Teaching and research sections, on the other hand, mainly serve as grassroots teaching organizations to fulfill routine teaching and research tasks.

2.2.2 Inherent Connections between Teaching and Research Sections and Teaching Teams

Despite their many differences, both teaching and research sections in universities and teaching teams are centered around teaching, with the fundamental tasks of enhancing teaching quality and achieving talent cultivation goals [8]. Both have responsibilities for teaching quality improvement, young teacher training, teaching, and scientific research. They share similar tasks in teaching, research, and educational activities, including discipline construction, teaching reform, scientific research, and teacher training. They overlap to a large extent in terms of functionality. Members of teaching and research sections can also be part of teaching teams, and teaching and research sections themselves serve as the foundation for teaching team construction and can be developed into teaching teams at the section level.

Essentially, the effectiveness of teaching and research section work depends on the effectiveness of traditional teaching teams' construction. Their functions involve executing traditional teaching team construction content at the basic or detailed level, and the extent to which their functions are fulfilled reflects the effectiveness of teaching team construction.

3. Advantages of Building Teaching Teams at the Level of Teaching and Research Sections

3.1 Inherent Team Nature

Members of teaching and research sections in universities are generally composed of teachers from the same discipline or subject area, often belonging to the same department. They work together regularly, and the establishment of teaching and research sections further tightens their bond.

Members of teaching and research sections are familiar with each other, and their shared discipline or subject area fosters close communication and collaboration in daily work, creating tighter relationships compared to other individuals. Moreover, teaching and research sections have a series of work systems such as research activities, which make it easier for members to trust, rely on,

and support each other. Therefore, teaching and research sections inherently possess a team nature.

3.2 Effective Collaboration Platform

As grassroots teaching organizations, teaching and research sections are the most suitable and effective collaboration platform for disciplinary and professional construction, research, and educational work [9]. Apart from routine teaching management tasks, teaching and research sections also undertake reforms and research on teaching content and methods, organize teachers to compile teaching materials, and conduct discussions and applications for teaching and research projects and scientific research projects. If measures are taken to fully utilize the team functions of teaching and research sections and build teaching teams within them, the overall academic level can be enhanced through teamwork. This, in turn, promotes knowledge renewal and the transformation of research results through teaching and scientific research, achieving the dual purposes of improving the overall quality of teachers and teaching quality.

4. Challenges in Building Teaching Teams at the Level of Teaching and Research Sections

4.1 Weak Team Awareness

Although teaching and research sections in universities inherently possess a team nature [10], if evaluated based on the 5P principle of team composition—Purpose, Person, Place, Power, and Plan—teaching and research sections should be considered as groups between individuals and teams.

In general, many universities have teaching and research sections established as routine units, but their functions are not well utilized, and their work is often limited to fulfilling the tasks required by the university. While the regulations of teaching and research sections in universities usually require designated activity venues, plans, and content, many times these activities are merely formalities and fail to effectively enhance teaching quality. Tasks such as disciplinary construction, scientific research, and faculty development in teaching and research sections are often carried out spontaneously by members without substantive cooperation, resulting in weak team awareness. Additionally, due to the nature of courses, some teachers handle teaching tasks individually, making course development a personal matter. This indirectly leads to a lack of communication and exchange among members of teaching and research sections, creating unfavorable conditions and atmosphere for teamwork, thereby hindering effective collaboration.

4.2 Inadequate Capability of Some Teaching and Research Section Directors

If teaching and research sections are regarded as teaching teams, then the directors of teaching and research sections serve as the leaders of these teams. The capability of the directors directly influences the quality of teaching and research section team construction. Directors of teaching and research sections are usually appointed directly by the university, but due to various reasons such as university policies, the quality of directors varies. On one hand, some universities divide teaching and research sections too finely, resulting in a small number of members and making it difficult to select high-level directors internally. On the other hand, since teaching and research section directors generally do not hold administrative ranks and have multiple work tasks, teachers with strong qualifications and abilities may be unwilling to take on the role of teaching and research section directors.

In addition to the inadequate capability of some directors of teaching and research sections, there are also cases of irresponsible behavior among some directors when carrying out various tasks of

teaching and research sections. These internal issues with directors prevent the inherent functions of teaching and research sections as grassroots teaching organizations from being fully realized, greatly impeding the cohesion and creativity of teaching and research section teams.

4.3 Lack of Effective Management and Evaluation Measures

Most teaching and research sections in universities are not primary administrative organizations, lacking a scientifically feasible standardized management system. Therefore, the difficulty of management is relatively high, with many human factors involved. Many schools and departments do not consider teaching and research sections as important platforms for disciplinary construction and improvement of teaching quality. As a result, there is insufficient investment and funding for the construction of teaching and research sections. In some cases, teaching and research sections even lack necessary activity venues, making it difficult to conduct research activities. Additionally, schools and departments lack a scientific and reasonable mechanism for evaluating the team's performance, indirectly leading to insufficient cohesion within teaching and research sections.

4.4 Insufficient Support from Internal and External Environments

Compared to teaching teams, teaching and research sections in universities lack necessary financial support and well-established regulations, which restricts their advantages as a group. In contrast to the emphasis on teaching team construction, disciplinary and curriculum development, and teaching material construction, universities generally allocate fewer resources and lack corresponding policy support for the construction of teaching and research sections. The constraints of internal and external environments lead to a lack of enthusiasm among teaching and research section members to participate in activities, resulting in the inability of teaching and research sections to fulfill their functions in teaching research and disciplinary construction.

4.5 Inherent Insufficiency in Building Teaching Teams

Teaching and research sections in universities also bear the task of building teaching teams. However, unlike teaching teams, the construction of teaching teams is not a consideration when establishing teaching and research sections [11]. In some newly established undergraduate colleges and departments, members of teaching and research sections are mostly young teachers recruited in recent years, making it difficult to implement effective "passing on, helping, and guiding" measures within the sections. Additionally, compared to teaching teams, teaching and research sections generally lack funding support for teacher training, further education, and outbound study visits, making it challenging to undertake the task of faculty development.

5. Strategy for Building Teaching Teams Based on University Teaching and Research Sections

5.1 Establishing Team Goals and Cultivating Team Spirit

Team goals serve as the direction towards which team members strive, while team spirit forms the cornerstone of members' values and beliefs, serving as an intrinsic force for the team's progress [12]. It is crucial for university teaching and research sections to effectively integrate the functions of teaching teams and grassroots teaching organizations, as both are equally important.

Firstly, it's essential to scientifically formulate goals for the construction and development of university teaching and research sections. During the goal-setting process, practical considerations

should be taken into account, and individual members' visions and personal goals should be fully respected. Personal aspirations should be elevated to team goals and aligned with the school's development objectives.

Secondly, institutional development is key to fostering team spirit. Establishing sound rules and regulations for university teaching and research sections is necessary. Activities such as recognizing or nominating advanced teaching and research teams can be conducted to provide a certain level of financial and policy support to university teaching and research sections. This enables university teaching and research sections, as teaching teams, to receive treatment similar to traditional teaching teams in certain aspects, thereby enhancing the enthusiasm and creativity of section members and better accomplishing the dual tasks of university teaching and research sections and teaching teams.

Lastly, it's important to strengthen members' sense of cooperation. Encouraging teamwork among members of university teaching and research sections is vital for maximizing their collaborative spirit in educational and research activities. This includes collective deliberation, joint project application, and collaborative construction. Through these educational and research activities, the team spirit of university teaching and research sections can be reinforced.

5.2 Establishing a Team-oriented Performance Evaluation System

Scientific and rational evaluation is an effective way and important guarantee to mobilize the enthusiasm of team members, examine the results of team building, and enhance the competitiveness of the team.

Schools and departments should establish a scientifically reasonable evaluation method for university teaching and research sections. The performance of the university teaching and research section should not be a simple sum of the individual performance of its members. In the evaluation and assessment of university teaching and research sections, in addition to the individual performance of the members, the overall performance of the university teaching and research section team should account for a large proportion. This includes factors such as the quantity and quality of projects collectively applied for by the team, the overall teaching quality of the team, and the overall improvement of various aspects of the team. It is necessary to establish an evaluation mechanism suitable for team development and reasonably apply the evaluation results to title evaluation and personal development. This way, the combination of individual and collective interests can be achieved, and members of the university teaching and research section will prioritize the maximum performance of the team and leverage its advantages.

5.3 Strengthening the Selection and Appointment of University Teaching and Research Section Directors

As leaders and pioneers of teaching teams based on university teaching and research sections, directors of university teaching and research sections bear the dual tasks of building university teaching and research sections and teaching teams. Therefore, directors of university teaching and research sections must be selected from teachers who possess good political qualities, strong dedication and sense of responsibility, high research level, strong coordination ability, and can unite and lead the teachers of the section to strive to complete teaching and research tasks.

It is necessary to stimulate the enthusiasm of directors of university teaching and research sections by improving their treatment and adopting corresponding incentive mechanisms and policies to inspire their creativity. First, it is necessary to strengthen the training of directors of university teaching and research sections, improve their management qualities and abilities; second, according to the actual situation of each teaching and research section, formulate internal rules and

regulations that are in line with the actual situation of the section; third, regularly hold selection activities for excellent directors of university teaching and research sections to improve the enthusiasm and initiative of the directors; finally, affirm the work of directors of university teaching and research sections from the perspective of institutional design, and reflect it in terms of salary treatment, job promotion, etc. Only by cultivating excellent directors of university teaching and research sections can we build an excellent teaching team based on university teaching and research sections.

5.4 Emphasizing Connotation Development and Innovating the Model of Faculty Team Building

Combining the actual situation of university teaching and research sections, attaching importance to connotation development, and innovating the traditional "pass on, help, and guide" model of teaching teams, a new "pass on, help, and guide" system of "senior mentoring junior, newcomer mentoring newcomer, newcomer helping newcomer" should be implemented in newly established undergraduate universities and newly established departments.

Young teachers who have been working for a relatively short period should assist new teachers in basic teaching norms, work processes, teaching and research methods, etc., helping them quickly adapt to the role of teachers. This not only solves the problem of insufficient number and energy of senior teachers but also fully exercises the abilities of young backbone teachers, giving full play to the role of young backbone teachers and achieving rapid growth of young teachers.

It is important to attach importance to the training of young backbone teachers, encouraging and arranging young teachers to improve their academic qualifications, academic levels, and dual-teacher qualities through planned learning, further studies, conference exchanges, and on-the-job training. Through the internal development and improvement of members of the university teaching and research section and the reasonable introduction of new teachers, the overall level of the faculty team can be improved, and the goal of optimizing the team structure can be achieved.

6. Conclusion

The teaching and research section of a university is the grassroots organization of teaching management in higher education institutions. The concept of building and managing teaching teams can be introduced into the construction of university teaching and research sections, forming teaching teams within these sections. By addressing issues and shortcomings in the construction, operation mechanisms, and management concepts of university teaching and research sections through institutional development and policy guidance, the effective integration of their functions as teaching teams and grassroots teaching organizations can be achieved. Teaching teams based on university teaching and research sections at a high quality but also fully utilize the functions of the team. This allows teachers to better leverage their strengths and create outstanding achievements with the support of the team, which is of great significance for improving the overall teaching quality of higher education institutions.

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References

[1] Wang Z, Xu Y. New Engineering Curriculum Construction Based on the Innovative Model of Intelligence Plus Virtual Teaching and Research Section. International Journal of New Developments in Education, 2023, 5(26): 7-11. [2] Rumch M, Morchid N. Moroccan EFL High School Teachers' Attitudes and Perceptions towards Critical Thinking

Skills: Kenitra's Directorate as a Case Study. Journal of English Language Teaching and Applied Linguistics, 2023, 5(4): 184-198.

[3] Zhang Y, Li B. Research on the Implementation of Ideological and Political Elements in New-Form English Textbooks by Virtual Teaching and Research Section. Curriculum and Teaching Methodology, 2023, 6(18): 7-14.

[4] Yu T, Kong X. Teaching Reform of Interior Design Majors in Universities under the Background of 1+X Certificate System. International Journal of New Developments in Education, 2024, 6(1): 174-180.

[5] Li W, Sha D, Sui J. Research on Fuzzy Comprehensive Evaluation of the Quality of Teaching Work in Teaching and Research Offices. Frontiers in Educational Research, 2023, 6(10): 55-59.

[6] Duan C. Practice and Research on the Construction of Online Course Resources for Water Treatment Technology. Frontiers in Educational Research, 2023, 6(29): 136-140.

[7] Sang H, Wang X, Guo P, et al. Discussion on the Construction of Virtual Teaching and Research Office of Marketing Profession under the Background of New Liberal Arts. Adult and Higher Education, 2022, 4(12): 91-97.

[8] Ferland M, Molinaro F C, Kosovich J J, et al. Using Motivation Assessment as a Teaching Tool for Large Undergraduate Courses: Reflections From the Teaching Team. Teaching of Psychology, 2024, 51(2): 220-226.

[9] Mariana L, Gabrielle R S, Ryan B. Students as game designers and developers: developing cooperative strategy board games to teach team leadership skills. Organization Management Journal, 2024, 21(1): 41-48.

[10] Mari ön D, Vanderlinde R, Struyf E. Teaching in a Shared Classroom: Unveiling the Effective Teaching Behavior of Beginning Team Teaching Teams Using a Qualitative Approach. Education Sciences, 2023, 13(11): 1-19.

[11] Singh R. The Training and Recruitment Strategy of Professional Teaching Team in Somalia. Journal of Research in Vocational Education, 2023, 5(10): 47-50.

[12] Yu N, Xu J, Zhou J. Research on the Training of College Foreign Language Talents and the Path of Teachers' Development in the New Era. Education Journal, 2023, 6(9): 173-181.