Construction Mode and Strategy of Teaching Teams

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Abstract. The construction of teaching teams plays an important role in improving the quality of teaching, promoting teaching reform, and also facilitating the development of teachers' professional abilities. Therefore, it is of great significance to study how to effectively construct teaching teams. Based on case studies, this paper analyzes four common modes of constructing teaching teams, including course-centered teaching teams, major-centered teaching teams, project-centered teaching teams and interdisciplinary teaching team. Then we explore the core elements of teaching team construction, including team goals, team leaders, team structure, team mechanisms, teaching research and innovation, supporting for teachers' professional development, as well as resource and environmental support. Finally, we propose five key strategies for constructing teaching teams, including clarifying team goals and tasks, selecting appropriate team members, establishing team rules and regulations, providing professional development opportunities, as well as evaluating, giving feedback, and making continuous improvements. These strategies are supposed to providing a good reference for colleges and universities to effectively construct teaching teams.

Keywords: Teaching Team, Construction Mode, Core Element, Construction Strategy.

1 Introduction

A teaching team is formed by a certain number of teachers to improve the quality of teaching and promote teaching reform. They usually have a relatively stable organizational structure, clear division of labor, and collaborative relationship. Through collaboration and communication, the team members can achieve resource sharing and complementary advantages, as well as improving teaching efficiency and effectiveness. At the same time, the teaching team also provides a good development platform for teachers to stimulate their teaching enthusiasm and innovative spirit. Therefore, the construction of a good teaching team is of great significance.

2 Construction Modes of Teaching Teams

There are various construction modes of teaching teams. Different teaching team construction modes have different purposes and characteristics, and thus can meet different

needs. There are mainly four common construction modes.

2.1   Course-Centered Teaching Teams

This type of teaching team is usually constructed around one or several courses. Team members undertake the teaching tasks of the courses together, including lesson preparation, teaching, tutoring, and evaluation.

Established in 1997, the "Calculus" course teaching team at Tsinghua University is mainly responsible for the "Calculus" teaching work of the entire university. Team members include many professors, associate professors, and assistant professors. They all have rich teaching experience and profound mathematical expertise. They use textbooks or lecture notes written by the team for their classes. The team constantly explores new teaching methods, such as adopting the small-class exercise class mode, with only 20 to 30 students in a class. This mode requires a large number of teaching assistants, so the team has more than 80 teaching assistants. The team attaches great importance to the cultivation of teachers. They often invite experienced teachers from inside and outside the university to give teaching lectures for teaching assistants, and setting up a group trial lecture and peer evaluation session for them. The team also pays attention to the construction of the team community. To accelerate the growth of young teachers, senior teachers in the team also spare no effort to support and guide them. In addition, discussion and collective decision-making are important ways of team work.

2.2   Major-Centered Teaching Teams

This type of teaching team is usually constructed based on a certain major, and the team members cover various courses of the major. They are responsible for the construction and development of the major, including curriculum setting, teaching reform, practical teaching, and so on.

At Shanghai Jiao Tong University, the Random Mathematics Teaching and Textbook Construction Team is always committed to cultivating outstanding talents who meet the needs of the national big data strategy. The team offer several traditional professional courses for undergraduate and graduate students of the department, such as Probability Theory, Mathematical Statistics, and so on. In addition, they have also opened many new courses to keep up with the development of the major, such as Multivariate Statistical Analysis, Statistical Learning, and so on. They have published many textbooks, such as Applied Stochastic Processes, Foundation of Mathematical Finance, and so on. They have also translated some popular science books on big data. The team constantly explore new teaching methods and actively participate in the reform of the graduate course system of the department. In addition, each teacher guides many undergraduate graduation projects and master's thesis every year.

2.3   Project-Centered Teaching Teams

This type of teaching team is usually constructed around a certain teaching project or research topic. Team members participate in the implementation and research of the

project. The project-based teaching team should pay attention to both the teaching objectives of the course and the completion of the projects [1].

The project-based teaching team of the School of Mechanical and Power Engineering at Shanghai Jiao Tong University integrates the talent cultivation concept of the university into every link of teaching and educating. It becomes a model for innovating the talent cultivation mode in engineering, and leading the new round of higher education reform practice in China. It introduces engineering problems from industrial enterprises and people's real life into the classroom. The team starts with curriculum setting, teaching methods, and textbook construction, carries out project-based teaching reform, and builds an engineering practice platform. The project-based course teaching is dedicated to building the ability of students in solving practical engineering problems, communication, teamwork, cross-cultural international collaboration, cross-disciplinary knowledge integration and application. The team also provides support for promoting teaching reform. The project-based teaching establishes a goal-oriented training mode, strengthens process management. They actively explore and innovate from aspects such as curriculum setting, teaching planning, and teaching methods to adapt to the goals of multi-level and multi-dimensional talent cultivation.

2.4   Interdisciplinary Teaching Team

This type of teaching team is usually composed of teachers from different disciplinary backgrounds, aiming to promote the integration of disciplines and cultivate students' comprehensive quality and innovation ability.

The teaching team from Beihang College of Beihang University focus on the construction of core curriculum groups for broad categories. The team teachers come from 10 engineering colleges, realizing interdisciplinary integration of teaching. The team has key roles like the responsibility professor of broad categories and the leader of broad categories core curriculum group. They are aiming at constructing first-class undergraduate courses. They pay attention to the team development mechanism, and implement a team teaching mechanism of "teaching research, peer evaluation, collective lesson preparation, and continuous training" .

In short, the construction mode of a teaching team should be flexibly selected and innovated according to the actual situation, so as to promote the improvement of teaching quality and the development of the education cause.

3   Core Elements of Teaching Team Construction

An excellent teaching team is not formed by chance but is the result of the interaction and collaborative development of a series of core elements. In-depth exploration of the core elements of teaching team construction not only helps us better understand the nature and value of the teaching team, but also provides theoretical guidance and practical paths for building an excellent teaching team.

3.1   Team Goals

Team goals are the fundamental prerequisite for the existence of the team, and they directly affect the level of team effectiveness[2]. Clear, specific, and challenging team teaching reform goals can provide direction and motivation for teaching team members, prompting them to work together to achieve the goals. The pursuit of common goals by teaching team members is the basis for improving team effectiveness, and the team goals should be consistent with the strategic development direction of the university. For a teaching team, it is necessary to have a clear goal of teaching reform, formulate specific development plans and work tasks around the construction of courses or majors to guide the direction and focus of the team work.

3.2   Team Leaders

The leadership ability, teaching and academic level of the team leader are crucial to the development of the team, such as playing an important role in leading the teaching concept, constructing the curriculum system, guiding teaching methods, and team building[3]. In addition, an effective leader can clarify team goals, motivate members, coordinate resources, and solve problems. A team leader with good organizational and coordination skills can stimulate the enthusiasm of team members and guide the team towards the team goals.

3.3   Team Structure

A good team should have a reasonable structure[4], including a good mix of age, education, academic background, professional title, teaching experience, skills, and personality, so as to promote the complementarity of knowledge and experience, facilitate collaboration among members, and improve the overall effectiveness of the team. For example, in a teaching team with a combination of old, middle-aged, and young teachers, the old teachers have rich teaching experience and can well guide young teachers; while the young teachers are full of vitality and innovative spirit, and are good at using modern educational technology to innovate teaching; the middle-aged teachers are in their prime, have formed their own teaching styles and have certain achievements in scientific research, which is more conducive to combining teaching and scientific research to update teaching content.

3.4   Team Mechanism

The effective operation and good achievement of the teaching team all require a sound mechanism, such as communication and collaboration mechanisms, supervision and management mechanisms, resource allocation mechanisms, evaluation and incentive mechanisms, etc. Good communication channels and a collaborative atmosphere can promote information sharing, exchange of teaching experience, and cooperation among team members, reduce misunderstandings and conflicts, and improve work efficiency[5]. The lack of effective management may lead to irregular team operations and

difficulty in achieving the expected teaching goals. The unreasonable allocation of teaching resources within the team, will also affect the smooth progress of teaching work. An effective assessment and incentive mechanism can stimulate the enthusiasm and creativity of team members.

3.5   Teaching Research and Innovation

In addition to jointly completing specific teaching tasks, the teaching team also needs to continuously innovate teaching models and methods to promote the improvement of teaching ability[6]. Therefore, the teaching team needs to attach importance to teaching research, constantly carry out teaching innovation, try new teaching methods and means, promote teaching reform, improve teaching quality, meet the diverse needs of students, and adapt to the rapidly changing educational needs.

3.6   Support for Teachers' Professional Development

The professional growth of team members is crucial to improving the overall teaching level of the team[7]. The team should provide continuous professional development opportunities, encourage members to participate in teaching research and academic exchanges, update their knowledge and skills in a timely manner, and promote the improvement of the overall teaching level of the team to improve the quality of teaching.

3.7   Resource and Environmental Support

Adequate teaching resources, such as textbooks, teaching equipment, and funds, can provide a guarantee for the teaching work of the team and improve the teaching effect. External environmental factors such as the university policy support, management system[8], and cultural atmosphere also have an impact on the effectiveness of the teaching team.

These factors interact with each other and jointly affect the effectiveness of the teaching team. By optimizing these factors, the performance of the teaching team can be improved and the quality of teaching can be promoted.

4   Strategies for Constructing Teaching Teams

The construction of a teaching team is an important factor in improving the quality of education. However, constructing an efficient, harmonious, and creative teaching team is not an easy task. Based on the analysis of the typical construction modes of teaching teams and the core elements of team construction in the previous text, this article proposes the main strategies for constructing teaching teams to provide a reference for constructing high-quality teaching teams.

4.1   Clarify the Team Goals and Tasks

Determine the common goals the teaching team to ensure that team members have a clear understanding of the development direction of the team. The goals should be consistent with the university strategic planning and teaching requirements. The team tasks should include teaching tasks, teaching reform and research, textbook construction, curriculum construction, and other tasks, and the various educational and teaching tasks should be detailed to enable the entire team to work together in the same direction with the team goals.

4.2   Select Appropriate Team Members

According to the team goals and tasks, select teachers with relevant professional knowledge, teaching experience, and teamwork spirit to form the team. Choose a capable, experienced teacher to serve as the team leader. The team leader should be able to coordinate the work of team members, promote teamwork, and drive the achievement of team goals. Diversity should be considered on other team members, including disciplinary background, teaching style, and experience level, to promote the innovation and development of the team.

4.3   Establish Team Rules and Regulations

Establish clear team rules and regulations, including the responsibilities, rights, and obligations of team members, the decision-making process of the team, and the communication and collaboration methods of the team. Effective team collaboration and communication mechanism can encourage the exchange and cooperation of team members. Regular team meetings, group discussions, and other methods can be used to promote information sharing and experience exchange. Establish a reasonable incentive mechanism to encourage team members to actively participate in team work and give full play to their potential. Rewards, commendations, promotions, and other methods can be used to motivate members to contribute to the development of the team.

4.4   Provide Professional Development Opportunities

Provide professional development opportunities for team members, including participating in training, seminars, academic exchanges, etc. Support members in carrying out teaching research and innovative practices to improve their teaching level and professional quality. Within the team, there should be a good atmosphere of mentoring, where experienced teachers guide and support new teachers, providing help for the professional development of team members and constantly helping young teachers solve various difficulties.

4.5   Evaluation, Feedback, and Continuous Improvement

Regularly evaluation and feedback on the work of the teaching team, promptly identify problems and make improvements. The evaluation can include aspects such as teaching effectiveness, student satisfaction, and team collaboration. Based on the evaluation results and the needs of team development, continuously improve the construction strategy and operation mode of the team. Encourage team members to actively participate in the improvement and development of the team.

5   Conclusions

In conclusion, the construction of a teaching team requires comprehensive consideration of multiple factors. Through reasonable strategies and measures, a united, collaborative, efficient, and innovative teaching team can be built to provide strong support for improving the quality of teaching and the level of talent cultivation.

Acknowledgments

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