Adult and Higher Education (2022)
Clausius Scientific Press, Canada

DOI: 10.23977/aduhe.2022.040816
ISSN 2523-5826 Vol. 4 Num. 8

Discussion on Teaching Team Construction of Local Application-oriented Undergraduate Automation Specialty

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Keywords: Teaching team, applied undergraduate, automation specialty

Abstract: In view of the problems existing in the teaching team construction of automation specialty of Local Application-oriented Undergraduate in China, such as the weak practical ability of teachers, the lack of rationality of teaching team structure and the lack of continuity of teacher training process, this paper puts forward the team construction plan. This paper expounds the construction objectives and measures from three aspects: team echelon training, teaching reform and the combination of scientific research and teaching, which plays a guiding role in building a high-level automation professional teaching team.

1. Introduction

In view of the characteristics of deep theoretical knowledge, wide application range and large talent demand of automation specialty, in order to meet the talent demand of Guangdong, Hong Kong and Macao Dawan District, and to cultivate undergraduate talents of automation specialty with solid professional knowledge and outstanding professional skills, it is necessary to establish a "double qualified" teaching team with the combination of full-time and part-time that can serve the local and produce regional influence[1][2]. It is necessary to build a professional team with a "double teacher" structure with professional leaders as the guide, professional backbone teachers as the core and the combination of full-time and part-time.The team includes not only well-known professors and experts with deep academic attainments and teaching achievements, but also discipline leaders and backbone teachers who have long been committed to the front line of teaching and scientific research, not only enterprising young teachers who are determined to develop their own profession, but also high-level part-time teachers from the front line of enterprises[3][4]. The age echelon, professional title and knowledge structure of the whole teaching team are very reasonable, with excellent team culture, innovation consciousness and cooperation spirit. Most of the team members are "double qualified" teachers, with distinctive characteristics of applied undergraduate education[5].

2. Team building planning

The construction goal of automation teaching team is to build a team of teachers who master modern educational ideas and teaching skills, with high professional level and strong innovation ability[5][6]. In order to strengthen the construction of automation teaching team and truly realize

the pertinence and effectiveness of automation teaching and research. The teaching team of automation specialty will focus on the following aspects.

First, change the educational concept, strengthen the understanding of the teaching work of automation specialty under the new situation, and guide the construction of teachers with new educational concept[7][8].We should advocate open thinking teaching, stimulate students' divergent thinking, improve students' political consciousness, moral consciousness and legal consciousness, cultivate students' smooth, flexible, original and innovative ability, so as to solve the social problems faced, create a new situation of automation teaching, and meet the diversified social needs. Second, optimize the structure of teaching team and focus on improving teachers' quality. We should reasonably allocate teacher resources and form a good competitive incentive mechanism,and strive to improve the quality of education and teaching and the level of scientific research,and strengthen teacher training and strive to improve the teaching and scientific research level of existing teachers,and strengthen the construction of discipline echelon and build a high-quality and high-level teaching team. Third, strengthen teaching research and pay attention to the practice of teaching reform. The automation teaching team should actively encourages teachers to carry out teaching research and reform practice, and scientifically train automation students.Teachers are encouraged to transform the advantages of scientific research into teaching mode.

3. Teaching team construction

3.1 Team echelon construction

3.1.1 Construction objectives

Through the combination of introducing high-level teachers and internal training, optimize the structure of teachers' age, educational background, professional title and academic background, establish echelon construction plan and operation mechanism, and build a "double qualified" team with excellent ideological style, excellent professional quality, sufficient quantity, high quality, reasonable age, educational background and professional title structure[9][10]. The "double qualified" automation professional teaching team meeting the needs of application-oriented undergraduate education, plays an exemplary role in the construction of undergraduate teaching teams in similar colleges and universities in China.

3.1.2 Echelon construction measures

Strengthen the practice of young teachers in practical teaching bases and related enterprises, and select excellent teachers to participate in further education, lectures, academic cooperation, production, teaching and research exchanges. Formulate the development plan for the introduction of high-level talents and the promotion of high professional titles, refine the coordination mechanism between team echelon construction and teaching and scientific research, and increase the proportion of senior professional titles to 70%; Give play to the leading role of professional leaders, and they have the ability to grasp the direction of professional development, improve professional level and teaching and scientific research; Establish a resource bank for part-time teachers, hold training on educational theories and teaching methods for part-time teachers, and hire industry experts to report on the cutting-edge situation and development trend of professional and technical development, so as to improve teachers' professional and technical level. Introduce skilled craftsmen and high-quality technical talents from enterprises, encourage full-time teachers and take temporary training in enterprises, and strive to achieve "double qualified" ratio of more than 85%.

3.2 Team teaching reform

3.2.1 Construction objectives

Adhere to the reform direction of "student-centered, ideological and political integration" and strengthen teachers' awareness of morality, talent and teaching quality management; and enrich and improve the construction of teaching platform, network resources and laboratory; and strengthen the supporting construction of application-oriented teaching materials to meet the training needs of technical application-oriented high skilled talents "facing engineering and strengthening practice".

3.2.2 Teaching reform measures

We should learn from international advanced higher education ideas, and summarize school running experience, and optimize teaching system, and improve teaching methods and improve management mechanism; We should organize enterprise research and seminars, and study the dynamics of enterprise or talent market, and formulate professional positioning and core curriculum optimization scheme; We should ensure the implementation of the old and new leaders, more than 70% of the professional core courses are undertaken by professors and young and middle-aged backbone, and 30% of the professional core courses are undertaken by young and middle-aged teachers with enterprise background. Focusing on the common problems that have long plagued the teaching of automation major and affected the training quality of engineering professionals, such as students' lack of engineering practice ability, lack of innovation ability and disconnection between production and learning, We should carry out teaching research and reform, and promote the teaching reform practice of learning centered, curriculum ideological and political, first-class curriculum construction, and improve students' engineering practice ability and innovation ability.

3.3 Combination of scientific research and teaching

3.3.1 Construction objectives

According to the principle of "stability, attraction and cultivation", a scientific research team with high level, reasonable structure and stable personnel is built.The team should attract young and skilled teachers to join, and cultivate a scientific research team with "solid foundation, wide range of knowledge, strong ability, high quality and one specialty and multiple abilities", and realize the integration, connection and coordinated development of theoretical teaching, practical teaching and scientific research. Closely combine school enterprise cooperation, industry university cooperation and achievement transformation with team teaching and scientific research activities,and enrich teaching with scientific research and extend scientific research with teaching.

3.3.2 Measures for combining scientific research with teaching

Apply the teaching and scientific research achievements to practical teaching effectively and scientifically, and establish a systematic teaching and scientific research achievement transformation process and operation mechanism from research, application, inspection to perfection. We should carry out school enterprise cooperation and collaborative education with professional well-known enterprises. Enterprises provide teaching examples and production tasks for schools. Schools timely track the technical needs of enterprises, and solve the technical problems such as automation equipment transformation and product rearch urgently needed by enterprises, and participate in the development of automation of new intelligent manufacturing products, and provide in-depth technical services for enterprises,and then achieve a win-win

situation for schools and enterprises.

4. Conclusion

To sum up, there are still some problems to be solved in the construction of local application-oriented undergraduate automation teaching team. To build a "double qualified" teaching team with "high level and high quality", we need to constantly explore and study, and establish an excellent "double qualified" teacher team by strengthening team practice, improving team structure and coordinating team training.

Acknowledgement

2020 Guangdong undergraduate university teaching quality and teaching reform project: Automation Teaching Team.

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