

Study on Strategy of Automobile Specialty in Vocational Colleges to Cope with New Energy Automobile Development

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Abstract. With era development, some higher vocational colleges set up automobile specialty to meet market demand for talents. In the development process of automobile industry, it is required to take environmental protection and energy saving as the purpose, regard development and production of new energy automobile as the major direction and then greatly conform to the objective of energy conservation and emission reduction. Automobile specialty of higher vocational colleges has important significance for development of new energy automobile, so the function of automobile specialty in higher vocational colleges should be fully exerted in the development process of new energy automobile. This paper studies the strategy of automobile specialty in higher vocational colleges to cope with development of new energy automobile and offers reference for promoting sustainable development of automobile specialty in higher vocational colleges.

Introduction

In the development process of automobile industry, the development and research of new energy automobile have gained fast progress in order to deeply implement scientific outlook on development, carry out the policy of energy conservation and emission reduction and facilitate good development of low carbon economy. In recent years, new energy automobile has developed rapidly in China, and the increment has been in the lead globally. Automobile specialty of higher vocational colleges actively adapts structural adjustment of automobile industry, gets involved in new energy automobile market and deeply studies new energy automobile. Some higher vocational colleges have set up new energy automobile specialty to offer talent reserve for rapid development of new energy automobile market.

Development of new energy automobile market

New energy automobile is an emerging industry. The state has issued many policies to encourage and support research, development and production of new energy automobile. According to national “13th Five-year Plan”, the parc of new energy automobile will reach 5 million in future 5 years. After new energy automobile technology becomes mature, the increment of new energy automobile will further increase.

New energy automobile mainly includes battery electric vehicle, plug-in hybrid electric vehicle (including extended-range) and fuel cell vehicle. The battery electric vehicle depends on battery as its energy source and is driven by the motor. The hybrid electric vehicle is driven by mutual synergy of traditional internal combustion engine and drive motor. The fuel cell vehicle takes hydrogen fuel as the important fuel.

New energy automobile market mainly includes manufacturing, operation management and charging network of new energy automobile. Higher vocational colleges should combine actual conditions of specialty, adjust specialty direction in real time and serve for industrial ecology of whole new energy automobile.

Development status of automobile specialty in higher vocational colleges

New energy automobile is brought into the content of automobile specialty

In the operation and development process of higher vocational colleges, they enhance setting force of automobile specialty in order to meet social demand for talents, then cultivate more and more professional automobile talents and lay a solid foundation for development of automobile industry. In current social situation, it is required to reduce energy consumption and achieve energy conservation and emission reduction. In automobile specialty teaching process, higher vocational colleges bring new energy automobile in automobile specialty teaching content and enhance the force of professional talent training for new energy automobile. Seeing from training content, after-sale technical service of new energy automobile serves as the main content. In course teaching period, after-sale technical service serves as the major education content. During carrying out automobile specialty education, teachers pay great attention to basic knowledge about new energy automobile specialty. Under the precondition of promoting students to master rich professional knowledge, teachers should make students organically associate basic knowledge of automobile specialty with technical operation in the field and then overall master the content of automobile specialty. Since new energy automobile specialty is particular, teachers should teach students automobile machinery foundation, electrical and electronic foundation and automobile structure so as to promote development of new energy automobile.

Students' vocational ability training is valued in new energy automobile specialty teaching

In automobile specialty teaching, higher vocational colleges regard students' comprehensive ability training as the main objective, especially enhance new energy automobile specialty teaching and pay attention to training students' vocational ability. Thus, new energy automobile has good development prospect. However, limitations exist in the development of new energy automobile. Many difficulties in repairing and producing new energy automobile exist. It is hard to provide more practical operation conditions for students, which brings about adverse effect on students' comprehensive quality training.

Teaching conditions are unsound

For new energy automobile specialty, since it is an emerging specialty and the implementation difficulty is large, some higher vocational colleges do not set up new energy automobile specialty. Even if some higher vocational colleges set up this specialty, they fail to offer sufficient learning environment for students due to unsound teaching conditions. This is adverse to improvement of students' practical ability. When students' comprehensive quality is not effectively trained, sufficient skilled talents are not provided for the society, and certain impacts are brought to the development of new energy automobile.

Main strategies of automobile specialty in higher vocational colleges to cope with development of new energy automobile

Set up new energy automobile specialty by taking employment as the orientation

In order to actively cope with the development of new energy automobile, higher vocational colleges need to take employment as the orientation, set up new energy automobile specialty, enhance construction of new energy automobile specialty, train more professional automobile talents for the

society and meet social demand for talents in new energy automobile field in automobile specialty teaching process.

When setting up new energy automobile specialty, higher vocational colleges should start from the market, fully survey and analyze employment situation of graduates of automobile specialty, rationally set up new energy automobile specialty based on social demand and talent market demand, then improve graduates' competitiveness and promote sustainable development of new energy automobile specialty. During setting up new energy automobile specialty, higher vocational colleges need to practice and survey in new energy automobile manufacturing enterprises to master their actual demand for talents and indicate the direction of new energy automobile talent training. Meanwhile, higher vocational colleges should adjust content, teaching and course standards of new energy automobile specialty and guarantee to meet the demand of new energy automobile enterprises for talents^[1].

In addition, higher vocational colleges should cooperate with new energy automobile manufacturing and maintaining enterprises to jointly build off-campus training base. Through constructing sound university-enterprise cooperation mode, higher vocational colleges can achieve close connection between specialty construction and practical application in the construction process of new energy automobile specialty. Besides, students majoring in new energy automobile can integrate theoretical knowledge and practice. In practice, students' innovation ability, practical operation ability and autonomous learning ability improve significantly, and the practice contributes to improvement of students' cooperation, analysis and problem handling ability.

In one word, higher vocational colleges should give full play to the functions of automobile specialty and enhance construction of new energy automobile specialty in order to accelerate the development of new energy automobile specialty. Through cooperation with new energy automobile manufacturing and maintaining enterprises, students can gain rich knowledge in practice, and improve practical operation and thinking ability. Meanwhile, good conditions can be created for sustainable development of new energy automobile.

Improve teaching conditions and reform course teaching

To guarantee better development of new energy automobile, higher vocational colleges should improve teaching conditions and provide beneficial guarantee for the development of new energy automobile in automobile specialty teaching process. During setting up energy automobile in automobile specialty, teaching conditions should improve in order to effectively train students' vocational quality and professional skills. Except off-campus training base, higher vocational colleges should optimize teaching conditions. For new energy automobile specialty, teachers should pay attention to training students to master core technology ability. Usually, key contents of new energy automobile contain drive motor, battery system, charging pile, electric braking system, electric power steering, vehicle control unit and vehicle chassis structure etc.

To make sure students overall understand the above contents, higher vocational colleges should take improvement of teaching conditions as the major objective, and enhance training base building, and optimize relevant experiment and training conditions. Higher vocational colleges should increase fund investment in these aspects. In training base building process, higher vocational colleges should purchase training equipment related to new energy automobile specialty, and create favorable training opportunities for students. Through operating the equipment, students can improve their operation ability, and facilitate integration of theoretical knowledge and practice. In this way, higher vocational colleges can output more talents for the society and provide guarantee for sustainable development of new energy automobile^[2].

At present, higher vocational colleges regard new energy automobile specialty teaching as the main content in automobile specialty teaching process. However, since new energy automobile specialty construction is in the primary development stage, few higher vocational colleges set up new energy automobile specialty. Thus, teaching masteries of this specialty are not very rich. However, new-energy automobile industry as a global emerging industry is in the continuous update state in its

development period. To promote favorable development of new energy automobile, higher vocational colleges need to reform course teaching. First of all, teachers should go deep in the enterprises to learn, overall grasp development direction and information of this industry. Then, teachers should scientifically reform course teaching, improve and update course teaching content and make sure new energy automobile specialty and industrial development are synchronous.

In a bid to make sure talent training gains significant effect, higher vocational colleges need to strengthen teaching content of new energy automobile specialty and increase fund investment in teaching development^[3]. At the same time, to accelerate course teaching reform, teachers need to update teaching concept, innovate and improve course teaching design thought and method. For teaching content, teachers need to organically integrate theoretical knowledge and practical teaching module, deeply development and apply contents in teaching materials and improve teaching quality through course teaching reform. Since market scale of new energy automobile is ever-changing, in order to ensure sustainable development of new energy automobile, higher vocational colleges must reform course teaching in automobile specialty teaching process to lay a solid foundation for the development of new energy automobile and promote cultivation of more and more skilled talents.

Enhance teaching staff building

To facilitate the development of new energy automobile, higher vocational colleges shoulder an important mission. In automobile specialty teaching, it is necessary to enhance teaching staff building and improve teaching quality in order to ensure better effect of new energy automobile specialty teaching. When students' comprehensive quality improves, beneficial guarantee can be provided for the development of new energy automobile. During teaching staff building, higher vocational colleges should follow the idea of teacher's ethics first, construct professional teaching team through boosting teacher's professional technology and skills, and overall improve teachers' comprehensive quality^[4]. To guarantee significant effect of new energy automobile specialty teaching, higher vocational colleges should take "double-position teaching team" as the main objective, formulate promotion plan of "double-position teaching team" and specialty leader training plan and achieve effective construction of teaching team for new energy automobile specialty. In such condition, teachers' basic theoretical knowledge and professional skills can improve. Besides, quality and scale of teaching staff in higher vocational colleges are in the expansion state.

Meanwhile, higher vocational colleges should enhance teacher training, and motivate them to learn and practice in enterprises so as to enhance practical training ability. Teachers learn from experienced workers in enterprises, introduce abundant practical experience and technology in new energy automobile specialty teaching and create beneficial conditions for teaching activity implementation. Moreover, higher vocational colleges should provide teachers more opportunities to participate in engineering practice, encourage them to gain more professional technical post certificates and skill certificates so as to improve teaching team^[5]. Meanwhile, higher vocational colleges should increase fund and policy support for new energy automobile specialty and improve teaching equipment. In one word, enhancing teaching team building can facilitate implementation of teaching activity of new energy automobile specialty and drive the development of new energy automobile.

Conclusion

In conclusion, the development of new energy automobile has become a main situation and direction. The development of new energy automobile contributes to facilitating realization of energy conservation and emission reduction objective and plays an important role in implementing sustainable development view. In automobile specialty education process, higher vocational colleges shoulder a significant mission. To ensure the development of new energy automobile, higher vocational colleges should enhance automobile specialty education, and regard new energy automobile as the main education and research content. Higher vocational colleges should carry out

new energy automobile specialty education through taking rational measures, cultivate more professional talents and lay a solid foundation for sustainable development of new energy automobile.

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