Analysis on the Ways of Higher Vocational Education Information Security & Management Teachers Fostering in the Coordinated and Concurrent Fields of Vision

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Abstract

Information security and management is one of the major that the society and the country attach great importance to. How to cultivate advanced professional talents is an urgent problem in this field.And effective training talents security is the premise of the school has excellent platform and resources, teachers have a high level teaching ability and comprehensive quality, higher vocational colleges because of the teaching and management mode compared to undergraduate course colleges and universities is more special, make operation management, teaching level has certain limitation, restricts the development of teachers, personnel training effect.In the context of new engineering, it is proposed to train teachers with the combined efforts of multiple resources, and strive to continuously improve their professional skills and comprehensive quality so as to promote the teaching effect and facilitate the training of applied engineering talents.Based on this, this paper takes the concept of collaboration as the approach, and analyzes the feasibility strategy of its application in the training of teachers in information security and management majors, in order to provide some reference for the construction of engineering teachers.

Keywords

Information security and management major; Higher vocational education.Teacher training; Collaborative cultivation; Strategy.

1. Research background

General Secretary Xi Jinping stated at the symposium on Internet and Information Technology that cyber security has reached the level of national security, and cyber security is positively correlated with national security. In 2015, the College Committee of the State Council and the Ministry of Education set "Cyberspace Security" as a first-level discipline. In 2017, the Ministry of Education actively promoted the construction of new engineering, issued the Notice on The Development of New Engineering Research and Practice and the Notice on the Promotion of New Engineering Research and Practice Projects, committed to promoting the Leading Chinese model and experience of engineering education in the world, and helping the powerful countries in higher education. Information security and management, as a sub-major of network space security, belong to the key aspect of new engineering construction. Wang Kun and other scholars put forward that the training of cyber space security personnel is the common responsibility of colleges and universities at all levels, and it is necessary to build a community of talent training practice with their joint majors [1].Li Jianhua [2] pointed out in his study that professionals in cyberspace security should be trained jointly by multiple resources from a diversified and multi-level perspective, and sub-majors should be trained jointly according to the teaching characteristics of colleges and universities, and talent supply mode should be adopted to guarantee talent transmission. Therefore, information security and management (hereinafter referred to as "Principal") is a sub-major of network space security, and its talent training is still a key topic. Higher vocational colleges take the training of professional and technical skills and advanced talents as the core guidance of teaching management. As the frontier of engineering innovative talents training and the experimental field of new engineering education, higher requirements are put forward for the talent training mode.

"The endogenous mechanism of teaching effect lies in teachers". The high-grade principal teachers are the core point of higher vocational transformation and new engineering construction, as well as the core driving force to build the connotation of schools and improve their core competitiveness [3].Principal to effectively guide the regional colleges and universities teacher training model to explore, the ministry of education and related college actively issued a series of documents, first proposed in 2017 thought mobilization theory -"fudan consensus" [4], then the deployment policy - "a big action" [5], then the organization carries out the reference --"Beijing guide" [6], the last is together cultivate dominant -"jiaotong university chapter" [7]. Based on the perspective of collaborative cultivation, this study emphasizes the synergy of multiple resources. Through active and vigorous integration of resources inside and outside the school, multi-dimensional and multi-dimensional linkage cultivation is carried out to promote teachers to form a sense of autonomy, improve their own defects, and constantly improve their teaching ability.

2. The present stage higher vocational colleges information security and management teacher collaborative cultivation of practical needs

2.1 The extensive layout and depth of new engineering construction make the construction of teachers relatively lag behind

Environment, new engineering construction is still in the exploring stage of development, higher vocational principal teachers team construction of the relevant policy documents and implementation opinions still has no unified standard reference, only emphasize the construction of colleges and universities should be teachers mostly positive and external resources, establish cooperation platform, to some extent, lead to the difficult to targeted grasp the new development trend of engineering construction citic Ann teachers demand, even down construction. However, most higher vocational colleges have insufficient awareness of the importance of new engineering construction zhongxin 'an teacher team construction, and have not established the top-level system of new engineering teacher team construction, and do not regard it as the core strategy of strengthening the development of colleges with talents. In addition, vocational colleges have not formulated corresponding evaluation standards, incentive mechanism and training system for engineering teachers according to the special conditions and demands of new engineering construction, which makes the construction of teachers' team less innovative, breakthrough, leap-forward and sustainable healthy development.

2.2 The imbalance of teachers and the lack of training energy make it difficult for the construction of teachers to meet the practical requirements

Due to the relatively lack of salary and resources of teachers in higher vocational colleges, most teachers with high academic qualifications and professional titles are unwilling to work [8].Because of the higher vocational colleges is one of the product of the marketization of education in our country, the development of teachers and the school's development is very uneven, to the construction of teachers team consciousness relatively weak, focusing on school reputation, interest, etc., combined with the new engineering construction citic Ann teachers cultivating cognitive deficiencies, not serious effort on the construction of teaching staff, in the aspect of engineering teacher training has not yet formed a scientific and reasonable internal training mechanism and training system. The internal training mainly focuses on teachers' further study and educational background promotion, but pays no attention to the improvement of teachers' engineering practical ability. In terms of the training system, there are some problems, such as poor pertinence of the training content, single training method, poor structure of the training personnel, and weak continuity of the training.

2.3 The lack of resources, so that the construction of the teacher team support is insufficient

The Outline of the National Medium - and Long-term Plan for Education Reform and Development (2010-2020) clearly states that it is necessary to establish and improve the school-running mechanism led by the government, guided by the industry and participated by enterprises, formulate policies and regulations to promote school-enterprise cooperation in training talents, and promote the institutionalization of school-enterprise cooperation. However, the current "politics, industry, study

and research" cooperation government participation is relatively insufficient, leading functions of the government are absent, policy support is not in place, safeguard mechanism is not sound, resulting in the stability, long-term and strategic orientation of school-enterprise cooperation. Second, most vocational colleges are not active and new trends of industrial industry, enterprise innovation relative to meet development demand, the enterprise has not embraced the teacher's temporary work, engineering practice and so on, and the teachers are hard to participate in the senior management of enterprises, the core technology research and development and other such matters in the end caused by inadequate university-enterprise cooperation, degree is not high, strength is not strong, etc. In addition, because of the higher vocational colleges new engineering construction time is not long [9], university-enterprise cooperation is lack of funds, industry docking is not accurate and not in time, the lack of full-time teachers, training mode and method of backward, talent cultivation and industry enterprise reality demand disconnect, the problem such as collaborative training mechanism is not sound, make the integration education training teachers have limitations.

3. The principle and basis of the collaborative cultivation of higher vocational information security and management teachers in the context of new engineering

Collaborative cultivation theory is a modern management concept to study the commonalities of different things and their synergistic application, which has been widely recognized and applied in education in recent decades [10].Emphasis of this theory is emphasized the ability of organization is to build a systematic, orderly, efficient operation of the structure of the internal power, give full play to all the basic elements and joint (vertical down and horizontal development) of the available resources and integration of the parallel to achieve the overall benefit, the ideological and political education at the present stage of the core concept of "parallel" synthetic "and it must be deep be innovated to carry out the work way of thinking.

Information security and management as a social development to provide information security guarantee of the teaching project. For higher vocational colleges, to realize the transformation and upgrading in the new engineering construction, emphasis is the combination of local economic and social development reality demand, industry enterprises technology innovation new requirements and new trends of industry talent demand [11], make full use of local resources and geographical advantages, to create the characteristics of subjects, the establishment and development of the economic transformation and the corresponding new group for the engineering speciaty, and to establish new engineering specialty construction pattern, meet the industry development of talent are applied, compound type, engineering and technology skilled realistic demand.

As far as collaborative cultivation is concerned, on-campus teaching is the main position, including the collaborative operation of sub-systems of information security management department, academic affairs Office and other directly related first-level functional departments. Off-campus social practice is the main channel, including the joint cultivation of sub-systems of practice bases such as friend schools, high-tech enterprises and government departments. Core orientation is dominated by systemic self-organizing function, guarantee letter Ann engineering under the coordination of the subsystems of the practice teaching system, order of operation, to integrate the advantage resources, build up the education together, play together more effectively the theory of cultivating practical efficiency, promote teachers' growth, improve teaching effectiveness.

4. The cultivation strategy of information security and management teachers in higher vocational colleges based on the concept of collaborative cultivation

4.1 Develop and optimize management ideas and improve top-level design based on collaboration

According to the complexity of the higher vocational information security teachers' system, the teaching work has a certain framework of development law, and because of the existence of a certain degree of solidification, the development process will inevitably occur in the direction of deviation,

weight imbalance. Its development idea is directly related to the reform process of colleges and universities, but it moves forward independently. In the process of the development of teachers, problems will arise in every link, and solving problems is also an opportunity to expand new ideas. Therefore, according to the servo principle, the train of thought should be clarified first to establish a scientific, practical and feasible training mechanism for teachers. From the target source standard synergy of co-evolution to the actual system, from organization program together to practice the achievements management synergy, driven by innovation synergy at the bottom, systemic casting together, according to the practical requirements of the teacher development true confusion and diversity, especially the priorities of the career development demands a clear synergy to foster, targeted professional identity of teachers in the new engineering construction, self positioning accuracy, clear career development direction and teaching guidance, and formulates plans for the development of teachers' internal and external coordination and incentive system, encourage higher vocational principal ordering, stabilization, efficiency, development of teachers.

At the same time can start blue project, train young teachers, promote their rapid growth. For example, a special meeting was held to study the training of young teachers. Each young teacher carries out SWOT analysis on himself/herself according to the requirements, and makes a three-year growth plan. The school regularly holds young teachers' meetings for inspection and supervision. At the same time, teachers with experience in related disciplines will be appointed as mentors, the mentoring meetings will be held, the mentoring activities will be carried out, and specific guidance tasks will be set for the mentors, and the assessment of new and old teachers will be carried out. This can better mobilize the initiative of both sides, promote the development of both sides.

4.2 Build a multi-party collaborative writing cooperation platform featuring sharing, win-win and collaborative innovation

Under the new engineering construction at the present stage comprehensively advancing trend, conventional resources and resultant force of university-enterprise cooperation is difficult to meet the demand of development reality, combined with the government's industrial development layout, industry structure adjustment and industry development direction and the policy of talent supply and the international development trend of the industry will directly affect the new higher vocational engineering construction [12].Which can be prompt, higher vocational colleges must rely on its unique geographical advantages, advantages of disciplines, such as existing talent advantage, actively build ZhengJiao cooperation, integration, cooperation between colleges, science and education combined with production and education, JiaoJiao joint phase collaborative innovation cultivation pattern, realize mutual construction and development course, build the laboratory and practice base, construction of teachers, combining new technology research, thus makes the education responsibility and social responsibility of the community.

4.3 Consolidate the main positions and improve the internal collaborative training mechanism

Due to the shortage of teachers, the imbalance of talent structure, the extreme lack of high-level engineering talents and professional engineering team, colleges and universities should implement the flexible talent introduction mode. First, actively introduce new engineering construction-related experts, professors, discipline leaders and professional team members; Second, the strength of the university, secondary education, from off-campus units and enterprises to introduce rich practical experience and sophisticated technical skills of engineering application-oriented talents and set up joint, special posts. When making training plan, need to sort, hierarchical research development needs, according to the characteristics of the teacher discipline background, knowledge structure, professional, engineering practice ability, innovation ability, the training content and the method of targeted, build the government leading, industrial guidance, industry reference and enterprises to participate in phase, multi-level, online collaborative resultant force of the comprehensive and thorough training in the system, to strengthen personnel training real sex. At the same time, the different levels of teachers, academic research, subject construction, talent cultivation, scientific innovation and engineering practice, undertake the task of their own ability, colleges and universities

should be based on its professional quality, increase willingness and demand to formulate reasonable, feasibility of higher teachers' professional development path, the credentials the way such as on-the-job training, enterprise field, for example, implementation, career development in the field of level, stage and so on all have differences in teachers' engineering practice ability and comprehensive quality accordingly.

4.4 Two-way integration of resources inside and outside the school and collaborative training inside and outside the classroom

It is one of the core ideas in the new engineering collaborative education theory to promote double-post mutual employment and construct school-enterprise mixed teacher community [13]. The so-called double post mutual employment, that is, the school and enterprise personnel both dual identity and the realization of dual development. First, the school can establish or cooperate with relevant units to endue teachers with dual identities, which are both staff of the unit and professional teachers, thus effectively exporting double resources. Second, to carry out the "one to one" pair mutual activities, namely the full-time teachers with the enterprise or unit technical personnel "one-on-one" forms of pairing the bidirectional output functions, external technical personnel become a distinguished teacher of teachers, teachers become external technical personnel's classroom teaching assistants, and give full play to the advantages of human resources for both colleges and unit, on the one hand, school teachers the identity of the technical personnel of enterprises, promote its engineering practice experience, more directly in contact with the advanced equipment, understanding of post operation requirements, and the enterprise specification, case and in the enterprise in the acquisition of knowledge and skills in teaching and brought into the classroom, So as to improve their teaching ability and professional competitiveness to broaden the channels. On the other hand, it strengthens the theoretical level of external technicians, promotes them to transfer the practical work experience to the classroom more effectively, takes the advantages and makes up the disadvantages, and promotes the continuous growth and development of both sides.

4.5 Expand "1+X" cultivation based on double posts

First of all, colleges and universities should establish in-depth communication and cooperation with training evaluation organizations, so as to deeply understand vocational skill level certificates and their standards, and enrich the cooperative cultivation mechanism for double-qualified teachers. The ability assessment of double-qualified teachers shall be based on the standard requirements of double-qualified full-time teachers, and the qualification requirements of vocational skill level certificate trainers shall be correspondingly supplemented. For 1 + X certificate training work carried out smoothly, colleges and universities should organize vocational skills training teachers grade standards, standards of teaching, curriculum development, teaching methods, techniques, etc., also faces the society open recruitment "1 + X" certificate system of cooperative enterprises, cooperative enterprises need to conform to the requirements of the industry standard trainer professional skill level, teachers in cooperative enterprise, understand the learning of its for 1 + X certificate identification are authorized content, teaching material compilation, appraisal method, appraisal evaluation work, guarantee the accuracy in classroom teaching to carry out the "1 + X" certificate system, namely "teaching + appraisal" type, Form the teaching appraisal aspect, namely with skill rating standard as a teacher on the identification of new "double division type" to work standards, building a quantitative appraisal system, finally realizes the unification appraisal standard, the incentive from the traditional teaching model "the double teacher" teachers to the teaching and learning "as" the transformation and upgrading of new "double division type", and encourage teachers on the basis of traditional teacher orientation expansion has trainer, skill appraisal division, and other qualifications.

5. Conclusion

The main target of collaborative cultivation -- Teacher team: The main way to cultivate principal teachers is through collaborative cultivation, so as to effectively break the educational dilemma of low self-promotion enthusiasm and cognitive deviation of teachers in higher vocational colleges,

which leads to poor talent training effect. In particular are based on "new collaborative education" in the construction of engineering practical requirement, positive and comprehensive integration of colleges and universities can grasp the education resources, make full use of outside government units, such as enterprise resources, form various linkage, multi-pronged cultivating mode, based on the theory of self-organizing self-effect, encourage teachers to form higher autonomy consciousness, with "good" in the teaching of the basic, in order to "fine" as the goal, the teaching improve teachers' teaching level. New engineering construction in higher vocational colleges in the environment of the transformation and upgrading is particularly difficult, in this process, colleges and universities should be combined with the actual development orientation, perfect the top-level design, build collaborative communication platform, give full consideration to teachers' diverse backgrounds, with multiple paths together parallel implementation targeted training, promote the teachers in the teaching, scientific research and engineering practice of "multiple phase fusion reaction", in order to realize the diversification, health, career development, to meet the new engineering background of the new demand of talent cultivation of information security and management.

In addition to further analysis, the collaborative cultivation of the middle-class teaching integration is the key content. However, due to the profit-driven nature of enterprises, most of them attach importance to practical engineering problems and relatively lack of active investment in basic research. If teachers are biased towards enterprises, they will deviate from the goals and tasks of their own scientific research to some extent. Is there a problem? How to define it? In this case, how to define the difference between teachers and enterprise researchers? In the author's opinion, teachers' basic research and engineering practice should be organically combined based on the concept of "learning from each other's strengths", and cooperation with excellent enterprises should be established as far as possible in order to have abundant resources and excellent social responsibility to invest in basic research. However, for higher vocational colleges, it is difficult for them to get the opportunity to cooperate with excellent enterprises, or it is difficult for them to get in touch with the core issues of engineering research due to the limitations of teachers' practical level. Therefore, further exploration is needed in future studies.

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