

2014

BioTechnology

An Indian Journal

FULL PAPER

BTAIJ, 10(9), 2014 [4007-4012]

Improve combination of theory and practice in teaching and strengthen school-enterprise cooperative teaching mechanism

Sun Cheng, Liu Haiyan

Office of teaching affairs, Northeast DianLi University, No.169 Changchun Road, JiLin, (CHINA)

ABSTRACT

Many college students do well in theories, but they seldom have internship opportunities and do not put emphasis on practical aspects of their study, so theory and practice can not be well combined. To truly help students gain comprehensive capabilities conforming to the needs of contemporary society, we must build school-enterprise cooperation management mechanism and create new school-enterprise cooperation operating model. Moreover, we must put this new mechanism into practice and do more exploration in order to strengthen the cooperation.

KEYWORDS

Theory and Practice; School-enterprise cooperation; Teaching mechanism.



INTRODUCTION AND ANALYZE

To cater to the needs of society and enterprises, colleges and universities, throughout their training, should stress the combination of theory and practice, enhance school-enterprise cooperation and establish effective mechanisms for cooperative teaching. The two sides, school and enterprise, should work together to cultivate high-level specialized talents.

School-enterprise cooperation is not fixed, and the normal teaching order of school-enterprise cooperation is disturbed

School-related personnel need to devote a lot of time and energy to implement a stable student internship site^[1], because, for enterprises, short-term arrangements for student internships demand a lot of energy and work. Besides, these enterprises also think about the economic loss brought by the consumption of materials and the wear and tear of equipments. Therefore, they do not welcome students into their plants for internships. They will refuse to cooperate or stop the cooperation, which affects the normal order of school-enterprise cooperation in teaching greatly^[2].

The instability of members of the school-enterprise cooperation teaching team results in the uncertainty of the teaching task of school-enterprise cooperation

Generally speaking, the school-enterprise cooperation teaching team is composed of specialized teachers from schools and technical staff from enterprises who work together to complete the portion of students' courses^[3]. Relatively speaking, specialized teachers can finish their work stably, so their teaching curriculum in school-enterprise cooperation is almost fixed. However, technical staff from different positions of enterprises, due to the factors of production or personal reasons, can not guarantee their teaching tasks can be completed accordingly, and this leads to the uncertainty of the teaching task in school-enterprise cooperation^[4,5].

The content of school-enterprise cooperative teaching is not profound enough, which has negative effects on the realization of the goal of professional training

Some professional training programs are formulated with the joint efforts of schools and enterprises, and objectives of personnel training and teaching purposes of courses are also set in conformity with job requirements and standards. However, the practical part of many courses must be accomplished by the teaching team from both schools and enterprises in order to achieve the anticipated training objectives. Currently, the two parts involved can not cooperate well in terms of practice content, method, guidance, assessment and time etc. Lack of in-depth cooperation in so many teaching steps directly impact the realization of the training objectives^[6,7].

School-enterprise cooperative teaching system is imperfect, which affects the smooth running of the teaching process.

Currently, school rules and regulations and the operational mechanism of teaching are established and well recognized. But, speaking of school-enterprise cooperation, all of these things are far from perfect. Teaching tasks are usually randomly arranged, key points of teaching not properly stressed and teaching objective not clarified. Thus, this type of teaching can not run smoothly^[8-10].

TABLE 1 shows Dr. Rick • Leaf's evaluation of diverse reasons given by enterprises which employ students from this type of cooperative education. (1 is the least important, 5 is the most important).

TABLE 1: School-enterprise cooperation questionnaire

Survey Project	Score
Students have the enthusiasm and vitality	4.1
To help students improve their professional capacity	3.98
To help students study in a better way	3.91
Employers are prepared to seek for satisfactory workers	3.84
To build and strengthen ties between schools and enterprises	3.51
To bring new ideas for the enterprises	3.37
To bring new technology for the enterprise	3.23
To display the image of willing to cooperate with students	3.13
To test cheap labor effectively	3.01

Source: reference^[11], this paper chooses only a part of the data.

It can be seen from the above data that we should attach importance to school-enterprise cooperation and strengthen the tie between them. Besides, teaching team and content offered by teachers should be stable. The two sides involved should cooperate all-roundly, try to perfect the teaching system and rationalize the teaching operational mechanism. Only by doing this can they turn out more specialized talents who can meet the needs of the society^[12,13].

RESULTS AND COUNTERMEASURES

To form cooperative education community in which people work together to build a new mechanism for school-enterprise cooperative teaching. To build a new mechanism of cooperative teaching based on students’ study of various courses at school. Cooperative education together with research and training can ensure that teaching tasks can be finished and teaching objectives accomplished. (Figure 1).

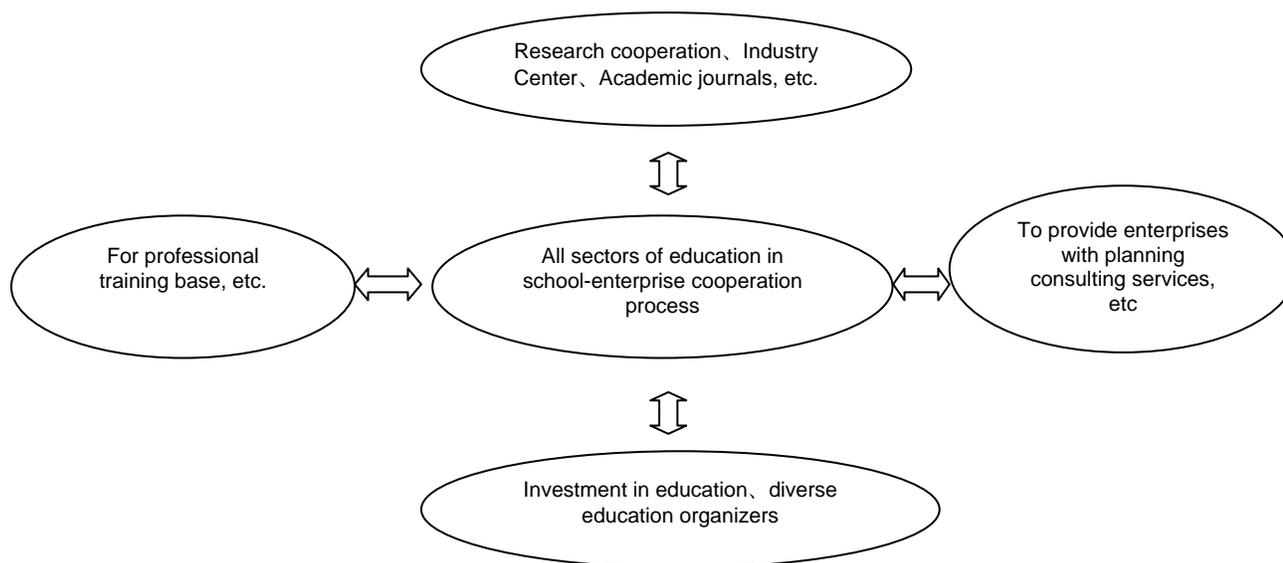


Figure 1 : People-centered school-enterprise cooperative model

To establish a good partnership, and maintain a close and firm relationship between schools and enterprises

Schools and businesses should maintain a good partnership and resolve various problems in enterprises with effective measures such as to organize training before internship to introduce relative information and requirements and to formulate proper rules and regulations and measures for punishments in order to prevent problems that may occur during the following period of time and stabilize the relationship between the two sides.

To form school-enterprise cooperative organization and build a stable management and teaching team**To build an integrated management platform together**

According to the management regulations formulated by both schools and enterprises, sponsors from the two sides should cooperate in order to accomplish specific teaching tasks.

To found professional teaching teams

To offer better guidance for students in internship, professional teaching team which is made up of outstanding teachers and technical experts should be organized. Only in this way can a better job be done in terms of talents training and curriculum development. In this way, students' comprehensive capability can be enhanced and more specialized talents who can satisfy the needs of the society can be fostered.

To clarify school-enterprise cooperative teaching content and match personnel training with employment needs

To clarify the main content of teaching through conducting teaching projects together Enterprises should include personnel training as an integrated part of its corporate culture and put emphasis on the inculcation of work ethic and concept in order to promote quality-oriented education. Schools and enterprises should make training plans together in order to match teaching requirements with professional requirements. Enterprises together with schools try to explore course curriculum and create more organizational ways of teaching. Schools can introduce new technology and skills into teaching. So the teaching process and the production process have been closely integrated. After learning, students can obtain two certificates.

To conduct cooperation during the teaching process and try to achieve full coverage of cooperation during the entire teaching

Teaching process includes research of personnel demand, design of personnel training programs, teaching standards, exploration of textbooks and other teaching resources and the completion of teaching tasks, etc. However, currently, cooperation has only been conducted in few parts of the teaching programs and teaching tasks without covering the whole process of training, which has negative effects on the achievement of teaching objectives. Thus, only by clarifying specific contents of cooperation can full coverage of cooperation be realized.

To build operational mechanism for school-enterprise cooperation and ensure the effective implementation of school-enterprise cooperation in teaching**Mechanism for cooperative teaching resources development**

Cooperative teaching resources includes personnel training program design, curriculum development, training room building etc. To ensure the smooth running of teaching, the two parties involved should design training plans and explore curriculum resources together according to the curriculum exploration model formulated before.

Cooperative mechanism of teaching

To ensure effective cooperative teaching, schools and enterprises should work together to develop personnel training programs, improve professionalism, and form principles and views on how to evaluate talents.

Supportive mechanism of cooperative teaching

Schools and enterprises should finance the assessment of cooperative teaching and effective management measures should be decided to guarantee the running of cooperative teaching.

EXPLORATION AND PRACTICE

To implement co-management classes in order to explore and practice a new mechanism of cooperative teaching. Both schools and enterprises should be responsible for the teaching, and they should be clear about the teaching content and requirements in order to conduct teaching successfully. Some specific work of cooperation are as follows:

To revise personnel training programs together

Course teaching, based on analyzing the concept of professional development and student internship positions, should be oriented to the future career of students. Experts from enterprises and curriculum specialists should discuss and elaborate on many things like work tasks, specific work agenda and analysis of work ability. All these tasks should be properly classified and combined in order to perfect the curriculum. What's more, according to the ability requirements of enterprises, teaching plans should be drafted, revised and finally decided by the whole teaching team.

To arrange the task of teaching together

According to the teaching task arranged by the teaching plan of specialized talents, teachers from both sides are co-responsible for the courses and they should be arranged the proper task they are good at. That is, due to the characteristics of different courses and the strength of different teachers, two teachers should work together to teacher one course. One of them is the one in charge and the other one should be the assistant.

To conduct research work together

Course sponsors should discuss and reach agreements on the importance and function of specific courses. Relationships among different courses should also be figured out. Key points, difficult points, teaching methods and learning strategies should be clarified. Teachers need to prepare for the courses, especially key points of them, together in order to meet the future career requirements.

To carry out teaching together

The whole teaching team should make full use of their own advantages, and try to integrate teaching, learning and practicing into a whole. They can choose the appropriate site of teaching. Overall, they should cooperate to complete the teaching and some relevant tasks.

To supervise the teaching process together

Apart from the supervision done by the school side, supervision groups should also be established by members from both of the two sides. They should supervise the content of teaching and also give their feedbacks to school. In this case, the course knowledge gained by students can be useful in their future work positions.

To evaluate the teaching process together

Co-teaching team should reform the curriculum evaluation model, that is, schools and enterprises should assess the performance of students in internships together. The assessment of students' comprehensive skills done by enterprises should be included in students' overall course performance.

When the cooperative team is clear about their teaching content and task, and when effective mechanisms for teaching and supporting are well established, this type of cooperation can surely achieve excellent effects. Students can better digest the book knowledge they gain through practicing, which will facilitate them to become high-level talents who are highly demanded by enterprises.

REFERENCES

- [1] Yi Wang; The Integration of Practice Teaching Resources a High Starting Point Construction of Practice Base[J], *China Higher Education*, **18**, 27 (2005).
- [2] Yi Huiyong; Practice Base Construction and Innovation Thinking [J], *Journal of Chongqing University of Science and Technology (Social Sciences Edition)*, **1**, (2007).
- [3] Shen Huajin; The Main Modes of The Construction of Training Base in Higher Vocational Colleges [J], *Education Research Monthly*, **7**, 37 (2008).
- [4] David C.Mowery, Richard R.Neison, Bhaven N.Sanpa-Tetal; Ivory Tower and Industrial Innovation, University -Industry Technology Transfer Before And After The Bayh -Dole Act [M, California, Stanford University Press, (2004).
- [5] Luo Wei, Tang Yuan—Hu; A Game Analysis on University -in-Dustry Cooperative Innovation [J], *Systems Engineering*, **20(1)**, 28-31 (2002).
- [6] Li Wensheng; Search for “Labor Shortage and Employment” Phenomenon Under The Coexistence of High Vocational University-Enterprise Cooperation[J], *Science & Technology Information*, (2011).
- [7] Wu Bin, He Jie; The Research Progress and Trend of Cooperation Between Higher Vocational Colleges [J], *Reform & Openning*, **9**, (2009).
- [8] Zhang Zhiqiang; The Problems Existing in The Cooperation Between Colleges and Countermeasures Research [J], *Chinese Vocational and Technical*, **4**, (2012).
- [9] Mu Jingqiang; Large State-Owned Enterprise Culture Construction Mode of Cooperation Between Higher Vocational Colleges and Explore——The Example of Zhejiang Property Group Enterprise Culture Construction[J], *Enterprise Economy*, **11**, (2011).
- [10] Ding Jinchang, Tong Weijun, Huang Zhaoxin; Innovation of The Operation Mechanism of University-Enterprise Cooperation in Vocational Colleges[J], *Research in Educational Development*, (2008).
- [11] Chen Jiefang; Cooperative Education Theory and its Practice in China[D]. The Doctoral Dissertation of Suzhou University, **32**, (2003).
- [12] Yin Hong; University-Enterprise Cooperation in Higher Vocational Colleges Research in China[J]. *Vocational & Technical Education Forum*, **12**, (2011).
- [13] Zuo Jiaqi; University-Enterprise Cooperation Mechanism Under The Mode of “Triple Convergence”[J], *Research in Higher Education of Engineering*, **3**, (2010).