

# Innovation and Practice of Collaborative Education Model Based on School and Enterprise Joint Construction of Laboratories-- Taking Jiangxi Institute of Fashion a Case Study

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Received: August 19, 2023; Revised: October 12, 2023; Accepted: November 15, 2023

## Abstract

This study took Jiangxi Institute of Fashion Technology as an example and used a qualitative research method to explore the role of innovation and practice in the collaborative education model based on the joint construction of laboratories between schools and enterprises through face-to-face interviews. The study found that the collaborative education model of joint building laboratories between schools and enterprises had a positive impact on education quality and student development, improving education quality, cultivating students' practice and problem-solving abilities, and helping them better adapt to practical work needs. In addition, the joint construction of laboratories by schools and enterprises has improved students' innovation awareness and abilities, and has had a positive impact on their career development, teamwork spirit, and communication skills. University administrators stated that joint construction of laboratories with enterprises and adopting a school enterprise collaborative education model could help break traditional teaching models and cultivate high-quality talents with both professional knowledge and practical experience.

**Keyword:** Collaborative education model, Creative education, Education quality

## Introduction

### 1.1 Rationale for undertaking the research project

The cultivation of practical ability is one of the important indicators of higher education quality. In the current context of education reform, universities must adapt to the changes of the times and explore new educational models to better meet the demand for high-quality talents in society (Brammer, 2020) . The collaborative construction of laboratories between schools and enterprises is a noteworthy innovative educational model aimed at improving students' practical and innovative abilities.

School enterprise co construction laboratory refers to a laboratory jointly established, managed, shared resources, and mutually beneficial cooperation between higher education institutions and enterprises. It

emphasizes the concept that schools and enterprises jointly shoulder the responsibility of talent cultivation. This model not only helps to improve teaching quality and talent training effect by combining academic and practical knowledge, but also can strengthen cooperation and exchange between universities and enterprises, and promote scientific and technological innovation and economic development.

The collaborative education model is an important component of the joint construction of laboratories by schools and enterprises. The basic principle is to combine theoretical knowledge with practical operation, promoting students' innovation ability and problem-solving ability in practice (Cheatham, 2019). The collaborative education model emphasizes students' subjectivity and independent thinking ability, emphasizes teacher-student interaction

in the practical process, enables students to master practical skills and professional literacy in practical operations, and strengthens the connection and communication between schools, enterprises, and society.

Currently, many universities both domestically and internationally are exploring and implementing collaborative education models. For example, the Massachusetts Institute of Technology in the United States has developed a series of projects jointly conducted by students and teachers through collaboration with the industry, aiming to cultivate students' collaborative, innovative, and leadership abilities (Criado, 2021). The University of Manchester in the UK provides students with the "real world experience" course, encouraging students to actively participate in practice in the learning process, so as to obtain more in-depth theoretical and practical experience.

In China, the joint construction of a laboratory by Jiangxi Fashion University and enterprises is a good example. Jiangxi Institute of Fashion has established a laboratory that integrates teaching, industry, and scientific research through collaborative cooperation with enterprises, providing students with many opportunities to participate in real projects and providing more professionals and technical support for enterprises. In practice, students can learn and master key professional abilities and skills in the industry through teamwork, such as brand design, marketing, etc.

The implementation of collaborative education mode requires the establishment of a good cooperation mechanism, through the cooperation of schools, enterprises, and society, to achieve collaboration in teaching resource sharing, knowledge accumulation, technology research and development, and other aspects (Mendonça, 2018). This places higher demands on teachers and managers in universities, requiring greater emphasis on the cultivation of students' practical operational skills and professional qualities, improving teaching methods and means of practical teaching, and strengthening communication and exchange between teachers and schools.

The purpose of this study is to analyze and explore the collaborative education model of the school enterprise joint construction laboratory of Jiangxi Fashion University, in order to explore the promoting effect of the collaborative education model of the school enterprise joint construction laboratory on talent cultivation work in universities.

Firstly, the joint construction of laboratories by universities and enterprises is an important carrier for cooperation between universities and enterprises. It plays an important role in promoting higher education teaching reform, strengthening practical training, and improving the quality of talent cultivation. The collaborative education model of jointly building laboratories between schools and enterprises is an important means to achieve this goal. Therefore, conducting in-depth research on it can help reveal its promoting role and influencing mechanism for talent cultivation in universities, and provide effective reference basis for higher education teaching reform.

Secondly, talent cultivation in universities is one of the core tasks of higher education, and the collaborative education model is a brand new talent cultivation method that can combine theoretical knowledge with practical operations to cultivate students' practical abilities and comprehensive qualities (Dianto, 2020). Therefore, the purpose of this study's topic selection is to analyze the implementation effect of collaborative education mode, reveal its positive impact on talent cultivation work in universities, and provide reference for universities to formulate more scientific and reasonable talent cultivation plans.

Thirdly, the implementation of the collaborative education model requires cooperation from schools, enterprises, and society, which will help further improve the cooperation mechanism between industry, academia, and research, and promote the deep integration of industrial technology innovation and talent cultivation. Therefore, the purpose of this research topic is also to explore the potential of industry university research cooperation through the study of collaborative education models, find more effective ways of education and teaching reform, and provide strong support for building an innovative country.

In summary, conducting in-depth research on the collaborative education model of the school enterprise co construction laboratory of Jiangxi Institute of Fashion Technology will help reveal its important role and impact mechanism on talent cultivation in universities, and provide important theoretical and practical references for promoting higher education teaching reform and promoting practical ability cultivation.

## 1.2 Outline of study

The scope of this study mainly revolves around the innovative and practical role of the collaborative education model of school enterprise co construction laboratories in higher education. Specifically, the study will focus on exploring the following issues:

Firstly, this study will explore the innovative and practical role of school enterprise co construction laboratories in collaborative education models. By analyzing the characteristics and advantages of school enterprise co construction laboratories, as well as the cooperation methods and experiences between schools and enterprises in education and teaching reform, this paper reveals the positive impact of school enterprise co construction laboratories on education quality and student development.

Secondly, this study will investigate how to utilize the joint construction of laboratories by schools and enterprises to promote the cultivation of practical abilities of university talents. Through interviews, collect relevant and opinions, explore the improvement effect of school enterprise co construction of laboratories on students' practical and problem- solving abilities, and provide specific cases and experiences.

Thirdly, this study will draw on the experience of jointly building laboratories between schools and enterprises at Jiangxi Institute of Fashion Technology to explore how to promote higher education teaching reform. Through in- depth research on the joint construction of the laboratory between the school and enterprise of Jiangxi Institute of Fashion Technology, the successful experience and existing problems are analyzed, providing reference and reference for other universities, and promoting the process of higher education teaching reform.

In terms of research methods, this study will adopt qualitative research methods, combining questionnaire surveys and interviews to collect relevant data. Through the organization and analysis of data, the innovative and practical role of school enterprise co construction laboratories in collaborative education mode is revealed, and corresponding conclusions and suggestions are provided.

## 2. Literature Review

### 2.1 Introduction

This chapter mainly provides an in-depth review and analysis of the joint construction of laboratories and collaborative education models between schools and enterprises. In this chapter, we first introduce the basic concepts and existing problems of school enterprise co construction laboratories. The school enterprise co construction laboratory is a laboratory jointly created by universities and enterprises, with the aim of providing both a scientific research platform for schools and technical innovation and talent training services for enterprises (Huy, 2021) . However, due to the lack of in-depth communication and inconsistent understanding between the two parties, there are still some problems and challenges in the joint construction of laboratories by schools and enterprises.

Next, we introduced the relevant theoretical and practical research on collaborative education. Collaborative education is a new type of educational and teaching model, with its core concept being "collaboration" rather than "competition". In collaborative education, schools, enterprises, and society jointly participate in the education and teaching process to cultivate talents. In specific practice, collaborative education can include multiple aspects such as practical teaching, course design, and teacher collaboration (Misra, 2020) . The purpose of collaborative education is to provide students with better exposure to real-life work scenarios, enhance their practical and operational abilities, and thus better adapt to the needs of social development.

After introducing relevant theories, we further explored the application of collaborative education model in higher education. Through practical cases of laboratory and collaborative education models jointly built by schools and enterprises, we can find that this model can effectively improve students' practical abilities, cultivate their innovation awareness and practical abilities, and provide more talent resources and technical support for enterprises (Lauterbach,2019).

Finally, we proposed the hypothesis of whether the joint construction of laboratories by schools and enterprises contributes to the innovation and practice of collaborative education models in this study, and introduced the design of subsequent research methods

(Serdyukov, 2017). In summary, this chapter mainly provides a theoretical basis and methodological support for subsequent research by conducting an in-depth review and analysis of relevant literature in the field.

## **2.2 Theories**

### **2.2.1 Coordinating education between schools and enterprises**

Promoting collaborative education through internships and practical activities: Hunaidah's research suggests that collaboration between schools and enterprises can promote learners' career preparation and skill development in real work environments through internships and practical projects. This collaborative education model can improve students' practical abilities and enhance their competitiveness in the job market. (Hunaidah, 2018)

The importance of cross-border teacher team cooperation: Patrawalla's research points out that collaborative education between schools and enterprises requires the establishment of a cross-border teacher team cooperation mechanism. School teachers and business personnel can jointly participate in teaching design, curriculum development, and evaluation, ensuring a close integration of educational content and professional needs, and cultivating talents that meet industry requirements. (Patriwalla, 2019)

Effective communication and coordination mechanisms: Rajib's research has shown that educational collaboration between schools and enterprises requires the establishment of effective communication and coordination mechanisms. Both parties should actively communicate their needs and expectations, clarify their respective roles and responsibilities, and ensure the consistency and implementability of educational goals. (Mahoney, 2021)

### **2.2.2 Joint adoption of enterprise open laboratories**

The definition and characteristics of an enterprise open laboratory: An enterprise open laboratory refers to the opening of its internal research and development laboratories, technology platforms, and other resources to the outside world, and the collaboration of scientific and technological innovation with other enterprises, universities, research institutions, etc. Under this model, enterprises reduce research and development costs and improve innovation efficiency by collaborating with external partners to build laboratories,

share technical equipment, and professional knowledge. (DePetris, 2017)

The impact of enterprise open laboratories on innovation capabilities: Enterprise open laboratories can also promote industry university research cooperation and cross disciplinary and cross-border innovation, promoting sustainable innovation development. Research has found that enterprises adopting an open innovation approach are more likely to engage in innovation cooperation with external partners, thereby forming innovation alliances in different fields and promoting industry university research cooperation. (Marconi, 2020)

Innovation and operation of enterprise open laboratory model: The continuous operation of enterprise open laboratories requires the establishment of long-term and stable partnerships, and the emphasis on balancing the interests of both partners. Research suggests that the operation of enterprise open laboratories requires many aspects of work, including establishing appropriate intellectual property protection mechanisms, formulating clear sharing rules, and establishing trust among collaborative partners. (Miranda, 2019)

### **2.2.3 Introducing company executives personally into the classroom**

The definition and characteristics of corporate executives entering the classroom: Corporate executives entering the classroom refers to interactive communication or teaching activities conducted by corporate executives at schools or educational institutions. Under this model, corporate executives can have face-to-face communication with teachers, students, or training subjects to share their experiences, insights, and thoughts. The purpose of corporate executives entering the classroom is to enhance teaching quality, improve students' professional literacy, and expand the influence of the enterprise. (Moldoveanu, 2019)

Advantages of corporate executives entering the classroom: Entering the classroom can enhance students' workplace awareness and professional confidence, enhance their self-awareness and self-evaluation abilities. Research has shown that during the process of corporate executives entering the classroom, students can come into contact with company decision-makers and leaders, understand corporate culture and values, and thus have a clearer grasp of their own development direction. (Peurach, 2019)

The challenge of corporate executives entering the classroom: Corporate executives need to coordinate and communicate with multiple aspects such as schools, teachers, students, and parents when entering the classroom. Research has found that corporate executives entering the classroom involves multiple interests and needs, and it is necessary to establish reasonable communication mechanisms and cooperation models to reach consensus and promote cooperation. (Pals, 2020)

#### 2.2.4 Innovation and practical collaboration

The definition and characteristics of innovation and practical cooperation: Innovation and practical cooperation refers to the cooperative relationship between different disciplinary fields or between academia and industry, aiming to achieve the transformation and application of innovative achievements. Research has shown that the characteristics of innovation and practical cooperation include: 1) emphasizing openness and collaborative innovation; 2) Pay attention to solving practical problems and promoting industrial development; 3) Efficiency oriented, requiring practical application value. (Secundo, 2020)

The advantages of innovation and practical cooperation: Innovation and practical cooperation can promote communication and exchange between academia and industry, and promote interaction and cooperation between both parties. Research has shown that in the process of innovation and practical cooperation, the academic community can better understand industry needs and trends, while the industry can better acquire the theoretical foundation and professional knowledge of the academic community. (Vicente, 2020)

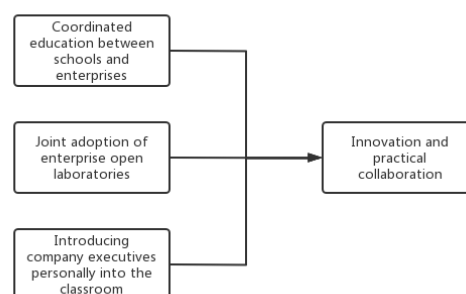
The challenge of innovation and practical cooperation: Innovation and practical cooperation need to coordinate the interests and goals of both parties, establish good cooperation mechanisms and management models. Research has found that in the process of innovation and practical cooperation, there may be issues such as inconsistent cooperation goals and intellectual property rights between both parties. It is necessary to establish reasonable cooperation mechanisms and management models to reach consensus and promote

cooperation. (Mendonça, 2018)

### 2.3 Conceptual framework

The research framework of this study aims to explore the impact of coordinating education between schools and enterprises, collaborating through enterprise open laboratories, and personally introducing corporate executives into the classroom on innovation and practical collaboration.

**Independent variable      Dependent variable**



### Study framework diagram

## 3. Methodology

### 3.1 Aim of research

(1) To research the innovative and practical roles of school enterprise co construction laboratories in collaborative education models.

(2) To research how to utilize the joint construction of laboratories by schools and enterprises to promote the cultivation of practical abilities of university talents.

(3) To research how to promote teaching reform in higher education.

### 3.2 Qualitative approach

This study adopted a qualitative research method, mainly collecting information through interviews. Qualitative research aimed to provide a deeper understanding and explanation of the complexity and diversity of specific phenomena. In this study, it was hoped to interview professors and university administrators to obtain their views, experiences and perspectives on the collaborative education model of university enterprise joint construction laboratory, so as to explore the innovation and practical role of this model, as well as its driving role in the cultivation of university talent's practical ability and teaching reform.

Through open-ended interview questions, the researcher guided respondents to engage in in-depth thinking and discuss relevant concepts, educational models, and cooperation effectiveness in detail. By organizing and

analyzing interview results, and empirical cases, key viewpoints, common characteristics would be extracted, to answer research questions and support the main viewpoints of the paper.

The advantage of qualitative research is that it can provide rich and detailed data, gain a deeper understanding of participants' perspectives and experiences, and reveal the complexity and diversity of research phenomena. Through interviews, we can collect participants' direct feedback and practical experience on the collaborative education model of university enterprise joint construction laboratory, which will help us to deeply understand the innovation and practical role of this model. At the same time, qualitative research also has certain limitations, such as limited sample size, which may limit the universal applicability and universality of the results.

### **3.3 Interview**

This study adopts face-to-face or online interviews, mainly through interviews with professors and university management personnel to obtain their views, experiences, and perspectives on the collaborative education model of university enterprise joint construction laboratories. The following is an interview guide for this study:

Interview questions with professors:

Do you think that under the collaborative education model of jointly building laboratories between schools and enterprises, how does the collaborative cooperation between schools and enterprises affect the quality of education and student development?

Has the joint construction of laboratories by schools and enterprises improved students' practical and problem-solving abilities? Please share some specific cases or experiences.

How do you think the joint open laboratory has an impact on students' innovation awareness and ability? Are there any relevant successful cases that can be shared?

Has introducing corporate executives into the classroom played a positive role in students' career development in school enterprise cooperation? Please share some relevant viewpoints or practical experience.

Does the collaborative education model of jointly building laboratories between schools and enterprises help cultivate students' teamwork spirit and communication skills? Please share your thoughts on this.

Interview questions for university management personnel:

Why did your school choose to co build a laboratory with a company and adopt the collaborative education model of school enterprise co construction? What is the goal?

What challenges do you think have been encountered in the implementation of the school enterprise co construction laboratory? How to overcome it?

Has the collaborative education model of jointly building laboratories between schools and enterprises received positive feedback from students and enterprises? Please share some relevant feedback or cases.

What role does the school play in collaborating with enterprises? How can schools and enterprises coordinate and collaborate on educational plans, curriculum design, and teaching methods?

How can the collaborative education model of jointly building laboratories between schools and enterprises achieve the integration and sharing of resources between schools and enterprises? What are the impacts on education quality and student development?

### **3.4 Sampling and selection**

This study adopted a convenient sampling method and selected 5 professors and 5 university administrators from Jiangxi Institute of Fashion as respondents. The researchers chose to interview individuals between the ages of 30 and 40, These interviewees have rich experience and knowledge in the field of university teaching and management, and have a certain understanding and participation experience in the collaborative education model of school enterprise cooperative laboratory construction. Through their interviews, insights, experiences, and perspectives on this model can be gained, leading to a deeper understanding of its innovative and practical role.

When selecting interviewees, consider their level of participation and understanding of the model to ensure a diverse and comprehensive perspective.

Through open-ended interview questions, guide respondents to engage in in- depth thinking and discuss in detail the collaborative education model and cooperation effect of the school enterprise co construction laboratory. The interview will be recorded and organized and summarized in subsequent analysis.

### Interviewer information sheet

Participant	College	Sex	Age	Marital Status	Job Title
1	Fashion design institute	Male	37	Married	Experimentalist professor
2	Fashion design institute	Male	36	Married	Experimentalist professor
3	Fashion design institute	Male	35	Married	Experimentalist professor
4	College of Fashion Engineering	Female	35	Married	Experimentalist professor
5	College of Fashion Engineering	Female	34	Married	Experimentalist professor
6	College of Fashion Engineering	Female	33	Married	Administrator
7	College of Fashion Engineering	Female	32	Single	Administrator
8	College of Fashion Engineering	Female	31	Single	Administrator
9	Fashion design institute	Male	30	Married	Administrator
10	Fashion design institute	Male	30	Married	Administrator

### 3.5 Data collection

This study adopts qualitative research methods and collects data and information through face-to-face interviews. We selected professors and university administrators from Jiangxi Institute of Fashion Technology as the interviewees. During the interview process, we will use open-ended survey questionnaires to guide the interview and delve into the innovative and practical role of the collaborative education model of school enterprise joint construction laboratories, as well as its promoting role in cultivating students' practical abilities and teaching reform.

We will invite 5 professors and 5 university administrators to participate in the interview, and a total of 10 interview samples will be obtained. Through these interviews, we hope to collect the views, experiences and opinions of professors and managers on the collaborative education model of the joint construction of laboratories by schools and enterprises, better understand the innovation

and practical role of this model, and provide support for the main points of the paper.

During the interview process, we will carefully record the respondents' answers and organize and analyze the data. By summarizing and summarizing common viewpoints, key experiences, and typical cases, we will answer research questions and further support and expand the main points of the paper.

### 3.6 Data analysis

This study adopts qualitative research methods and collects data and information through interviews. We selected professors and university administrators from Jiangxi Institute of Fashion Technology as the interviewees. During the interview process, we will use an open-ended survey questionnaire to guide the interview and delve into the innovative and practical role of the collaborative education model of the school enterprise joint construction laboratory, as well as its promoting role in cultivating the practical ability of university talents and teaching reform.

We will invite 5 professors and 5 university administrators to participate in the interview, and a total of 10 interview samples will be obtained. Through these interviews, we hope to collect the views, experiences and opinions of professors and managers on the collaborative education model of the school enterprise joint construction laboratory, deeply understand the innovation and practical role of this model, and provide support for the main points of the paper.

During the interview process, we will carefully record the respondents' answers and organize and analyze the data. By summarizing and summarizing common viewpoints, key experiences, and typical cases, we will answer research questions and further support and expand the main viewpoints of the paper.

### **3.7 Ethical considerations**

During the research process, this study will follow the following ethical principles:

**Informed consent:** When inviting and selecting participants, this study will respect their wishes and clearly explain the research purpose and content. Participants will be informed that they can withdraw from the study at any time and their personal information will be kept confidential.

**Protection of privacy:** All information provided by participants in the study will be treated as confidential. In research reports and publications, it will be ensured that personal information is processed anonymously and the true identities of participants are not disclosed.

**Respect for Rights:** This study will respect the rights of participants and ensure that they do not suffer any harm due to their participation in the study. We will take reasonable measures to ensure the safety and reliability of the research.

**Research legitimacy:** This study will comply with relevant Chinese laws and regulations, and will not involve any illegal activities or unethical behavior. We will ensure that the research content complies with academic ethical standards and strictly adheres to research ethical norms.

**Interpretation and Use of Research Results:** This study will present the research results accurately and objectively, without distorting or misleading the research findings. The research results will be used for academic purposes, such as promoting educational reform and practical innovation, without being used for commercial or other inappropriate purposes.

During the research process, we will strictly adhere to the above ethical principles and take corresponding measures to protect the rights and privacy of participants. We will provide reasonable explanations and answer participants' questions to ensure that their understanding and participation in the study are clear and sufficient. At the same time, we will respect the ethical norms of the academic community and research community to ensure the quality and credibility of research.

### **3.8 Limitations of the study**

This study has some limitations, mainly including the following aspects:

**Limitations of sample selection:** This study used convenience sampling method to select 5 professors and 5 university administrators from Jiangxi Fashion College as interview subjects. Due to the small sample size and the fact that it only comes from two colleges, the research results may not fully represent the situation of the entire university and other colleges. Therefore, the generalization ability and universality of the research results may be limited to some extent.

**Subjectivity of information:** This study mainly collects data through interviews, and the responses of interviewees during the interview process may have some subjectivity. The opinions, experiences, and perspectives of interviewees may be influenced by their personal background, biases, and subjective judgments. Therefore, the research results may not fully objectively reflect the actual situation.

**Subjectivity of data analysis:** This study will extract key viewpoints, common features, and empirical cases by organizing and analyzing interview data to answer research questions and support the main viewpoints of the paper. However, the process of data analysis may also be influenced by the subjective consciousness and personal preferences of researchers, and there may be a certain degree of subjectivity.

**Limitations of question design:** This study used interview guidance questions to guide respondents to delve deeper into their thinking and discuss relevant concepts, educational models, and cooperation effects in detail. However, problem design may have certain limitations and fail to cover all possible aspects and details. Therefore, some important information and viewpoints may not have been fully explored and recorded in interviews.

## **4. Findings**



#### 4.1 Analysis of Professor Interviews

( 1) Do you think that under the collaborative education model of jointly building laboratories between schools and enterprises, how does the collaborative cooperation between schools and enterprises affect the quality of education and student development?

Professor A: Under the collaborative education model of jointly building laboratories between schools and enterprises, collaborative cooperation between schools and enterprises has a positive impact on education quality and student development. Through school enterprise cooperation, schools can closely integrate with enterprises, timely understand industry needs and development trends, adjust education content and teaching methods, and improve education quality. At the same time, students can be exposed to real business problems and improve their practical and problem-solving abilities in cooperation with enterprises.

Professor E: Collaborative cooperation between schools and enterprises has a significant improvement effect on education quality and student development. Through cooperation with enterprises, schools can combine theoretical knowledge with practical applications to cultivate students' ability to solve practical problems. At the same time, students can directly participate in enterprise projects, obtain practical opportunities, improve their overall quality and employment competitiveness.

From the answers of the two professors mentioned above, it can be seen that the collaborative education model of school enterprise joint construction of laboratories has a positive impact on education quality and student development. This collaborative cooperation model can improve the quality of education, increase students' practical and problem-solving abilities, and enable them to better adapt to practical work needs.

( 2) Has the joint construction of laboratories by schools and enterprises improved students' practical and problem-solving abilities? Please share some specific cases or experiences.

Professor C: The joint construction of laboratories by schools and enterprises has indeed improved students' practical and problem-solving abilities. Taking the cooperation between our school and a clothing

enterprise as an example, students conducted practical activities in clothing design and production in a jointly built laboratory. Through practical operation, students have become familiar with the technical process and equipment usage, and have solved various problems encountered in the practical process. This practical approach enables students to truly apply the knowledge they have learned to practical situations, improving their practical and problem-solving abilities.

Professor D: The joint construction of laboratories by schools and enterprises has significantly promoted students' practical and problem-solving abilities. In the laboratory where our school collaborated with an IT company, students participated in software development projects. By collaborating with enterprises, students are exposed to real project requirements and development processes. They not only learn professional technical knowledge, but also cultivate the ability to solve complex problems. After the completion of the project, students' practical experience and problem-solving abilities have been greatly improved.

From the interviews and responses of the two professors mentioned above, it can be concluded that the joint construction of laboratories by schools and enterprises has indeed improved students' practical and problem-solving abilities. By participating in real projects and practical operations, students can better apply their knowledge, cultivate practical skills, and problem-solving abilities.

(3) What do you think the impact of joint open laboratories on students' innovation awareness and abilities? Are there any relevant success stories that can be shared?

Professor B: The joint open laboratory has a very positive impact on students' innovation awareness and abilities. In the open laboratory where our school collaborates with a technology enterprise, students have the opportunity to be exposed to the latest technological equipment and cutting-edge research fields. Through interaction and communication with enterprises, students' innovation awareness is stimulated, and they are able to more actively propose innovative ideas and try to put them into practice. In this laboratory, we have also achieved some innovative results, such as developing an intelligent wearable device and obtaining patent certification.

Professor E: The joint open laboratory has a significant promoting effect on students' innovation awareness and ability. In the open laboratory where our school collaborates with a clothing manufacturing enterprise, students have the opportunity to be exposed to the latest clothing design and manufacturing technologies. Through communication and guidance with enterprise experts, students' innovation awareness has been cultivated, and innovative design solutions can be proposed based on market demand, and actual manufacturing can be carried out.

From the answers of the two professors above, it can be concluded that joint open laboratories have a positive impact on students' innovation awareness and abilities. Through exposure to the latest technologies and market demands, as well as interaction and guidance with enterprise experts, students can better cultivate their innovation awareness and ability, and achieve some innovative results.

(4) Has introducing corporate executives into the classroom played a positive role in students' career development in school enterprise cooperation? Please share some relevant viewpoints or practical experiences.

Professor A: Introducing corporate executives into the classroom has played a positive role in students' career development. Through interaction and communication with corporate executives, students can gain a deeper understanding of industry trends and employment needs. Enterprise executives can share their practical work experience and successful cases, guiding students' career planning and development direction. At a school enterprise docking meeting held by our school, we invited a senior executive from a company to share and exchange ideas. Students received many practical career suggestions and adjusted their employment strategies accordingly.

Professor C: Introducing corporate executives into the classroom has played a very positive role in students' career development. Enterprise executives can share practical work experience and wisdom, helping students better understand industry needs and job markets. They can introduce students to the latest career trends and skill requirements, guide them in formulating career plans, and provide employment opportunities. In the courses I teach, we often invite corporate executives to teach courses on specific topics or provide employment guidance, and students benefit

greatly. Some students have also established valuable networking relationships through interactions with corporate executives, laying the foundation for future career development.

From the answers of the two professors above, it can be concluded that introducing corporate executives into the classroom has played a positive role in students' career development. Enterprise executives can share practical experience and employment information, guide students' career development, and provide employment opportunities and networking resources for students.

(5) Does the collaborative education model of jointly building laboratories between schools and enterprises help cultivate students' teamwork spirit and communication skills? Please share your thoughts on this.

Professor D: The collaborative education model of jointly building laboratories between schools and enterprises is very helpful in cultivating students' teamwork spirit and communication skills. Firstly, students work together with classmates from different backgrounds and majors in the laboratory, requiring mutual cooperation and coordination to complete tasks. This collaborative process can exercise their teamwork awareness and ability. Secondly, in the process of collaborating with enterprises, students also need to have effective communication and exchange with enterprise representatives, in order to better understand and meet the needs of the enterprise. This practical experience can improve students' communication skills and interpersonal skills.

Professor E: I believe that the collaborative education model of jointly building laboratories between schools and enterprises can effectively cultivate students' teamwork spirit and communication skills. In laboratory projects, students need to collaborate with classmates, support and assist each other in order to successfully complete tasks. Such teamwork can enhance students' team awareness and teamwork ability. At the same time, cooperation with enterprises also requires students to actively communicate and exchange ideas with business representatives to understand the needs and expectations of the enterprise. This communication ability is also very important in your future career.

It can be seen that the collaborative education model of jointly building laboratories between schools and enterprises has a positive

impact on cultivating students' teamwork spirit and communication skills. Students need to collaborate with other classmates in laboratory projects, engage in effective communication and collaboration, which helps to enhance their teamwork awareness and ability. Collaboration with enterprises also provides more practical opportunities, and students need to actively communicate and exchange ideas with business representatives to improve their communication skills and interpersonal skills. In summary, the collaborative education model of jointly building laboratories between schools and enterprises has positive significance for cultivating students' teamwork and communication skills.

#### **4. 2 Interview analysis of university management personnel**

(1) Why did your school choose to co build laboratories with enterprises and adopt a collaborative education model of school enterprise co construction? What is the goal?

University administrator A: Our school has chosen to co build laboratories with enterprises and adopts the collaborative education model of school enterprise co construction mainly to break traditional teaching models and make education more practical and targeted. Through cooperation with enterprises, students can practice and innovate in a real work environment, improving their practical skills and problem- solving abilities. Our goal is to cultivate high-quality talents with both professional knowledge and practical experience to meet the demand of society for talents.

University administrator C: The collaborative education model of jointly building laboratories between schools and enterprises is a measure taken by our school to actively adapt to the development needs of the times. Through cooperation with enterprises, we can better understand the latest development trends and needs of the industry, adjust teaching content and methods in a timely manner, and cultivate professional talents that are in line with the market. Our goal is to promote the cultivation of students' innovation awareness and entrepreneurial ability, and improve their competitiveness in the workplace.

Based on comprehensive analysis, both managers emphasized practicality, pertinence, and market orientation in their responses. They believe that the collaborative education model built by schools and enterprises can provide

students with more practical opportunities, enabling them to have practical operational and problem-solving abilities, and to be consistent with market demand. The goal is to cultivate high- quality talents with both professional knowledge and practical experience, innovative awareness and entrepreneurial ability, and improve their competitiveness and adaptability in the workplace. This analysis and summary demonstrate the significance and goals of jointly building laboratories between schools and enterprises, as well as their positive impact on student development.

(2) What challenges do you think have been encountered in the implementation of school enterprise co construction of laboratories? How did you overcome it?

University administrator B: In the process of implementing the joint construction of laboratories between schools and enterprises, we are facing challenges in resource integration and management. Enterprises and schools have different resources, such as equipment, funds, and personnel. How to effectively integrate and reasonably utilize these resources is a challenge. In order to solve this problem, we have established a close cooperative relationship with the enterprise and coordinated the allocation and use of resources through project-based management, ensuring the coordination and efficient utilization of resources among all parties.

University administrator D: In the process of implementing the joint construction of laboratories between schools and enterprises, we are facing challenges in curriculum integration and teaching team building. There is a gap between the school's curriculum and the actual needs of enterprises, and it requires some effort to effectively combine the two. We have established a joint teaching team through strengthened communication and consultation with enterprises, including school teachers and enterprise professionals, to jointly develop and implement teaching plans, ensuring the targeted and practical nature of the curriculum.

Based on comprehensive analysis, both managers' responses involved issues of resource integration, management, and curriculum integration. They recognize the need to overcome these challenges in the process of jointly building laboratories between schools and enterprises, and respond to them through close cooperation with enterprises and the establishment of joint teaching teams to ensure

the smooth progress and effective operation of the jointly built laboratories between schools and enterprises. This analysis and summary demonstrate the specific challenges faced in the implementation of school enterprise co construction of laboratories, as well as the solution strategies adopted by management personnel.

(3) Has the collaborative education model of jointly building laboratories between schools and enterprises received positive feedback from students and enterprises? Please share some relevant feedback or feedback.

University administrator B: The collaborative education model of jointly building laboratories between universities and enterprises has received positive feedback from students and enterprises. Students expressed that through practical interaction with enterprises, they can better understand the application of professional knowledge and enhance their ability to solve practical problems. Enterprise feedback states that collaborating with schools can better cultivate talents that meet market demand, while also providing a group of employees with practical experience and innovative awareness for the enterprise.

University administrator E: We have received positive feedback from students and businesses. Students believe that through the joint construction of laboratories by schools and enterprises, they are more likely to combine their knowledge with practical applications, and have a deeper understanding of their majors. Enterprises believe that by collaborating with schools, they can learn about outstanding talents in advance and establish good cooperative relationships with them, which plays a positive role in promoting the development of the enterprise.

Based on comprehensive analysis, these feedback shows that the collaborative education model of jointly building laboratories between schools and enterprises has been recognized by both students and enterprises. Students can enhance their professional and problem-solving abilities through practical activities that interact with enterprises, while enterprises believe that this cooperation model helps cultivate talents who adapt to market demand and promote the development of enterprises. This analysis and summary demonstrate the positive effects and feedback received from the educational model in practice.

(4) What role does the school play in collaborating with enterprises? How can schools and enterprises coordinate and collaborate in education plans, curriculum design, and teaching methods?

University administrator C: The school plays the role of organizer and coordinator in cooperation with enterprises. The school is responsible for organizing the integration and management of enterprise resources, and working together with the enterprise to develop education plans, curriculum design, and teaching methods. The school will fully listen to the needs and opinions of enterprises, and work closely with them to adjust course content and optimize teaching methods while ensuring professionalism.

University administrator D: The school has played a role in integrating resources and supporting cooperation with enterprises. The school establishes cooperative relationships with enterprises to integrate and share resources from both parties, including teachers, equipment, and funding. Schools and enterprises collaborate to develop education plans and curriculum designs to ensure that the trained talents meet market demand. At the same time, the school and the enterprise closely coordinate and communicate to jointly choose appropriate teaching methods, such as practical internships, case studies, industry lectures, etc., to provide students with opportunities for practical application and vocational skills.

In the above interviews, both university managers C and D emphasized the important role and mode of cooperation between the school and enterprises. They unanimously believe that the school plays the role of organizer and coordinator in cooperation, and is responsible for integrating and managing enterprise resources. At the same time, schools and enterprises jointly develop educational plans, curriculum design, and teaching methods to ensure that the students they cultivate meet market demands.

(5) How does the collaborative education model of jointly building laboratories between schools and enterprises achieve the integration and sharing of school enterprise resources? What are the impacts on education quality and student development?

University administrator A: The collaborative education model of jointly building laboratories between schools and enterprises achieves the integration of school enterprise resources through shared resources

and in- depth cooperation. Schools and enterprises jointly establish laboratories, share laboratory equipment and technical support, and provide students with a better practical environment. At the same time, schools and enterprises jointly develop education plans and curriculum designs, integrating practical needs and industry standards into teaching, and improving the quality of education. This collaborative education model cultivates students' practical and problem- solving abilities, making them more adaptable to the needs of future career development.

University administrator E: The collaborative education model of jointly building laboratories between schools and enterprises provides a practical environment and opportunities through the integration of school and enterprise resources, which has a positive impact on the quality of education and student development. The school provides advanced laboratory equipment and teacher support, while enterprises provide practical problems and project support, allowing students to exercise and grow in practice. This collaborative education model has cultivated students' practical ability and innovative consciousness, improved the quality of education and students' comprehensive quality.

The response from university administrators shows that the collaborative education model of university enterprise co construction laboratories achieves the integration and sharing of university enterprise resources through resource sharing and in-depth cooperation. Schools and enterprises jointly invest in laboratory construction and management, sharing laboratory equipment and teaching resources. This cooperation model can improve the quality of education and the level of student development. Students can participate in project practice and innovative activities in a real work environment, cultivating problem- solving and teamwork abilities. Education is closer to practical needs, improving students' professional literacy and innovation ability.

## **5. Conclusions, Discussion and Recommendations**

### **5.1 Conclusions**

Based on the interview answers from the professors, the following main conclusions can be summarized:

(1) The collaborative education model of jointly building laboratories between schools and enterprises has a positive impact on education quality and student development, which can improve education quality, cultivate students' practical and problem- solving abilities, and enable them to better adapt to practical work needs.

(2) The joint construction of laboratories by schools and enterprises has improved students' practical and problem- solving abilities. By participating in real projects and practical operations, students can better apply their knowledge and cultivate practical and problem-solving abilities.

(3) Joint open laboratories have a positive impact on students' innovation awareness and abilities. Through exposure to the latest technologies and market demands, as well as interaction and guidance with enterprise experts, students can cultivate innovation awareness and abilities and achieve innovative results.

(4) Introducing corporate executives into the classroom has a positive impact on students' career development. They share practical experience and employment information, guide students' career development, and provide employment opportunities and networking resources for students.

(5) The collaborative education model of jointly building laboratories between schools and enterprises helps to cultivate students' teamwork spirit and communication skills. Students need to collaborate with classmates from different backgrounds and majors, and effectively communicate and communicate with enterprise representatives, thereby exercising team cooperation, communication skills, and interpersonal skills.

Based on the interview analysis of university management personnel mentioned above, the following conclusions can be drawn:

(1) The school chooses to co build laboratories with enterprises and adopts the collaborative education model of school enterprise co construction in order to break the traditional teaching mode, make education more practical and targeted, and cultivate high-quality talents with both professional knowledge and practical experience.

(2) In the process of implementing school enterprise co construction of laboratories, the school faces challenges such as resource integration and management, curriculum

integration, and teaching team building. In order to address these challenges, the school has established a close cooperative relationship with enterprises, coordinating the allocation and use of resources through project-based management and joint teaching teams.

(3) The collaborative education model of jointly building laboratories between schools and enterprises has received positive feedback from students and enterprises. Through practical interaction with enterprises, students can better understand the application of professional knowledge and enhance their ability to solve practical problems. Enterprises express that collaborating with schools can better cultivate talents that meet market demands and provide employees with practical experience and innovative awareness for enterprises.

(4) The school plays the role of organizer and coordinator in cooperation with enterprises, responsible for integrating and managing enterprise resources, and jointly developing education plans, curriculum design, and teaching methods with enterprises to ensure that the trained talents meet market demand.

(5) The collaborative education model of jointly building laboratories between schools and enterprises has achieved the integration and sharing of school enterprise resources. Schools and enterprises jointly provide practical environments and opportunities to share laboratory equipment and teaching resources. This cooperative model can improve the quality of education and the level of student development, cultivate students' practical ability, problem-solving ability, and innovative consciousness. At the same time, education is also closer to practical needs, improving students' professional literacy and competitiveness.

## **5.2 Discussions**

This study used an interview method to deeply explore the collaborative education model of school enterprise co construction laboratories. Through interviews with professors and university administrators from Jiangxi Institute of Fashion, some important conclusions were drawn and discussed.

Firstly, in the collaborative education model of jointly building laboratories between schools and enterprises, collaborative cooperation between schools and enterprises has a positive impact on education quality and student development. Schools and enterprises can jointly develop education plans, curriculum

design, and teaching methods, and improve the pertinence and practicality of education through resource integration and cooperation. In this collaborative model, students can be exposed to more practical problems, cultivate practical skills and problem-solving abilities. In addition, students can also obtain more career development guidance and inspiration from the sharing and guidance of corporate executives.

Secondly, the joint open laboratory has a positive impact on students' innovation awareness and abilities. By participating in real projects and interacting with enterprise experts, students can understand the latest technologies and market demands, cultivate innovation awareness and abilities. In an open laboratory environment, students can engage in practical operations, apply their knowledge to practical situations, improve their innovation ability, and achieve innovative results.

In addition, introducing corporate executives into the classroom has also played a positive role in students' career development. Executives share practical experience and employment information, providing important guidance for students' career planning and development. They can help students understand industry trends, market demands, and job opportunities, providing them with broader career development space and opportunities.

Finally, the collaborative education model of jointly building laboratories between schools and enterprises helps to cultivate students' teamwork spirit and communication skills. In this mode, students need to collaborate with classmates from different backgrounds and majors, and have effective communication and exchange with business representatives. This collaborative environment can help students develop their teamwork, communication, and interpersonal skills, laying the foundation for future career development.

From the above discussion, we can see that the collaborative education model of jointly building laboratories between schools and enterprises has many advantages and values. It can improve the quality of education, cultivate students' practical abilities and innovative awareness, and enhance their problem-solving ability and teamwork spirit. However, we also need to recognize the challenges that this model may face in the implementation process, such as resource integration and management, curriculum integration, and teaching team building.

Therefore, when implementing the collaborative education model of jointly building laboratories between schools and enterprises, schools and enterprises need to closely cooperate, fully leverage their respective advantages, and jointly formulate reasonable cooperation plans and strategies. At the same time, it is also necessary to strengthen evaluation and monitoring, adjust and improve the education model in a timely manner, to ensure its sustainable development and achieve good results.

### 5.3 Recommendations

Based on the analysis and conclusions of the collaborative education model innovation and practical research on the joint construction of laboratories by schools and enterprises, the following are suggestions for further optimization and promotion of this model:

( 1) Strengthen school enterprise cooperation: Schools and enterprises should strengthen strategic partnerships and establish long-term and stable cooperation mechanisms. By jointly developing educational plans, curriculum design, and teaching methods, we can achieve the sharing of teaching resources and practical environments, further improving the quality of education and the level of student development.

( 2) Expanding practical opportunities: Schools and enterprises can further expand the scope and scale of joint open laboratories, providing more practical opportunities for students. Through practical projects and operations, help students apply their knowledge to practice, cultivate practical skills and problem-solving abilities.

( 3) Strengthen guidance from corporate mentors: Further introduce corporate executives and professionals into the classroom for interactive communication and practical guidance with students. They can share practical experiences and cases to help students better understand industry trends and market demands, and provide career development guidance and inspiration.

( 4) Establish a team cooperation mechanism: Strengthen the cultivation of team cooperation and communication skills, so that

students gradually develop a sense of teamwork and communication skills. Cultivate students' teamwork spirit and enhance their collaborative abilities through cross disciplinary and cross background team cooperation projects.

( 5) Encourage innovative thinking: Further stimulate students' innovation awareness and creativity, guide students to engage in innovative practices through exposure to the latest technologies and market demands, as well as interaction and guidance with enterprise experts, and encourage them to propose new ideas and solutions.

( 6) Comprehensive evaluation and recognition: Establish a scientific and effective comprehensive evaluation system, and determine evaluation indicators and methods suitable for this collaborative education model. At the same time, we will strengthen the recognition and rewards for the collaborative education model of school enterprise co construction laboratories, and encourage more schools and enterprises to participate in this model.

( 7) Deepen research and exchange: Strengthen research and exchange on the innovation and practice of collaborative education models. By regularly organizing academic seminars, experience sharing sessions, and other activities, we aim to promote experience exchange and cooperation between schools and enterprises, and jointly promote the continuous development and improvement of this model.

Through the implementation of the above suggestions, the collaborative education model of jointly building laboratories between schools and enterprises will further improve the quality of education, cultivate students' practical abilities and innovative awareness, and better meet practical work needs. This will have a positive impact on schools, enterprises, and students, promoting the coordinated progress of talent cultivation and social development. At the same time, it is also necessary to continue to pay attention to and study the implementation effect of this model, continuously improve and optimize it to adapt to the constantly changing education and market demands.

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