

# Thinking on the Teaching Mode of "Cross Major Comprehensive Training" Based on "Virtual Simulation"

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**Abstract**—The purpose of this study is to reveal the value of "cross-disciplinary comprehensive training", which is the value of students' practical ability and put forward countermeasures to their development. The article first evaluates the effectiveness of the current experimental practice teaching form from two different dimensions. It is argued that the current practice of teaching practice "Pratt & Whitney" and "authenticity" deviation cannot effectively reflect the "basic type - - comprehensive "teaching logic. Based on" virtual simulation "of the" cross-professional comprehensive training", we can effectively make up for these shortcomings, which is to improve the effectiveness of experimental practice teaching practice. And from the reality, doing a good job of space zoning and functional planning, exploring the post-duty system and the implementation of joint teaching, strengthening the teaching research to optimize the business content and the good use of policy tilt to stimulate work enthusiasm is the key to succeed.

**Keywords**—Higher education; Experimental practice teaching; Virtual simulation; Cross - professional comprehensive training

## I. INTRODUCTION

In recent years, in order to effectively improve the practical ability of college students, teaching model based on the "virtual simulation" of the "cross-professional comprehensive training" has become a hot experimental practice teaching reform. So why is this teaching model favored? What are the advantages of the traditional experimental practice teaching model? Based on the "virtual simulation" of the "cross-professional comprehensive

training" development, what do we need to do basic work? Problems similar to these problems can bring theoretical and practical guidance to the development of experimental practice teaching model based on the "virtual simulation" of the "cross-professional comprehensive training". For this, this article will from two different dimensions. First of all, we should evaluate the effect of "experimental teaching" and further discuss the function and value of this teaching mode based on the virtual simulation "cross major comprehensive practice". We also should made corresponding development countermeasures in the development of thinking.

## II. WHY IS THE CURRENT "EXPERIMENTAL PRACTICE TEACHING" INEFFICIENT?

A. *The current "experimental practice teaching" universality and authenticity deviate, the value is greatly discounted*

"Pratt & Whitney" refers to that the school should be "all" paid students to provide enough to improve their practical ability of practical teaching services, otherwise it will lead to "education fair" problem. "Authenticity" refers to that the "experimental practice teaching" should be as close as possible to the socio-economic reality. The closer to the production line of the first line of the practice, practical ability to cultivate the effect will be more direct and effective. Therefore, "authenticity" is the core of the experimental practice teaching. Using these two dimensions, we can get the common forms of experiment practice teaching management major, based on the practice and characteristics of their respective category, as shown in figure 1.

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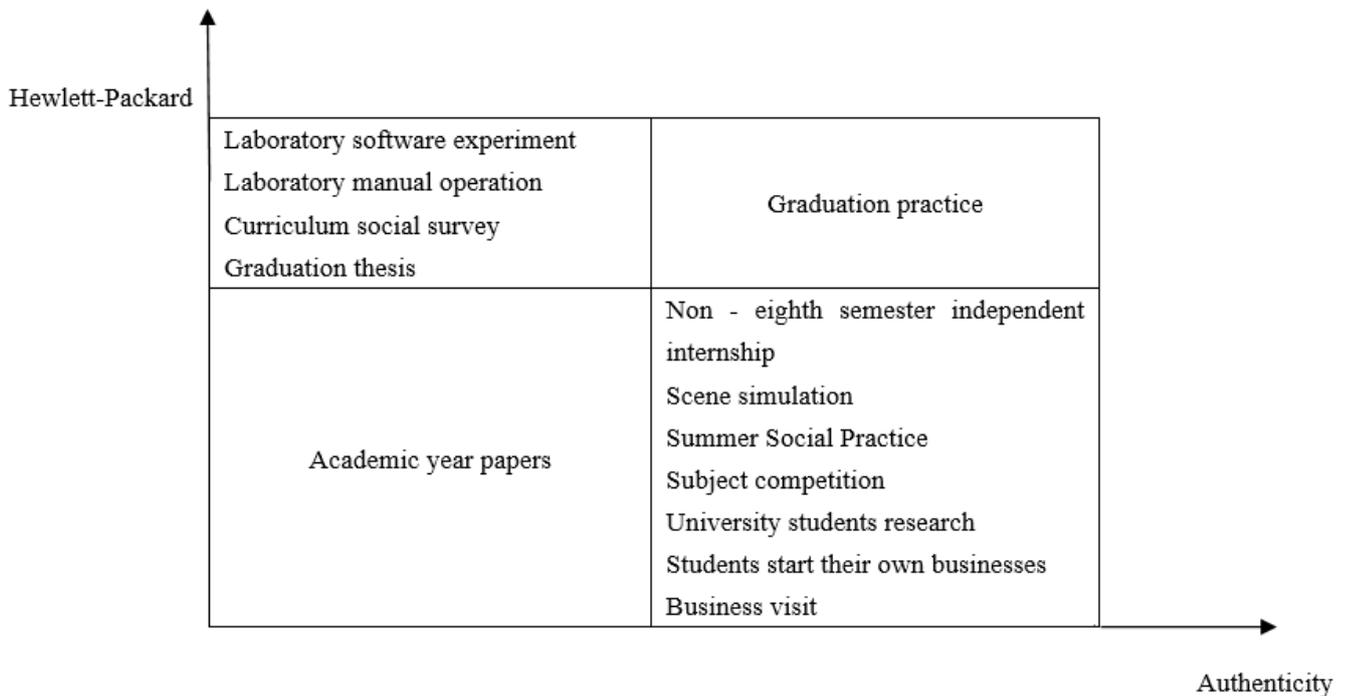


Fig 1. The Four Points of "Prosperity" and "Authenticity" of Common Experimental Teaching

It can be found from Figure 1: laboratory software experiment, laboratory manual operation, curriculum, social investigation and graduation thesis are classified as "high Pratt + Whitney + low authenticity" category. This is because: "laboratory experiment software is needed to complete the experiment with the software, usually organized by teachers of students in the school laboratory, the typical courses are "international trade theory and practice", "e-commerce website design"; "Laboratory business practice" generally also needs to be done with the help of software platform, but relatively "software lab experiment" pay more attention to the overall business skills in field, such as manual accounting practice and accounting computerization training. The "course social survey" is a research task assigned by teachers to all the students in the class. The graduation thesis is a teaching task for all students in the 8th semester. These four forms can be fully covered by students, but these so-called "experimental practice teaching" is only from the "classroom" to the "laboratory room". It is from the actual observation and experience and execute courses and classes are very few. Lack of organization and supervision is serious and bringing a "authenticity" of students is limited.

The "high authenticity + low Pratt & Whitney" category includes "non-eighth semester independent internship, scenario simulation, summer social practice, subject competition, college students research, students own business and business visit", these forms of experimental practice teaching ideas with students to go out to the first line of production have "authenticity." However, "non-eighth internship "is only "a few" students have such a chance; "Simulation" and "enterprise visit" is no limit to the student,

but it has been applied courses and very limited teaching time (such as "supply chain management" 4 hours, "business etiquette" 4 hours). The "summer social practice" and "university student research" take the form of the declaration and approval system, the former one is usually three teams each year, and the latter has limited participation. Many colleges and universities to take the guidance of the teacher responsibility system about "College competition" and did not form a wide selection from the school competition mechanism, its benefits are very limited; "Student entrepreneurship" can breed entrepreneurship, but it is a few people's "lunch" that are determined by the nature of entrepreneurship. As a result, these was very close to the reality of economic and social experiment practice teaching form and have a good "authenticity", but because of various subjective and objective reasons, the "universality" is lacked.

Thus, the current economic management specialty practice teaching mode shows a serious imbalance of inclusive and real ratio in the two-dimensional structure of authenticity + inclusive ", which cause the students to be limited by a large number of constraints in the teaching form where practical ability is not enough, while the real experimental teaching method which can develop students' practical ability is greatly limited.

*B. The current "experimental practice teaching system" has broken out and students' practical ability advancement process has been detained*

Knowledge acquisition and comprehensive ability training are "from point to surface", with its accumulation and transformation process. Corresponding, people put

forward the "basic type - improved type - integrated" experimental level system. This provides us another

perspective on the overall effect of experimental practice teaching (see Figure 2)

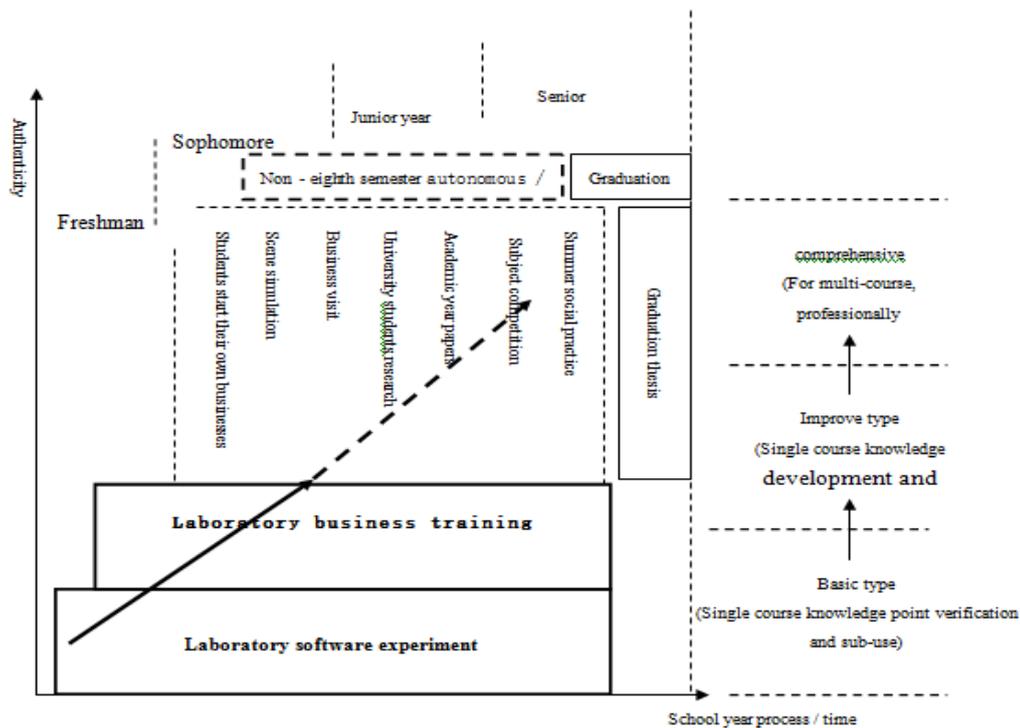


Fig 2. The current experimental practice teaching system fault phenomenon

Figure 2 shows that the experimental practice teaching form which does the "Pratt & Whitney" but does not have the "authenticity" most can only be "single point of knowledge verification and mostly belong to the basic model, such as laboratory software experiments. It can be more "real" for students to use experimental practice teaching methods which are "the use of curriculum knowledge development and integration". Students often need to leave the campus and go into the community. Frequency and students' participation in practical aspects are not very thorough and cannot serve as an effective "DiGaoXing" experimental projects (such as enterprise visits, number of scene simulation, have a chat, of course a few courses will execute), which uses "dotted line" box in figure. This makes higher request to the "authenticity" of "oriented courses, more complete professional comprehensive ability training and professional role training" of the "comprehensive" experimental practice form (currently only 8 semester of graduation practice can meet the demands of the real), at the time of execution is "weak", because from freshman year to senior year each semester by the mostly type theory teaching and experiment practice teaching, in the middle of a busman DiGaoXing experiment practice teaching form, unable to provide comprehensive across from the base type to "bridge", hence the "fault", students along with the advancement of the academic year, the process of transformation from theory to practice and improve it stalled.

### III. WHY IS THE "CROSS-PROFESSIONAL COMPREHENSIVE TRAINING" BASED ON "VIRTUAL SIMULATION"

- A. "Virtual simulation" solves the problem of unequal interest demands, can improve the relevance and authenticity of experimental practice teaching

"Virtual simulation" is from the "experimental teaching scene and the environment" on a high degree of simulation of real economic and social enterprises in the process and the scene. And it is from the "experimental teaching content", with the concept of dynamic game, a comprehensive business people, Production, supply, sales and other aspects. "Virtual Simulation Center" is built to the reality of economic and social systems "moved into" schools to create a highly "authenticity" of the experimental practice teaching platform. Moreover, this economic and social simulation center, but also have the "virtual" benefits, that is it is not like the reality of the enterprise, practice base, there will be to protect business secrets and other objective "concerns", "virtual simulation" from the beginning Of the time. It will be aimed at the school set up and the size of the students and other aspects of the actual situation so as to ensure that the majority of students can be "tailor-made" their experimental practice roles and processes to ensure a good correlation of the content.

B. "Cross-professional comprehensive training" can be built in the school economic and social system to improve the authenticity of the same time and increase interest.

"Cross-professional comprehensive training" is from the "experimental teaching organization", the multi-disciplinary and multi-disciplinary students can be formed into the overall needs of the enterprise "practice team" to complete the competitive virtual commercial economic activities. It can be targeted to choose different professional students to different positions to improve the professional work in various positions so that we can make the actual operation of the simulation system more "like" the real economic system to run. And we use the introduction of the "competitive game" mechanism, making the simulation system is no longer the same as the traditional and single attribute experimental practice teaching form. We take the same process and get the same conclusion. Students can even directly copy the results of others to give this experimental practice teaching fresh, unpredictable and personality, which in line with the "adult learning" features. It is easier to grasp the curiosity and curiosity of students. Therefore, "cross-professional comprehensive training" from the "spiritual level" in the school to build economic and social systems, improve the authenticity of experimental practice teaching and at the same time increase interest.

C. Virtual simulation "and" cross-professional "combination, can do" Pratt & Whitney "and" multi-job "cognitive training

"Moving into" the school's enterprise ecosystem is "virtual": virtual goods, virtual currency, virtual economic business, virtual activity results and so on. "The real ecology" of the enterprise ecosystem is "real": the real scene, the real activity rules (systems, rules, etc.), real business processes and techniques, real interaction mechanisms and results (customer strikes, Negotiation, adverse consequences of quality management, etc.). This combination of "virtual" and "real" can be repeated, multiple rounds for students to provide "test" and "trial and error" of the opportunity, and each process and the results are not established, are likely to encounter New problem. Moreover, each round of simulation practice activities, for the different attributes of the job with the background of the students, you can ensure that "all students" can participate in this form of experimental practice teaching. And even the use of competitive methods of induction breaks the boundaries of professional so that students can be interested in different practice round and enjoy the people, financial, material, production, supply, sales and other departments and positions of the work situation, which The cognitive training of "multi-job" is undoubtedly good for students to establish professional comprehensive cognition and plan their future career development.

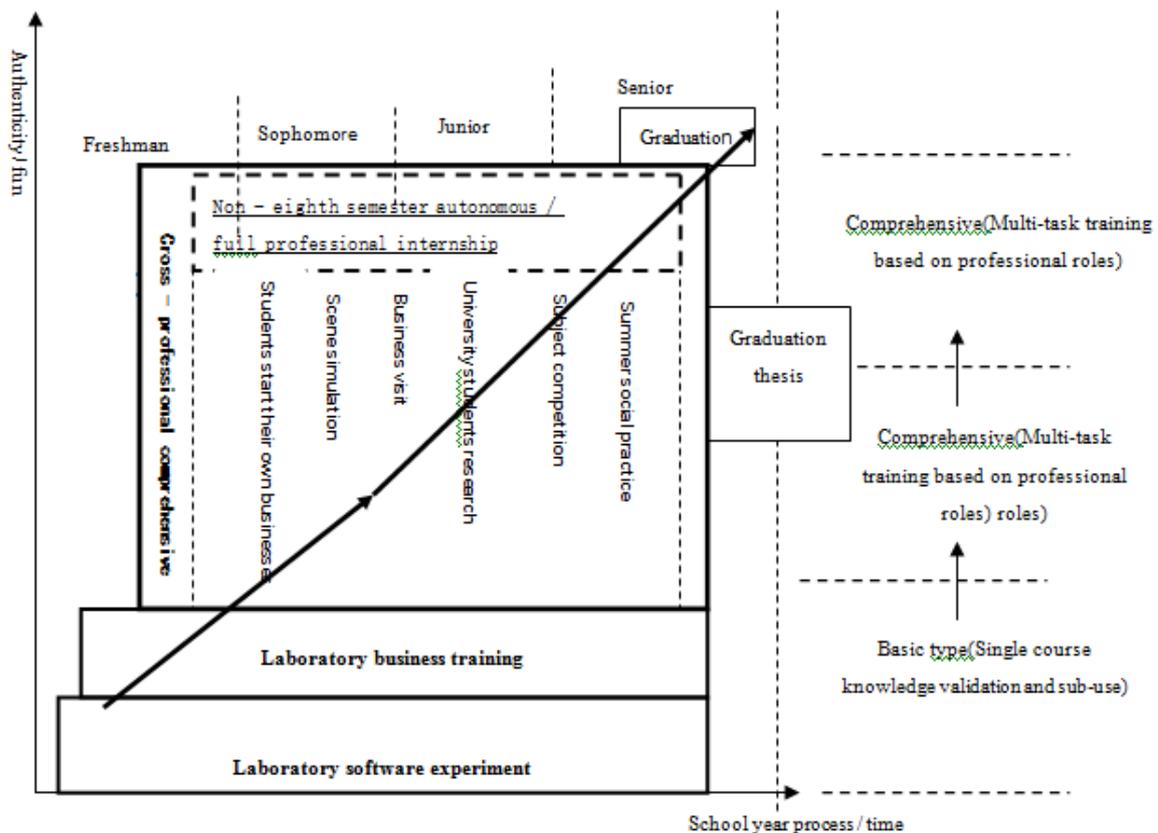


Fig 3. based on the "virtual simulation" of the "cross-professional comprehensive training" experimental practice

#### IV. WHAT ARE THE KEY POINTS TO START A

##### "CROSS-DISCIPLINARY INTEGRATED TRAINING" BASED ON "VIRTUAL SIMULATION"?

###### A. *Space layout: do functional partition and make it easy interactive management*

Virtual Simulation Center "in space partitioning and functional orientation will fundamentally decide economic and social reality of the business of" similarity "and a" multi-disciplinary Comprehensive Training "operability and controllability. For this purpose, aspects to be considered are: first, they should cover their professional categories and focus on scalability because the practice bases are less likely to be able to accept large-scale all-professional internships. And in accordance with the above assumptions, the cross major integrated based on virtual simulation training in experimental that runs through the whole college students practice teaching form, is also helpful. Therefore, the construction of simulation center, of course, should be related to all the professional categories into the school in the choice of suppliers, this factor in an important position. At the same time, in terms of professional expansion and changes in the number of professionals each other to the effective functioning of the center left space "to expand the upgrade". Second, take a large space and centralized zoning layout. From reality point of view, in addition to individual schools because the outer space structural constraints limit the teaching facilities and floor to be used, each Virtual Simulation Center or small has adopted a centralized arrangement and the advantage is clear and easy to promote the overall effect and easy-to-school teachers control.

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Simulation Center or small has adopted a centralized arrangement and the advantage is clear and easy to promote the overall effect and easy-to-school teachers control.

###### C. *Teacher training: explore the system of post and promote joint teaching*

In order to better control the virtual simulation based on cross-disciplinary comprehensive training of this teaching model, strengthening learning and repeating the training of suppliers and other work are ultimately indispensable. In addition, the following two aspects are worth considering: First, explore the special guard system. Taking cross-professional comprehensive training based on the virtual simulation as a regular "professional role awareness", "post comprehensive practice" project, will require a lot of work in depth. Therefore, it is recommended to change the existing "experimental practice course Teachers in the practice of "practice. We should establish the special guard system, based on virtual simulation of cross-professional comprehensive training work, that is specialized in the implementation of cross-professional comprehensive training of teachers team. Second, promote joint teaching. Cross-professional comprehensive training based on the virtual simulation in the experimental practice of teaching forms, multi-disciplinary, multi-category comprehensive knowledge and ability requirements are particularly high. Short-term single teachers cannot control this teaching model, but "joint teaching" can reduce the teacher pressure and effectively solve the problem of teacher constraints.

###### D. *Teaching resources: strengthen teaching research, optimize the business content*

The "virtual simulation teaching platform" which is directly bought from the software developers is not necessarily suitable for each school directly use so that the school should be combined with their actual situation to strengthen teaching and research, according to local conditions for the development of simulation content. First, we should come up with a certain proportion of the funds set up the center of teaching and research project funds from the center of special construction funds or annual budget funds, specifically for the practical application of experimental teaching research project. Second, the research project should clearly include the virtual simulation based on cross-professional comprehensive training aspects of research topics, require the form of team to strengthen the application of the system, case text, organization and other aspects of the study, and focus on the actual use of the situation as a reference. Third, the establishment of research classes, in addition to carrying out research, should focus on integrating the application of relevant research results, with the organization's power to promote the use of virtual simulation center and research to promote the accumulation of teaching resources, optimization and upgrading.

###### E. *Institutional guarantee: title the policy and stimulate the enthusiasm of the work*

The system is another important factor in determining

the effectiveness of the virtual simulation center. This issue needs to be addressed: First, how can the post-duty system be recognized and participated in teachers, how to ensure that the teaching capacity of the full-time teachers is sufficient when the implementation of the system is carried out in the accounting of economic interests. Second, in addition to classroom teaching, cross-disciplinary comprehensive training will involve a strong organizational workload and preparation work, which requires that the work of the relevant staff (non-direct course teachers) will be effectively recognized when the platform is run at the institutional level. Third, for teachers that firstly comes to enter this area, such as the first time, the second use of virtual simulation center for comprehensive training teachers, whether it can give the transition period of special hours policy, such as Hubei University of Technology 1.5 the practice of fees to stimulate teachers to participate in so as to ensure that the beginning is "drilling" learning and the use of this platform, which is of great importance for the platform to be "fully utilized" in the future.

## V. CONCLUSION

In this paper, through the evaluation of the effectiveness of the current experimental practice teaching style, it is found that the experimental practice teaching style "Pratt & Whitney" and "authenticity" deviate from each other, put forward based on "virtual simulation" of "cross-professional

comprehensive training" Can effectively improve the practice of teaching problems, and pointed out that do a good job of space zoning and functional planning, to explore the system and the implementation of joint training, to strengthen teaching research to optimize the business content and the use of policy tilt to stimulate work enthusiasm is the key to improving teaching efficiency.

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