

Is the Traditional “Experimental Practice Teaching” Effective?

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Abstract—This paper tries to examine the effect of the traditional experimental practice teaching in order to draw people’s attention to its reforms. Based on educational equity theory, adult learning principle and the perception of typical events, we construct a set of effectiveness assessment indicators and a quadrifid graph to evaluate the effect of traditional experimental practice teaching. The study found that the issues in proportion imbalance between “inclusive” and “authenticity”, low combination degree between “include” and “interesting”, and the lack of “relevance” and “timeliness”, are serious, which lead to traditional experimental practice teaching ineffectiveness, and its reforms allow of no delay.

Keywords—experimental practice; higher education; practical ability

I. INTRODUCTION

From a practical point of view, in order to strengthen the cultivation of students' practical ability, colleges and universities attach great importance to hardware construction of teaching resources accumulation and teaching devices optimization, while software construction in the experimental

teaching forms and method is obviously hysteretic. One of the most important reasons for this situation is that there is no serious thinking about the characteristics and value of the existing experimental practice teaching forms, which leads to the lack of deep understanding and reform. Therefore, based on the objective reality of traditional experimental practice teaching and the relevant principles, this paper constructs a set of teaching effectiveness assessment indicators, and uses these indicators to evaluate the “validity” of experimental practice teaching forms.

II. WHAT IS THE PERFORMANCE OF THE TRADITIONAL EXPERIMENTAL PRACTICE TEACHING?

In this study, the teaching steps and forms outside the “classroom teaching” are defined as “experimental practice teaching”, and the thinking of its effectiveness was the result of the actual experience of teaching and management job in economic management specialty. Therefore, this study mainly focuses on the economic management specialty, in order to present its actual performance, table 1 classifies and compares different teaching methods in the perspective of expression forms, representative curriculum and typical practice.

TABLE I. THE CLASSIFICATION AND COMPARISON OF TRADITIONAL EXPERIMENTAL PRACTICE TEACHING

Classification	Expression Forms	Representative Curriculum (events)	Typical Practice
Experiment	laboratory software experiment	“Theory and Practice of International Trade”	16 class hours; verification and application of book knowledge
Internship	graduation practice	all majors	the eighth semester; unity should be combined with autonomy , but autonomy is primary
	enterprise internship	a small number of students practice in enterprises	a small number of students; non-eighth semester
		all students practice in enterprises	all students; non-eighth semester
Practical Training	laboratory practice	“Accounting Manual Training”、 “Accounting by Electronic Data Processing”	16 or 32 class hours; knowledge application and skill training
	situation simulation	“Business Etiquette”、 “Business Negotiation”	4 class hours; process simulation and knowledge application

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TABLE 1, cont.

Social Practice	business visit	“Supply Chain Management”	4 class hours; getting perceptual knowledge of the real scene
	summer social practice	specific team	about 3 teams a year; declaration and approval
	curriculum social survey	“Marketing”	4 class hours; without unified organization and planning
Thesis Writing	graduation thesis	all majors	starting from the seventh semester; generally completing in the eighth semester
	term thesis	a small number of course papers	a small number of courses; use of curriculum knowledge and no targeted improvements
Extracurricular Competition	discipline competition	several major competitions	teacher organizing but limited participation of students
Students Research	undergraduate research	unified organization of the school and students voluntary application	the overall number is limited; most of the class participation is zero
Students Entrepreneurship	students self-employment	spontaneous behavior of “typical students”	a small quantity; student-initiated practice; lack of maneuverability

Note: “Representative curriculum”, “class hour” and “typical practice” are based on actual implementation of the talent training program in 2015 of Business School.

In table 1, “experiment” refers to “laboratory software teaching”, which requires the use of experimental software to verify and apply the theoretical knowledge, and the typical course is “international trade theory and practice”. “Internship” includes two forms, “graduation practice” and “enterprise internship”. The former is implemented against all specialties in the eighth semester; for economic management major, the principle is that unified arrangement is combined with independent arrangement, but autonomy is the first in practice. While “enterprise internship”, such as aperiodic internship program in China Merchants Bank, is executed in the non-eighth semester, and students can contact enterprises by themselves or enterprises recruit on the spot. With the promotion of teaching reform, “non-eighth semester Internship” against all specialties is brought forward, such as 3 months internship at the practice base of hotel management major. “Practical training” includes common forms of “laboratory business training” and “scenario simulation”, with the former focusing more on the overall business skills training than “laboratory software experiment”, such as “accounting manual training” with more class time; The latter is based on “business etiquette”, “business negotiations” as the representative of the scene to simulate the application of knowledge training, the class time is generally little. “Business visit”, “summer social practice” and “curriculum social survey” are attributed to “social practice”, in which “business visit” is aimed to bring students “the emotional perception on real work scene”, generally only as an option of little class time, such as Supply Chain Management. The difference between “summer curriculum” and “social survey” is that the former is an annual “project-style” practice that is reported by the college to the school, it is well-organized, well-supervised, and well-implemented with good results while the latter is only courses with little classes (such as “marketing”) that will take the form of practical teaching and completed by students themselves. “Academic year papers” of “essay writing” is only a very small number of courses in the “course of small essays”. The graduation thesis that starts in the 7th semester and generally completes in the eighth semester is the main part. Each major has a few “subject competitions”, but the school

matches are in vain and with low participation area. “College student research” is carried out in the school unified organization with student voluntary application mechanism, with limited student participating. “Independent entrepreneurship”, a typical practice model to cultivate ability in recent years, is to try to do business, but it is only “typical students” spontaneous behavior, with very small number and lack of promotion on the operability.

III. WHAT SHOULD “EXPERIMENTAL PRACTICE TEACHING” BE LIKE?

According to the relevant principles and experiences in teaching, we believe that experimental practice teaching should have the following characteristics: First, inclusiveness. Experimental practice teaching links should be the same as classroom teaching which can fully cover all students and equal to students. This is the requirements of experimental practice teaching from the perspective of the school as a whole and the perspective of education fairness. School should pay enough for all students to improve their practical ability of practical teaching services. Second, relevance. That is, the form and content of “experimental practice teaching” should be closely integrated with professional background and course content, and students can enjoy knowledge or business content highly relevant to their professional attributes. This is put forward on facts that complaints and events have occurred when students’ unified internship work and professional is not related. Third, multi-dimension. That is, from the composition of the capacity and training process point of view, the experimental practice of teaching needs to supply and to knowledge beyond teaching theory, but also needs to do well and improvement to cultivate the overall quality of students. This is from the request of overall level point of view. Only to do this, the cultivation of complex talents and building of comprehensive quality could enter the channel of orderly advancement and deeper layers. Fourth, timeliness. That is, “experimental practice teaching” links are not afraid of students repeated “test” and “trial and error”, the most afraid is the students do not participate, especially too late to improve

through "test" and "trial and error" after "re-taught". This is the intrinsic nature of education and entertainment demands. Fifth, authenticity. That is, "experimental practice teaching" needs to be as close as possible to the social and economic reality, so that students can carry out learning in the real scene, avoiding empty, away from the actual and distortion. This is the essential difference between "classroom theory teaching" and

"experimental practice teaching". Six, entertainment. That is, "experimental practice teaching" needs to meet entertaining concept, to be able to attract more and more personality of the active participation of college students. This is based on the student characteristics and learning characteristics. Entertaining is one of the key elements of success in adult learning.

TABLEII. THE CHARACTERISTICS "EXPERIMENTAL PRACTICE TEACHING" SHOULD HAVE

characteristics	Meaning of characteristic	basis
(1) inclusiveness	fully cover all students	Equal education Experimental practice teaching is important part of teaching
(2) relevance	closely integrated with professional background and course content	complaints and events have occurred when students' unified internship work and professional is not related
(3) multi-dimension	transform a single course in the combination to cultivate the overall quality of students	the request of cultivation of complex talents and building of comprehensive quality
(4) timeliness	improvement after "re-taught"	the intrinsic nature of education (some students regret they couldn't learn well when graduate)
(5) authenticity	be as close as possible to the social and economic reality	the essential difference between practice and theory
(6) entertainment	to attract more students	student characteristics, adult learning characteristics, entertainment in learning

IV. IS TRADITIONAL "EXPERIMENTAL PRACTICE TEACHING" EFFECTIVE?

Table 3 is the general judgment based on Table 1 and Table 2, according to the reality of traditional experimental practice of our school. It can be found that in the school, in

addition to the organization of all students internship in practice base in non-eighth semester, other forms of experimental practice teaching more or less do not have validity characteristics given in table 2.

TABLEIII. COMPARISON OF THE CHARACTERISTICS OF VARIOUS TYPES OF "EXPERIMENTAL PRACTICE TEACHING"

classification	Existing form	(1) inclusiveness	(2) relevance	(3) multi-dimension	(4) timeliness	(5) authenticity	(6) entertainment
experiment	Laboratory software experiment	•	•		•		
Practice learning	Graduation practice	•		•		•	•
	Non - eighth semester independent internship		•	•	•	•	•
	Non - eighth semester full professional internship	•	•	•	•	•	•
Practice training	Laboratory business training	•	•		•		
	Scene simulation		•		•	•	•
Social practice	Business visit				•	•	•
	Summer social practice			•	•	•	•
	Curriculum social survey	•	•		•		

TABLE 3, cont.							
Paper writing	Graduation thesis	•	•	•			
	Academic year papers		•	•	•		
Extracurricular competition	Subject competition		•	•	•	•	
Student research	University students research		•	•	•	•	
Student entrepreneurship	Students starting their own businesses			•	•	•	•

A. *Inclusiveness and Authenticity serious imbalanced, the practice of teaching experiment hard to deepen in the request of education fair*

Classroom theory teaching and experimental practice teaching by dichotomy, first of all can also be compared on inclusiveness. For example, only 3 teams of sophomore students can participate summer social survey each year, lacking of inclusiveness. Curriculum social survey and academic year papers can be asked to be attended by teachers to let or even require all students, so compared to summer social survey, they are more inclusive. However, due to the common occur of curriculum social survey and rare occur of school year papers, Table 3 shows that curriculum social survey is with inclusiveness, while the practical teaching form academic year paper is not. Also, we can also distinguish classroom theory teaching and experimental practice teaching from the dimension of authenticity. For example, summer social survey can only have a small number of students to participate in, but the students can participate in the first scene like enterprise, stores, factories or rural and other socio-economic to feel the real objective existence. So, Summer social survey, although lack of inclusiveness, is with authenticity. Even if academic year paper is assigned, it is in school, for the reality is a small number of serious students

will check a few articles to synthesize, most students just casually copy from the results of others to cope with errands. Therefore, school year papers are defined as being not with authenticity.

Accordingly, we can build a four-figure map of common experimental practice teaching forms based on "inclusiveness" and "authenticity", as shown in Figure 1. From this we can find: laboratory software experiments, laboratory manual exercises, curriculum social survey, graduation thesis, as written into the personnel training program or a higher frequency perform of teachers, are fair for the majority of students to enjoy the experimental practice teaching services, with a high mark of "inclusiveness", but lack of "authenticity". At the same time, the non-eighth semesters of independent internship, scene simulation, summer social practice, subject competition, college students research, student self-entrepreneurship, corporate visits and other "authenticity" higher practice teaching form are lack of inclusiveness, which cannot get all the students teaching services as the classroom theory teaching. Therefore, the reality of the situation is that our experimental practice teaching form "inclusiveness" and "authenticity" are seriously imbalanced, practical teaching is not deep under the constraints of "education fair".

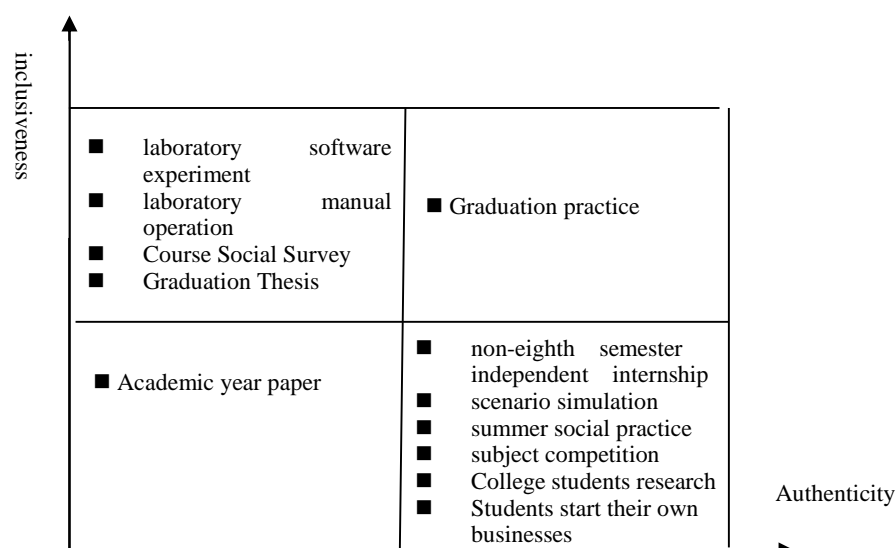


Fig 1. Quadrilateral chart of common experimental teaching form of "inclusiveness" and "authenticity" feature

B. Low combination of "inclusiveness" and "entertainment" makes "adult education" fail to meet teaching effectiveness

Different from basic education, higher education takes adult as teaching object, whom could be attracted to participate in the study through teaching methods and means, which is what we say "entertainment." For example: our school course "supply chain management" used to take students to "Huanggang Yili" factory, students are basically very interested to visit and better attended than classroom teaching. The "Business Negotiation" course organizes a scenario-based business negotiation, and the students who perform on the stage are very serious, and the student's mood is very high. This scenario simulates at least attract the attention of the whole class into the learning process, could be considered as entertainment. However, academic year papers, subject competition, college students and other forms of experimental

practice teaching methods are difficult for students to really enjoy, so there are not enough "entertainment".

In this way, we can also use two dimensions of inclusiveness and entertainment to build a four-figure map in Figure 2 of the traditional experimental practice teaching form. We can find that our experimental practice teaching style inclusiveness and entertainment is bad combined, which means teaching forms with high inclusiveness are lack of entertainment, so that students participate inactively and lack of internal motivation. The practice teaching methods that can let students entertained cannot often be carried out and give students full participation opportunities because of restrictions of teaching resources and teaching time and other reasons. This leads to the low degree of combination of "inclusiveness" and "entertainment", adult education features cannot be met, experimental practice teaching effectiveness is poor.

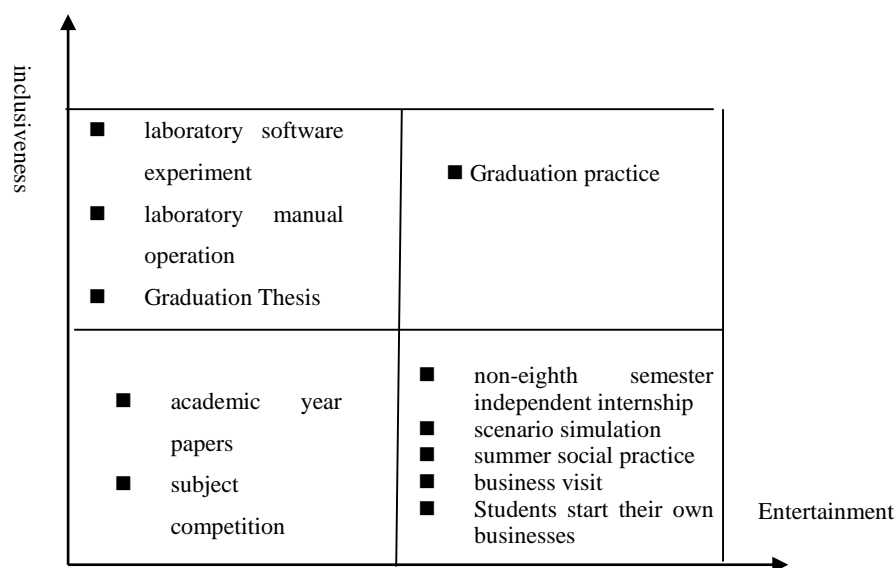


Fig 2. Quadrilateral chart of common experimental teaching form of "inclusiveness" and "entertainment" feature

C. "Relevance" and "timeliness" missing, resulting in great value reduction in graduation practice which cost a large amount of time resources

According to our analysis logic, "graduation practice" as the teaching task in the eighth semester in the current talent

training program, of course, are with inclusiveness. At the same time, students get out of the classroom and campus and exposed to the real business, therefore, "graduation practice" is defined as "authenticity" and "entertaining" (the upper right corner of the quadrant in Figure 1 and Figure 2).

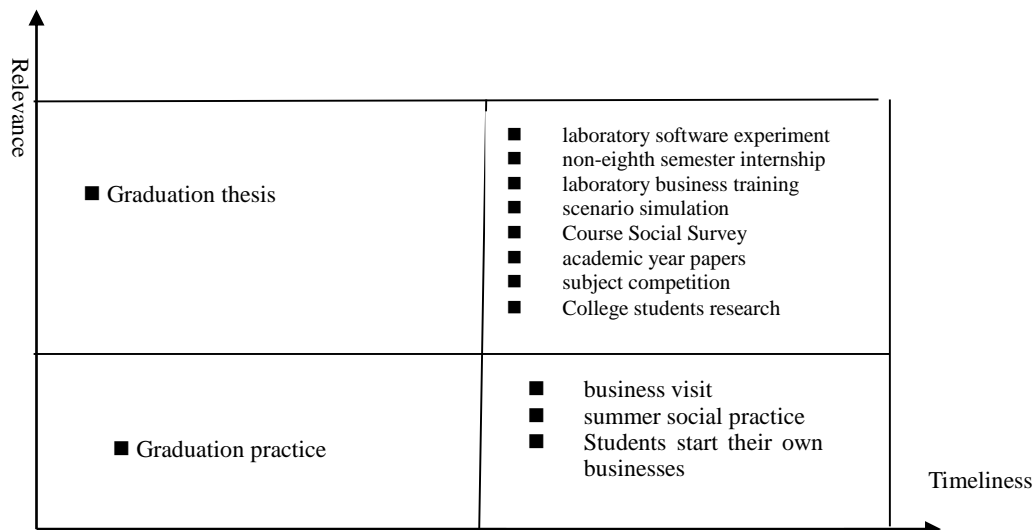


Fig 3. Quadrilateral chart of common experimental teaching form of "relevance" and "timeliness" feature

However, if we introduce "relevance" and "timeliness" these two dimensions, we will find that "graduation practice" lack of "relevance" and "timeliness", although taking a lot of time (one semester) resources, its value is greatly reduced. This is because, first, the practice is now on the eighth semester to facilitate students to find a job. But the "eighth semester" is the last semester when students have no chance to turn failure, frustration or experience into school motivation and direction during the experience. From this point of view, "the eighth semester of graduation practice" is actually not an effective form of practical teaching. The absence of "timeliness" makes the "eighth semester of graduation greatly weakened in experimental practice teaching value. Second, different from education major students, graduation practice of economic management cannot be large-scale arranged to the signing practice base, they mainly take autonomy of practice, resulting in lack of relevance in student internship and major, which has non-teaching organization guarantee. And for some students arranged as internship, although the internship unit type can be professional counterparts, the students actually bear actual work content far from the core of the professional category for it involves information security, ability to trust, future uncertainty (students may not stay in the internship Unit work) and other reasons. The differences between autonomous practice and interests of the internship unit bring the lack of relevance in the eighth semester of graduation practice, which value greatly reduces.

V. CONCLUSION

Based on the theory of educational equity, the principle of adult learning and the perception of typical events, this paper constructs the measure of "effectiveness" of experimental

practice teaching and constructs "quadrilateral" to carry out the effect of traditional experimental practice teaching method Evaluation. The study finds that the imbalance between "Pratt & Whitney" and "authenticity" is serious, and the combination of "Pratt & Whitney" and "interest" is low, and the lack of "relevance" and "timeliness" seriously affect the traditional experimental practice teaching the quality of teaching.

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