

# Discussion of the Reform of Professional Course Teaching under the Education Background of Contemporary Chinese University

In Curriculum Teaching Reform of "Fermentation Food Technology" as an Example

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**Abstract**—In this paper, all sorts of drawbacks of China education system and environment was expounded, Based on the difficulties of the reform in Chinese higher education in current, the micro reform of course from the individual teachers was proposed and the collection and accumulation of these micro reform was possible to break shackles existing in the present reform of Chinese higher education. In "fermented food technology" as the case of the teaching reform of the course, the new idea of curriculum reform was proposed with the micro concept innovation. In the premise of less intervention, it was to simple teaching content, be classroom invisible, to fuzzy professional defined, to gibe back the initiative learning to students, and finally to guide students to carry on the independent scientific knowledge. Teaching is an effective way to cultivate students' quality by teachers' scientific literacy and humanistic accomplishment.

**Keywords**—high education; curriculum teaching; concept; reform; fermentation food technology

## I. INTRODUCTION

Chinese high education, with the reform of China 30 years, although gained the success attracted worldwide attention, but the negative effect on high education has made the reform more difficult to control. The old idea and concept penetrating in Chinese university block the moving of the development of higher education with much worries, although many scholars well know the predicament and problems of high education, and have deeply thought it over[1-3], but this cannot shake the existing outdated systems and the old and ingrained concept. The reason exactly is the various disadvantages and difficulties in higher education, this paper combs problems with the hope to find a possible breakthrough[2].

The teaching of the curriculum is the basic teaching unit belonging to its corresponding disciplines and departments, is the core and foundation of college teaching[4]. Good or bad teaching not only represents the good or bad effect of classroom teaching, but also reflects the good or the bad of a throughout teaching essence and teaching activities and its environment. Therefore, this paper, with the author experience as ordinary teacher engaged in teaching in "fermentation food technology" course of nearly 9 years, teaching reform situation was analyzed from the individual course and reform ideas were put forward.

## II. CONTEMPORARY STATUS OF CHINESE UNIVERSITY EDUCATION SYSTEM

In contemporary Chinese university, the yamen structure of university organization, the official standard of university value, the bureaucracy of university management has become a major feature of a university[2,3,5]. In a university, the emergency of the resources crisis, value crisis, quality system crisis and public trust crisis, and even crisis of legitimacy because of the destroying the image of a university with expected value and the public letter force of university continued to decline, have exposed to the education system restricts the further sublimation of university, the lack of construction power internal lasting because of unable to return to academic autonomy, the cut-off the competition in the market and the external driving force because of absolute administrative and bureaucratic, the social actual disconnection seriously, the deviations from the oriented education and scientific nature because of extreme utilitarianism, the more empty university spirit because of the elimination of the national spirit, the blank humanistic spirit and scientific spirit of personal accomplishment, the more and more highly educated talents

with deformity, academic landslide with the lack of soft power and reserve forces and other defects[5].

### III. THE STATUS QUO OF PROFESSIONAL COURSES

The curriculum setting to define its concept is established in the education under the guidance of the goal by certain education values and curriculum values determined, a series of the activities with skills and plans that teachers guide students to get the knowledge in the interaction between teachers and students, it is a part of high education activities playing an important and core role. In fact, this is the product of education on modernism "specialization", scientific knowledge and technology which professionally skilled acclimation patterns are permeated into the teaching system, content and methods[6]. The key of curriculum setting is who participate. In the contemporary Chinese university, professional settings are set by the national unity, and the curriculum is set in the professional background and completed by the school.

With the administrative and bureaucratic system of teaching professional courses, the defects of the selection and settings of profession and courses is obvious as the followings: professional education makes the students restrict on too narrow field without a "professional inflexibility", the guidance of professional education is weight polytechnic and application and light humanities and basis knowledge, there is extremely utilitarianism in the system; talent foundation of professional education and training is out of the thick; students have no independent choice of professional rights; the teaching pattern is always keeping students in a classroom to be fed knowledge, course system is often too simple with structural imbalance, but the subject setting, with the repeating and old content, is too more to be dynamic, the conciseness of core content is not enough, taking the curriculum assessment is too single and randomly, curriculum teaching management system is rigid and inflexible etc..

### IV. THE PROFESSIONAL TEACHERS TEACHING AND STUDENTS LEARNING SITUATION

Most of teachers are lack of education and skills. The introduction of most of professional teacher into a university depends on the professional and research background, but the personal qualities and educational skills are often ignored. In old concept, professional teachers is enough to hold enough professional knowledge, it is not essential the professional skills and personal accomplishment of educational knowledge. Most of the teachers are introduced directly from the University's with master or doctoral degree in contemporary high education system, they must influence their students with the educational idea inheriting from their own educational background, and even their occupation career. Most of such teachers pay more attention to applying science projects, doing research, but pay no attention to the fact of the education with the humanity and scientific literacy of students as the core of education. In the existing education system and concepts, the slack of teachers on the teaching work is very strong, most teachers teaching just cope with the job, some teachers are too busy with other, even give up teaching. It is a distinct example some schools forced the professor to teach in classroom. Teachers without enlightenment teaching is natural reluctance to put attention for reflecting the essence of education, training

good teaching skills, understanding fully students and teaching students in accordance of their aptitude, it is naturally not to establish the present new image of teachers with interdisciplinary and unite the society, culture, science, ethics and morality as a whole.

The basic education system in China pay attention to individual teaching and neglect the team learning. It is natural for students learning in a university campus is a complete individual behavior without the spirit and interest in team. Therefore, deviation from the nature of the higher education system, the classroom teaching with taking knowledge as the a priori (old knowledge) mainly caused the students to learn for a single aim including coping with exam, getting diploma, enrolling to study for postgraduate, etc., students become dull and scarcely bearably for the learning process, and even very tired with no affinity for knowledge, don't even say a thirst for knowledge and enjoy the fun of learning knowledge. Learning behavior obviously showed no interest, no discipline, no exploratory drawbacks.

### V. "FERMENTATION FOOD TECHNOLOGY" TEACHING REFORM EXAMPLE ANALYSIS

Most of 792 of full-time regular undergraduate institutions in China have the food science major with the course setting of "fermentation food technology" as the main professional courses. In China national knowledge internet(CNNKI), the words of "fermentation food technology" as search term to look up the relating to the to the teaching reform of the course, there are only 7 papers shown that food professional teachers have the contempt for professional courses with no thinking over teaching and reform on the professional courses. In the teaching process, a few teachers can only do the study on in the micro scale from the individual with macro scale thinking empty, main reason is that there is very limited space for reform in the current university education system with many defects.

Teaching reform throughout all kinds of natural science courses, the vast majority focus on teaching content and teaching method, this is the form of innovation which is the only "advance" products of the birth of new science and technology. The derivative teaching content, the updated teaching method and means is inevitable and feasible, of course it is also very necessary in the subject of teaching activities. Compared with the changes of ideas, reform of these forms are often much easier, but don't prove the traditional concept of things can change or subversion. The renewal of the idea is the motive of the reform, in teaching, the reform of teachers teaching ideas and students learning concepts is fundamental to effective all forms of reform.

In the teaching of "fermentation food technology", I did three time trials to group students to study in team, but the results are not satisfied. Most students of a group just finished the tasks assigned by a good student who did not establish complete thinking, all materials was entirely copied from the Internet without digestion. It was carried on for students to discuss why the famous three Chinese liquors could be representative the different kinds of rice wine. There were still quite part of students who don't know how to discuss. It shown for students to study with few initiative and lack of expression

of desire. Even if the students in discussion was active, but could not discuss deeply because of not enough related knowledge reserve. The above examples revealed that the concept of the students to learnt was still cramming the old learning, how much teachers to feed, how much their own listen to and how much was absorbed is unknown.

## VI. THE REFORM OF PROFESSIONAL TEACHING OPPORTUNITY AND POSSIBILITY

Higher education gradually revealed defects, scholars engaged in educational work have realized the defects in our country's education system, and actively seek the road of reform, although there have been many failures, but the inherent law of the development of education, decided Chinese education will bring forth the new through the old. In this context, for a thorough reform of course teaching, the fundamental way is from the macro education system changes and the micro idea renewal of individual teachers and students. Routine cognitive, education system reform could result in the micro individual natural change, it seems, in the Chinese status quo, difficult to implemen, it is always the "retreat" and can't turn China's current basic teaching mode with the reasonable metaphor as follows: from the macro to the micro reforms, such as the creation of life and give a external shell and skeleton, and then add the flesh cells based on internal, this is not possible. Only the single cells gradually division breeding, according to gene code can shape life phantom style. That is to say, the Chinese education fundamental reform might be from the beginning of microcosmic composition to the teacher and the student, shake the entire education system, the key is how to awaken the teachers and students of the internal innovation desire and establish innovative ideas? The essence of law still relies on the nature raw of education that educational mode's genetic code is the thought of the natural and social human being, the nature of human being to explore the unknown world. But the "growth and reproduction" of these cells is in need of nutritional and environmental factors suitable. The Chinese education system environment provides the basic teaching environment, that is, the university campus, although the "environmental factors" is too complex, utilitarian, administrative, bureaucratic, in a short period of time with no hope of change, but the campus also contains student to get better education expectations, and teachers who have different levels of cognition that Chinese university education teaching must change, these students and teachers are ongoing to explore changes, although most of them is from the top to down with formalism, the existing changing is hope and where is hope where is possible. Thus the author thinks that the reform of China's university education, based on this expectation and hope, teachers and students begin to change with micro reforms, then these many a little will make a mickle affecting the formation of the whole education system situation.

Someone asked, in the system of the educational reform is not perfect, the premise of relevant treatment is not guaranteed, who also will do not get affirming the effectiveness of the work in a short time? The answer is, in thousands of teachers, there will be such a diligent dedication of teachers, second teaching self-examination and reform, with insisting will produce great fruits that is much more profit than that of the thought at the

beginning, that diligent dedication spirit of teachers will sooner or later be accepted. Thus, I probe into the micro teaching reform based on the perspective of the individual of teachers and students, and the micro explore learning is the core of concept innovation of teacher teaching and students' learning.

How to emancipate the mind, is the difficult. In the process of teaching, teachers can't use their own learning knowledge and the thinking inertia to kidnap students' thinking. In a narrow view of the subject, teachers want to put all the scientific knowledge to the students, it is impossible and also a stupid behavior. Thus, the first, to update the concept of education and teaching, is to establish the new image of teachers with a requirement of scientific teaching and an inevitable trend. And the core of new image of a teacher is to lead the frontline knowledge with the moral bottom line, the former requires teachers to have profound scientific attainments, while the latter requires teachers' own humanities accomplishment to be good enough. A teacher only collects scientific literacy and humanities in a body, it is possible for the teacher with scientific spirit and humanistic care to shape science and humanities quality of students. A professional teacher should have the ability to update the professional knowledge with closely grasp the frontline knowledge, also need to constantly improve their humanities quality. Although the latter is the weakness of the vast majority of professional teachers, but there is still such a teacher which is a nice hope for Chinese educational micro reform. All of these tiny reform with great hope will breakthrough our reform, but the efforts of improving teachers' humanistic literacy and educational skills should be put first, and then other. Teacher's personal quality directly affects the construction of cultivating the students' accomplishment and value system of the Chinese universities about student attainment, the key lies in the teacher's invisible example. To improve the teachers' literacy in microcosmic, strengthen the teachers and students of the close communication and contact, may be the best hope in current way to train the literacy of students in colleges and universities of our country.

Second, the teachers and students to participate in the "Deconstruction" education reform. As mentioned earlier, at present, in our country higher education, the shackles of professional education mode is so strong that there is no better method to break this phenomenon and radical curing illnesses, namely "Deconstruction" type education reform. The hope still rests on the micro course teaching. My comprehension of "Deconstruction" applied to the micro teaching, is the teacher let the students with all kinds of method, finally complete the process of science exploration. In this process, teachers and students to individuals or groups will naturally "Deconstruct" the old professional education mode. General idea is: a teacher is the learning vane of students, the content is simple, classroom invisible, professional definition fuzzy, the students' learning rights back to themselves. Namely: the content of the course is limited introduced with putting forward scientific problems to guide students to self to find scientific answer (answer may involve different disciplines different professions). In this search process, the students finish the skills of exploration and the accumulation of scientific knowledge. In this process, the basic requirements for students is: we do not

include knowledge, but must have the spirit of exploring new knowledge. Teachers should remember the not excessive intervention. The knowledge for students learning eventually may not as well and much as we thought, but knowledge will be obsolete, and the spirit of exploration and learning skills benefits all of their lives, a little progress of the students must be more than a lot of knowledge.

#### VII. THE CASE ANALYSIS OF THE CURRICULUM REFORM OF "FERMENTATION FOOD TECHNOLOGY"

Case 1, the curriculum arrangement was packed into the group learning task, the learning results were not good. But it has waken up students' awareness of previous learning bad habits and the important of their own learning, it was a reverse thrust for the whole class of students, there will be a positive role for individual students.

In case 2, based on the failure of case 1, some changes were set, especially the teacher put forward suitable problems, let the student carry on classroom discussion. In the case, from the molecular level, the microscopic, mesoscopic to macroscopic, production with large scale, setting up some problems how to the learn Chinese Liquor process covering engineering, microbiology, biotechnology and other academic and professional knowledge, the students themselves need to investigate, with guide of teachers when necessary, such as to give the reference literature, keywords etc. Although individual students initiative was still insufficient and the overall performance was not enough depth, but the small progress of the students in self-learning, self exploration will far better than the classroom flooding with the rote to pass the final exam.

Case 3, reform of practice course of the curriculum: Firstly, to formulate rules (see below) to the students, as for what to do and how to do, students decide it. Reform effect shown that although the students' processing skills of a product established far from production master, but it had cultivated the students' interest in learning, the students independent learning skills, the advantages and disadvantages of learning team experience, and so on.

Practice rules and management flow of "fermentation food technology"

Construct learning team with selected members (considering the interesting, characters, professional knowledge and skills) → looking up documents. → write the practice proposal including the practice background, practice content, the experimental processes and methods, practical difficulty and key points, develop process, the personnel task, the expected results etc. → report of the practice proposal by PPT. → Preparation fro practice such as raw materials purchase, equipment preparation, practice field distribution etc. → The implementation of the practice, feedback modification, dynamic supervision (the implementation process of practice tasks, records including trail data, video, teacher guidance, maintenance records, the interim report etc.) → Acceptance : final report with the following content: practice process and contents, experimental method, the problems and improvement measures, results etc.; in various records; PPT report and oral defense (objective, actual experimental process, method,

innovations, problems, practice process, practice raw material consumption and equipment loss, practice outlay accounts, trainee task completion degree, internship experience; product display etc. → scoring estimation by teachers with the all of practice materials and data, the statement and oral defense, plus supervision scoring happened in the practice process → to punish (economy, re do etc.) and rewards (economy, typical of excellent grade propaganda etc).

#### VIII. CONCLUSION

To sum up, as a teacher, facing the the existing education system in our country and the educational environment of all sorts of drawbacks and difficulties, can not do to turn things around, but can be explored from the micro teaching. Firstly, teachers themselves, constantly improve the scientific literacy and humanistic quality, strengthen students' communication, will own literacy spirit through the details of the communication with students and refract to students which plays the role of intangible run. In the course of teaching, on the premise of less intervention, simple teaching content, classroom invisible, fuzzy professional defined, back the learning initiative to students themselves, finally students are guided to carry on the scientific knowledge. With the expectations by thousands on thousands of tiny force, teachers integrated together into the fundamental power to finish the Chinese education reform.

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