

An International Comparative Study in the Relationship Between Academic Research and Teaching

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Abstract: In the development of tertiary education, an important issue regarding the function, construction and development of a university is how to deal with the relationship between academic research and teaching. Academic research and teaching combine together on the basis of training creative advanced vocational talents. The two parts are interactive. However, the two parts do not always sit together positively. There are illnesses focusing on teaching but despising academic research among the modern universities. The author has been a visiting scholar in the University of Cambridge and has also been to Columbia University in USA and some universities in Hong Kong and Taiwan on a systematic study tour. Therefore, the author is in a good position to carry out an international comparative research between academic research and teaching from an international perspective.

Keywords: academic research; international comparative study; teaching; tertiary education

In the development of tertiary education, a vital issue in the function, construction and development of a university is how to deal with the relationship between academic research and teaching. The relationship between academic research and teaching should be a dialectical unity which unites in a fundamental task of completing the development of "top specialized talents", the ultimate aim of which is to offer learners better service. Teachers in a university should combine academic research and teaching. Only by creating more new scientific achievements can teaching content gradually be enriched.

I. The imbalance between teaching and academic research

Since the beginning of universities, teaching has been the most essential and core role. Nevertheless academic research as a vital role in tertiary education was soon established. In the late part of 1800's, the president of Harvard University Charles W. Eliot defined the role of university like this. "There are three main roles of a university. The first one is teaching. Then is to gather systemic knowledge by means of books and so on. The third one is research, that is, to push the current knowledge a step forward day by day, year by year until reach some new truth" (Bentinck-Smith, 1986). Since then, academic research has become a core role of a university. Today it is a common view that teaching, academic research

and service have become the main roles of a contemporary university, and are playing important role in the development of tertiary education.

However, it is the case that there is an imbalance in the relationship between teaching and academic research. Although academic research may be considered to have an independent role, it actually incorporates teaching as it also forms the basis for training advanced creative vocational talents. The two can be seen to have important interactive functions. However, the two parts do not always sit together positively, that is, they are mutually hindering or contradictory. Generally, there are illnesses focusing on teaching but despising academic research among the modern universities. Although teaching is the most essential and core role, academic research as a creative activity is still regarded as more important in tertiary education in some countries, as it has particular contribution and charisma. The most important criteria in choosing new faculty members focus on their academic worth, that is, the academic creative competence and rich academic achievements of the candidates. Their academic standard is actually that of their research, while their teaching competence is not highly regarded (Lu, 2003). Although every university states repeatedly that teaching and academic research are of the same importance, in reality, more attention is still paid to academic research than to teaching. Just as Slovski (1996) once said, the reason for choosing instructors on the basis of their research competence and achievements is easier to evaluate than teaching competence which is very difficult to define. Thus it is no wonder that in evaluating a university or promoting academic state ranks of instructors, some rigid, dominant and controllable academic research norms are more acceptable than those soft and invisible norms which are given a less important role even sometimes ignored.

II. The interactive relationship between academic

research and teaching in universities

The relationship between academic research and teaching should be a dialectical unity and mutually improving. Paying more attention to academic research is not bound to result in the ignoring of teaching. There is no conflict between them. On the contrary, universities or instructors can pay the same attention to academic research as to teaching. The relationship between them should be interactive and bring about an interactive effect.

As to the academic research in universities, firstly, teaching can improve clearing thinking and systemize scientific knowledge. Teaching needs to clarify scientific knowledge and describe it in clear language as well as in a systematic way that the beginning and the ending correspond to each other. If a teacher wants to put one of his new research achievements to use in teaching, or transcribe it into a textbook or class handout, it is necessary to systemize the complex principles of his thinking, so they can be sorted out and clarified. Secondly, the belief that "both teachers and students can benefit from teaching" helps to improve the creativity of academic research and results in new science research projects. Teaching and learning are interactive and involve both teachers and students. Therefore, in the process of brainstorming in communicating with students, sparkles can be activated and inspiration can be derived from them. All of these are the spring of cultivating creativity from which new thinking and academic research projects develop. At the same time, senior students and postgraduates are the reserve force among academic research troops. Their presence in academic research brings new energy to it. Thirdly, teaching is the motivating force in the development of academic research in tertiary education. If the tutors in universities give instruction to students in academic research or instruct them in writing their dissertations, they have to have a certain research

competence of their own. Otherwise how can good talents be cultivated? Thus, teachers in universities have to grasp the latest developments and tendencies in their own research fields. We can argue that it is teaching that provides the first impetus to academic research.

As regards teaching in universities, firstly, carrying out academic research will benefit the improvement of teaching and the academic level of teachers. Teachers in universities have to consider a series of questions when they are carrying out academic research: what is the project? Where are new advanced materials both within their own countries and abroad? How can they learn the situation with their fields in other countries? How to broaden their own professional knowledge? How to absorb those advanced technologies and methods? In the process of solving these questions, not only can research competence be improved and knowledge be renewed but allows researchers to stand in the front line on his field all the time. At the same time, the research achievements can seep into teaching and enrich the teaching content and perfect the construction of the subject. Thus it can not only improve the reform of teaching but also can improve the quality of teaching and the academic level. Secondly, doing academic research can benefit and improve teaching competence. What tutors in universities teach students would be the latest science developments or the best references within the field. As it is their research achievement, when it is being taught to students, clear, closely-knit and logical research thinking will be achieved. At the same time, teachers will increase their efforts in explaining the material to students, as they are their own achievements. Their language will be more accurate and more appealing, so it will be easier to activate their learning and their interests in exploring the future unknown world. Thirdly, having academic research can be good for the cultivation of

higher quality talents.

III. How to bring science research and teaching together

Teachers in universities should combine science research and teaching together, both of which aim to improve teaching skills and to cultivate talent. The last aim will offer students better service.

1. Setting up "the basis of cultivating talent" as the guiding principle

Universities firstly exist as academic organizations and educational establishments. Their prime role is teaching, that is, passing advanced knowledge to students and cultivate the higher talents the society needs. This is the primary role of a university. The fundamental distinction between a university and other institutions lies in its teaching and its acting of cultivate talent of high quality within this teaching. Academic research and serving society are based on teaching. Without teaching activity, without teachers and students, a university will be the same as a research institution or enterprise. Therefore, no matter which level or which sort of a university, cultivating talented people will always be its essential role. If a university ignores the cultivation of talented people for its country and society but in favor of other aims, then a university will lose its value and legality to exist. Academic research is the necessity for developing knowledge. No society would choose to throw away science. Being an institution of passing on and developing knowledge, a university to take on the mighty task of academic research is duty-bound. But developing science cannot be an excuse to replace cultivating talented people.

2. Sticking to "teaching first and science research serves teaching" principle

Teaching is always the core of a university. A university has to center on cultivating talented people and ensure that the teaching quality is maintained to

meet the requirements of our country. It is defined by its essential characteristics. Setting up "the base of cultivating talents" as the guiding principle naturally results in the priority of teaching and putting personnel, funds and other main teaching resources into teaching. It also asks us to think more deeply about the reform teaching and to work harder on creativity. There must be support for teaching in a university while academic research must come face to face with teaching. The aim of academic research in a university lies in improving the level of teaching, in continuously providing new knowledge, in offering more opportunities for excellent science talents, in training university students to learn how to make use of research developments after graduation.

3. Establishing the concept that "the standard of teaching level is also the academic standard"

One of the main reasons why some universities as well as some teachers pay more attention to academic research but less to teaching is that there are some prejudices in the evaluating standards of teaching and academic research. It is thought that teaching does not need teachers of a high level and good ability but only needs a certain professional knowledge and little preparation before he goes on to the teaching stage. The summary of teaching experience and teaching research are out of sight of academic research. Actually, teaching in a university requires particular professional theory as well as creativity, independence and experience. It is not hard to be a common teacher while it is not easy to be a good teacher. Therefore, it is necessary to establish new ideas about evaluation. In a report from the Carnegie Improving Teaching Fund, academic levels have been divided into discovering, comprehension, utilizing knowledge and teaching. Teaching research is set in the field of academic research. The concept of regarding the teaching level as the academic level will strongly improve the combination and development

of teaching and science research.

4. Highlighting teaching research by ranking a university

Whichever country it is, there are remarkable differences between the condition and strength within its inner organs of the tertiary education system. It is no doubt that special emphasis has been laid on teaching and academic research. Therefore, it is vital to coordinate the relationship between teaching and academic research by means of intercollegiate and in-campus collaboration based on the prime aim and core task of cultivating advanced talents. So-called intercollegiate collaboration is that different universities have different combinations of teaching and academic research. Those good universities with excellent academic research strength can focus on academic research, especially basic research. If conditions are permitted, some universities with good conditions can have two teaching and academic research centers. As to those with poor conditions, teaching is more important while academic research can be given lower priority while teaching research would be more important. Most universities can explore some forms of research in applied and technical fields until academic research can enter the process of teaching to serve teaching and serve cultivating talent. So-called in-campus collaboration means in a certain period of time, most of the employees can give more attention to academic research while others can focus on teaching. As to a person, sometimes teaching is more important while sometimes academic research gets the same priority. All can be arranged practically and reasonable. The strength of academic research in developed countries is mainly gathered in those universities with higher schooling standards. Academic research in America is so booming that it has become the finest example anywhere in the world. However, most teachers in American universities focus on teaching rather than academic research. Only a few

universities prioritize academic research, where teachers (especially senior teachers) generally carry out academic research. Some professors even only carry out academic research as their career, while others only focus on teaching. In universities in UK, there are also two kinds of teachers, one of whom is not life-long teachers. Academic research plays an important role among them while teaching a little sometimes. Another kind is life-long teachers who can enjoy the same treatment as civil servants. Their main task is teaching while they sometimes do a little science research.

5. Achieving a better balance between teaching and academic research

This is mainly lies in two aspects: Firstly, to demonstrate the policy of balancing relationship between teaching and academic research. On the level of undergraduates, regarding on the subject of students' health, ability and aims, the academic research is mainly intended to develop the quality, tradition and spirit of academic research, but nothing involves the reality of academic research. Quite different from undergraduates, postgraduates have grasped considerable professional knowledge and certain research ability as well as the aim of developing postgraduates. Thus, teaching should combine with science research while science research will improve teaching. Real advanced research developments are hard to combine with teaching. Only in the postgraduate courses can teaching and academic research combine together. Postgraduates must enter the process of academic research and be involved in related research projects so as to train their academic research competence, competence in formulating questions and developing the related academic moral spirit. Secondly, strengthen-

ing the unity of production, learning and science research. Production, learning and academic research in many universities has achieved many successful experiences, such as "Silicon Valley" in America, "Cambridge Corridor" in Britain and "Zhubo Town" in Japan. The unity of production, learning and academic research has greatly enriched the role of a university and promoted the ratio of turning scientific achievements into productive forces which brings benefit to the universities. A university can be used as a research center. Its scientific achievements can promptly be turned into productive force. The businesses can provide laboratory space and an experience base so they can serve each other in harmonious development.

From the above analysis and some developing experiences from some world-famous universities, we can draw a conclusion such as this: First, the development of universities cannot separate teaching and academic research. Their unity is the essential motive. Second, teachers in a university should combine academic research and teaching, both of which aim to improve teaching skills and cultivate talent. The last aim is to offer students better service.

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