

Undergraduate Students and Curriculum Design

A Short Literature Review

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Abstract—Curriculum design of undergraduate students is a hot topic in the field of education research. This paper gives a short literature review about it, which can be used to design a better curriculum system. We find that, existing researches are going around these three issues: first, the Training specification of undergraduate talents achieved by curriculum system construction; second, Curriculum system construction responding to specification for personnel training; third, Curriculum system construction and teaching activity.

Keywords—undergraduate; undergraduate student; curriculum

I. INTRODUCTION

The curriculum is a live issue in universities across the world. Many stakeholders—governments, employers, professional and disciplinary groups and parents—express strong and often conflicting views about what higher education should achieve for its students. Many universities are viewing their curriculum at an institutional level, aware that they are in a competitive climate in which league tables encourage students to see themselves as consumers and the university as a product, or even a ‘brand’. The move has prompted renewed concern for some central educational questions, about both what is learnt and how.

This paper is a short literature review about the curriculum design for undergraduate students. By doing so, we can understand how to design a better curriculum system, and also, we can have idea of the hot topics and their future development in education research field.

II. LITERATURE REVIEW

A. *The Training Specification of Undergraduate Talents Achieved by Curriculum System Construction*

The specification for personnel training is described as the standard of personnel training and the reification of the personnel training target. Some researchers have discussed the personnel training from two aspects: unity and diversity.

The unity of specification for personnel training refers to the basic standard that the undergraduates in the same professional field should achieve. For example, many scholars, such as Augier (2006), Campbell, Heriot and Finney (2006), and Teece (2011), etc, investigated the specification for personnel training in business management field, while Teece

(2001) should be the master during the above researchers depending on his research results. Taking the emergence and development process of high-tech products, such as iPod, iPhone and iPad, as examples, Teece analyzed deeply the professional quality that the graduates of business management should possess in current business environment. In author’s opinion, the graduates in essence are the products of education institution, and the employer is the customer who selects products. If the graduate can be selected by the employer, the graduate himself should have competitiveness, so the educational institution is required to examine the professional quality of graduates from the view of competition. Therefore, the professional quality which the graduate of business management should own needs to be constructed on the basis of competition theory, and then the curriculum system is also constructed in accordance with the competition theory. Through the contrastive analysis of Michael Porter’s Five Forces Model, Resource-Base View(RBV) and dynamic capability theory, Teece (2011) discovered that the dynamic capability theory was best for the theoretical basis of cultivating the professional quality of graduate of business management. According to the theory, the graduate’s quality consists of three general progressive links--- perception, master and change. The quality in perception link mostly reflects students’ ability of opportunity spotting, for example, which existing technologies can be utilized directly by enterprises, which technologies need to be researched and developed independently, and whether the supplier\ network is being innovating, etc; the quality in mater link mainly reflects the students’ ability of grasping the opportunity. For example, what kind of business model is more proper for the existing enterprise; where the provide edge of enterprise are best placed; in which step of purchase decision enterprise should take measures to influence customers; aiming at the target customers, how to create customers loyalty; the quality in change link reflects students’ ability of create opportunity. For example, force new business through industry regulation and new businesses such as decentralization and synchronous specialization brought by operation of enterprise; motivate new technique and new competitive advantages with knowledge management within enterprise. The quality foster in the above links needs to match responding curriculum to provide necessary skill and knowledge. Teece (2011) indicated that the quality cultivation of graduates of business management, which is based on dynamic capability theory, could integrate the cognition of practice field and education circle towards

students' quality cultivation, and could also make the curriculum system of business management more significant.

The diversity of specification for personnel training not only contains the discrepancy of training type of students in same area of expertise but the discrepancy in different areas of expertise. In the same area of expertise, the training type of students can be divided into academic talents and applied talents. The academic talents refer to the ones that master the basic theory, knowledge and skill of a certain subject and can be engaged in a certain career or research in a certain field. The core of training value of academic talents is that the educatee can fit in with the actual requirements of a certain occupation and industry, and owns the basic knowledge and skills of the occupation and industry to meet the actual requirements of social and economic development on various special talents. However the applied talents mean to the ones that own basic theories, basic knowledge and skills of a certain natural science, social science and humanities, and meanwhile can utilize these theories, knowledge and skills to solve actual problems. The value orientation core of applied talents training does no lies in how much professional knowledge and skills the educatee learns, but whether educatee's mind and potential can be developed, whether the educatee has the wholesome personality and reasonable knowledge structure, and whether the educatee can make a living in the changing society. So the training standards of the two types are remarkably different. In recent researches, the applied talents are concerned much, while the ratio of concerning academic talents is relatively low; in different professional fields, different market demand also leads to the large differentiation of specification for personnel training. Under such condition, the university should consider firstly the matching between occupation and industry, and next the matching between subject and occupation. And then the university forms its own specification for personnel training. At the same time, the emphases between different types of universities are also different. For example, the research university mainly performs liberal education, widens specialty caliber and extends the students scope of knowledge to lay a solid ground for post-graduate education; the professional university is more concerned with professional counterparts. When it helps students build reasonable knowledge, it also reinforces the professional knowledge and skill education; however, the vocation college just takes employment as the orientation to cultivate the needed talents for society in accordance with the need of occupations and posts.

B. Curriculum System Construction Responding to Specification for Personnel Training

For the unity and diversity of specification for personnel training, the university should firstly explicit the standard that the undergraduate must achieve in each area of expertise, and then should consider the features of each area of expertise. And finally the balance between unity and diversity is achieved through the design of curriculum system. For example, according to demand of the curriculum system of a certain subject, the students must learn the basic contents of eight aspects, so each undergraduate of this subject need to master the above basic contents of eight aspects as far as possible. Certainly, the knowledge and skills can present different

emphases in accordance with the different industry backgrounds of enterprises.

After the basic contents of the eight aspects are determined, the next problem is that which one design proposal of curriculum system can help students learn well the contents and meanwhile keep the characteristics of profession. The education researchers have summarized two schemes from the practical activities of curriculum system construction and have reviewed on their advantages and disadvantages.

Both of the schemes are to help students learn will the contents and keep the characteristics. However there are significant differences between the two schemes of design proposal except the general course: the scheme I depends more on the internal force of profession; the curriculum provision is finished by the teachers of this specialty; the curriculum teaching is mainly on the teachers of this specialty account while the teachers of other specialty are just supporting roles. The scheme II rely on more the joint forces between specialties; the curriculum provision is completed by the joint teacher group; and curriculum teaching is also coordinated by joint teacher group. Both of schemes have advantages and disadvantages and have different requirements on teacher's personal competence and coordination ability between teachers.

C. Curriculum System Construction and Teaching Activity

The cultivation of undergraduate talents can not be separated with teacher's teaching activities and student's learning activities. Therefore, the teaching activity and curriculum system are influenced each other, and there are many research results on it. In this paper, these research results are summarized as the forms in FIGURE I.

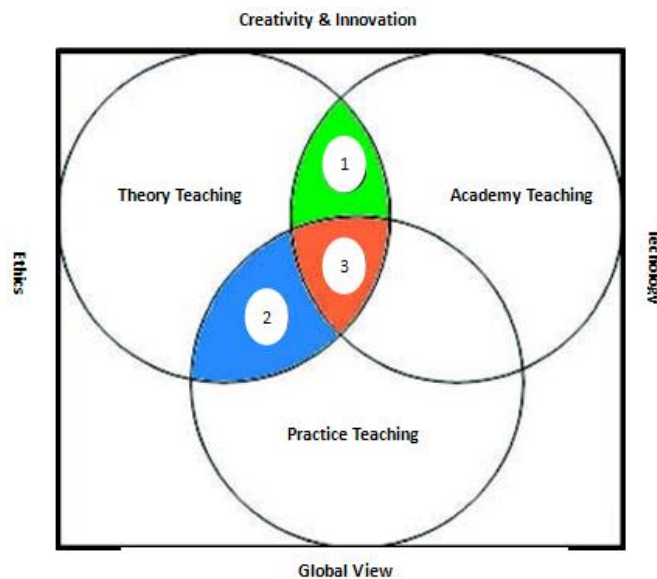


FIGURE I. TEACHING ACTIVITIES ABOUT UNDERGRADUATE STUDENTS

The three big circles in the square of Fig. 1 represent teachers' teaching activities. The theoretical teaching refers to the teaching activity that teachers initiate the theoretical knowledge; academic teaching means that teachers pass on

research skill and techniques; practice teaching refers to the activity of linking theory with practice. There are intersections among the three teaching activities, represented with three small ellipses. These intersections have important enlightening significance for the curriculum system construction of personnel training. The detailed explanations are as the followings:

The intersection I occupies both theoretical teaching and academic teaching, which means that the teaching activities of certain educational institutions emphasize students' quality on discovering links, cultivating students' ability of opportunity spotting. So the curriculum system construction should place emphasis on analysis and research curriculum which is based on theoretical courses; the intersection II occupies both theoretical teaching and practice teaching, which means that the teaching activities of certain educational institutions are mainly to cultivate students' quality of mastering links, improving the ability of seizing opportunity. Under this condition, the curriculum system construction should focus on the training and simulation courses which are based on theoretical courses; Intersection III occupies theoretical teaching, academic teaching and practice teaching, which indicates that the teaching activities of certain educational institutions emphasize to cultivate students' ability of changing links, making them have the ability of creating opportunity. Thus, the curriculum system construction should not only emphasize the analysis and research course but the training simulation courses. Additionally, the four lines of square denote students' learning activities, which means that the students in curriculum system should learn how to improve creativity and innovation ability, how to solve problems with the existing techniques, how to form global vision and ethics and morals. But the emphasis is different under different conditions: for the students of educational institutions in intersection I, it is very important to improve the creativity and innovation; and for the students of educational institutions in intersection II, the cultivation of ethics and morals are critical.

III. CONCLUSION

The question of what is to be taught and learnt in universities will always be highly contentious. Answering it requires us to take a position on the kind of society we want, how we believe individuals can and should relate to others, the kinds of knowledge that we value and how we believe that people learn most effectively.

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