

Thoughts on the Construction of General Education Curriculum System

Based on High Adaptability Competency

Lu Sun

Beijing Information Technology College
Beijing, China 100018

Shenghua Zhang

Beijing Information Technology College
Beijing, China 100018

Abstract—General education is an important means to promote the overall development of individuals. With the economic and social development entering the era of globalization, the world development pattern has undergone profound changes. There is a trend of “competency-generalization” in the training of talents. How to cultivate high-end talents that can adapt to rapid development and change is an important issue faced by general education. This paper focuses on the actual problems, and the current situation of the construction of the general education curriculum system in China and foreign countries, deeply analyzes the logical structure of the high adaptive ability based on the concept of “generalization”, and proposes a targeted general education capacity training course for higher education institutions, and some basic ideas of system construction, in order to add a research perspective for the study of general education theory.

Keywords—general education; competency-based; curriculum system

I. INTRODUCTION

With the economic and social development entering a new era, the world development pattern has undergone profound changes. The changes in economy, politics, culture and values, brought about by the era of technological revolution 4.0 represented by artificial intelligence, have had a profound impact on the global human resources market. International organizations and some governments have been sensitively aware of this change, actively committed to the strategic research of global talent training, and put forward constructive opinions and suggestions for rapid transformation of talent demand.

Combined the development trend of “competency-generalization” in the specification for training of talents, this paper proposes corresponding solutions for general education development to cultivate high-end talents adaptable to rapid development and change.

II. STATUS QUO OF THE CONSTRUCTION OF GENERAL EDUCATION CURRICULUM SYSTEM

The construction of general education curriculum system is the core issue in achieving the goal of general education and implementing the concept of general education. The general education curriculum system model in foreign

countries can be roughly divided into four major systems, namely: distribution system, core curriculum system, free elective curriculum system and hybrid system.¹ No matter which system it is, it is a logically reconstructed version of traditional knowledge system in form. Its essence still has strong color of the discipline system.

General education at Yale University in the United States is a series of carefully designed curriculum, both in arts and sciences. While strengthening and improving students' mental abilities, it enables students to get familiar with the guiding principles for coping with some major issues encountered in human beings' exploring for knowledge². This curriculum reflects the comprehensiveness and integrity of knowledge, involving humanities, social sciences, arts, natural science and mathematics, native languages and foreign languages and other disciplines, and is a typical distribution curriculum model. Evolved to the present day, Harvard University's general education curriculum has had the characteristics of a combination of distribution and core curriculum models. In the published Harvard's General Education Report, curriculums of eight interrelated fields are planned according to the objectives of the new general education curriculum: aesthetic and interpretive understanding, culture and belief, empirical and mathematical reasoning, ethical reasoning, life system science, science of the physical universe, various societies in the world, and the United States in the world.³ Students must choose one of the eight fields. The breadth of knowledge is wide, and the curriculum is well integrated and full of inquiry nature. The curriculum design can lead students to think deeply about problems, perspectives and methods and solve problems while broadening the knowledge field of students.

The American Association of Colleges and Universities (AAC&U) and the well-known American Hart Research

¹ Li Changjiang. General Education: Concept, Reference and Development [J]. Journal of Higher Education Finance. Vol. 18, No. 1, March 2015. (in Chinese)

² Wang Wenhua. General Education at Yale University [J]. Journal of World Education. January 2007. (in Chinese)

³ Cao Shengsheng. On the Problems and Challenges of General Education in Undergraduate Research Universities in China [J]. General Education Review. Fudan University Press, November 2016. (in Chinese)

Associates conducted an online survey on executives responsible for teaching at the 1001 member universities of the AAC&U, and released the survey report "New Trends in the Design, Learning Objectives and Teaching Methods of General Education" in 2015. According to the report, with respect to general education curriculum, 76% of colleges and universities in the United States adopt distribution model, while 92% of colleges and universities adopt diversified curriculum model including distribution model (see "Table I")⁴.

TABLE I. PROPORTION OF THE MODEL ADOPTED IN GENERAL CURRICULUM DESIGN (ACCOUNTING FOR ALL INSTITUTIONS)

Model	Proportion, %
Distribution	76
Capstone studies (for professional course)	60
Upper-level general edu requirements	46
Core courses	44
Thematic required courses	42
Common intellectual experience	41
Capstone studies (as a part of general education curriculum)	26
Learning community	22

The general education curriculum system of Chinese universities basically draws on the experience of the United States, and has formed a relatively independent general education curriculum system in their respective practical explorations. Taking Hong Kong as an example, the general education curriculum in Hong Kong universities includes three knowledge fields: humanities and arts, society and culture, science and technology (see "Table II"). In addition, they are categorized in further details by universities based on their respective strength and weakness in each specialty and the difference in curriculum focuses. For example, in HKU, the social and cultural related fields are further divided into "global issues" and "China: culture, state and society"; the University of Science and Technology separately listed the "quantitative reasoning". In the process of development, the general knowledge fundamentals + general knowledge expansion + general knowledge consolidation trend gradually emerged.⁵

TABLE II. GENERAL EDUCATION CURRICULUM MODELS ADOPTED BY MAJOR UNIVERSITIES IN HONG KONG SPECIAL ADMINISTRATIVE REGION

University	Name of general education		Total credits
HKU	Common core	共同核心课程	36
CUHK	General Education	通识教育课程	21
HKUST	Common Core	共同核心课程	36
Poly U	General University Requirements	大学核心课程	30
City U	Gateway Education	精进教育	31
B U	General Education	通识教育	38
L U	Core Curriculum	核心课程	33
Ed U	General Education	通识教育	18

Peking University and Fudan University in the mainland of China have also researched and developed their respective general education curriculum systems to some extent.

Peking University's general education curriculum system (see "Fig. 1"):

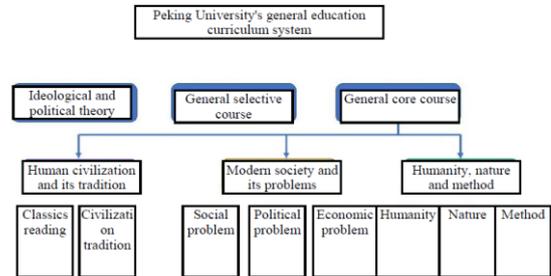


Fig. 1. Peking University's general education curriculum system.

Fudan University's general education curriculum system (see "Fig. 2"):

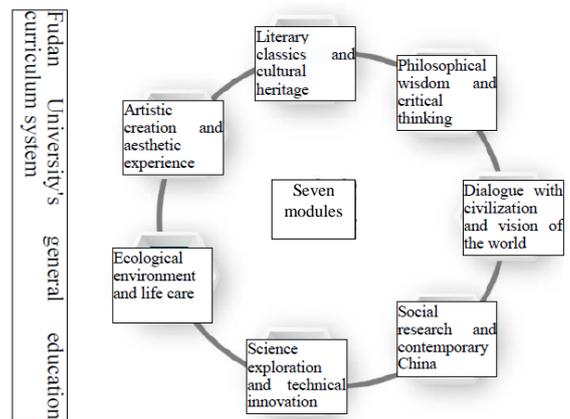


Fig. 2. Fudan University's general education curriculum system.

The exploration and practice of universities both in China and foreign countries in general education curriculum model shows that the combination of distribution model and other models is the current development trend. It emphasizes the

⁴ Hou Dingkai (ed. and trans.). New Trends in General Education Design, Learning Objectives and Teaching Methods [M]. February 2016. (in Chinese)

⁵ Xu Huixuan. General Education in Hong Kong Higher Education Institutions: GE Reform since 2012. Keynote Speech at the 2017 Annual Meeting of the University Quality Education Research Association and the 6th University Quality Education Summit, March 2017. (in Chinese)

development of students' cognitive ability in academic learning and life, reflects the cross-discipline educational ideology for coping with complicated problems in the real world, and advocates the responsibility of individuals and society in the era of globalization and the global ethics. However, there is also a very obvious problem: that is, the cultivation of students' core competence, from training objectives to curriculum setting and further to evaluation criteria, is fully based on the training model constructed by the subject knowledge system, and less considers the current ability status, characteristics and dynamic development space of students; and there is not a clear logic link established between knowledge system and capability system, resulting in a practical disconnection between knowledge and ability.

III. GENERAL EDUCATION AND THE CULTIVATION OF HIGH ADAPTABILITY

A. The Essence of General Education Is to Promote the Development of Individual Abilities

The historical experience in development of human society shows that, basically, the mission of education is to promote the inheritance of human civilization and realize the all-round development of human beings. The development history of general education properly reflects the essential characteristics of educational development. The whole development process from liberal arts education to general education is centered on how to improve people's comprehensive understanding of life and society. In this process, the ability of human beings to understand and transform the world has been incrementally developed, and further leading to promoting the progress and development of human civilization.

B. General Education and "Competency-generalization"

In the new era, with the development of science and technology, the new characteristics, new trends and new missions presented in economic and social development have put forward new requirements for the ability structure of human. Consequently, the requirements for talents are constantly upgrading, and the ability structure and connotation of personnel training are constantly shifting towards humanization, socialization and internationalization, namely "competency-generalization". The typical characteristic of this change is that it provides education based on human adaptability, and finally enables the educated to form an ability system to adapt to self, adapt to others, adapt to occupation, and adapt to the society⁶. In recent years, scholars of general education in China and foreign countries have focused more on the "combination of general and specialized education" and the research of the functional structure of general education. In the face of the "competency-generalized" trend, school should treat "high adaptability competency as an important factor in the development of the functional structure of general education,

⁶ Zhang Shenghua. Constructing the Future-Facing General Education Curriculum System in Higher Vocational Education [J]. Education Teaching Forum, June 2018. (in Chinese)

make relevant in-depth research, and should add the research perspective and related content of global adaptability.

C. Logic Structure of High Adaptability Competency

Inspired by the concept of "competency-generalization", and combined with Robert White's (1959), McClelland (1973) and Spencer (1993)'s research on competency and the global competency assessment framework proposed by PISA2018, it is available to initially sort out an ideal high adaptability logical structure (see "Fig. 3").

- The ability of individuals to adapt to themselves and adapt to others constitutes the basic connotation of humanization of talent specifications. It is believed that humanism emphasizes the individual orientation including not only the value needs of the behavioral subject but also the value needs of the behavioral object from the perspective of empathy.
- The ability of individuals to adapt to occupations and adapt to society constitutes the basic connotation of the socialization of talent specifications. From the perspective of Marxist discourse on the relationship between man and society, it is impossible for people to exist without society, and inevitably forms an interactive relationship with society. The basic platform and core element of this kind of interaction is a specific occupation, which is also the primary condition for individuals to live in the social system.
- The ability of individuals to adapt to globalization constitutes the basic connotation of the internationalization of talent specifications. The interconnection between countries in the world brought about by economic globalization is becoming the new normal. The awareness and ability of globalization is the basic requirement for each individual to achieve internationalization. Global competency has gradually been incorporated into the talent cultivation system by government of each country; the basic requirements for previous elite education are transformed into the basic requirements for national education.

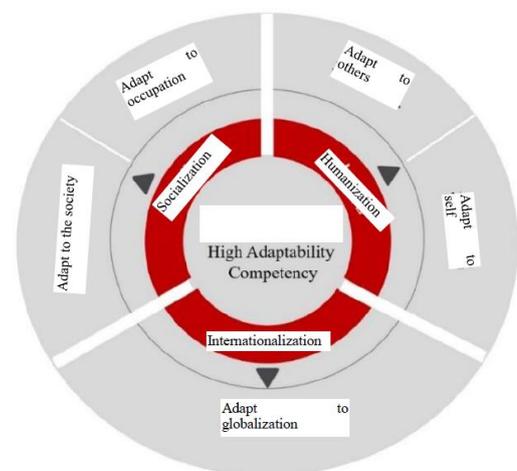


Fig. 3. Logical structure of high adaptability competency.

Based on the analysis of the reforms in field of general education curriculum in China and foreign countries, and combined with the current situation of the fragmented knowledge structure and lacking systematic training of the general education curriculum system in China, it is believed that the reconstruction of general education curriculum system of colleges and universities should fully consider the ability needs of the development of the times. Especially for individuals in the fast-developing social conditions, how to form a dynamic and systematic high adaptability competency system is a realistic problem that the construction of general education curriculum system needs to solve in the future.

IV. GENERAL EDUCATION CURRICULUM SYSTEM BASED ON ABILITY SYSTEM

A. Division and Construction of General Education Courses in Colleges and Universities

After years of researches, the construction of the general education curriculum system has formed a mature theoretical foundation, and also formed a wealth of practical experience and achievements, but the knowledge system construction is still treated as the main content, the discipline and academic color is strong, and there is great lack of ability training and cultivation. Therefore, the reform of general education in colleges and universities must take into account the explicit cultivation of both knowledge and ability. Namely, it is not only necessary to attach importance to the construction of general knowledge system and expand the breadth and depth of the knowledge system, but also necessary to take "competency-generalization" as the ultimate goal and take high adaptability system as another important basis for the construction of general education curriculum system. It is suggested to take the high adaptability system framework as the basis for construction of general education curriculum system, systematically analyze the knowledge and ability goals of different disciplines, form a distinctive logical link between subject curriculum and high adaptability system, and finally form a new general education curriculum based on high adaptability and continuously improve the quality and efficiency of general education (see "Table III").

TABLE III. LOGICAL STRUCTURE OF GENERAL EDUCATION COURSES BASED ON HIGH ADAPTABILITY COMPETENCY

	I-level index	II-level index	Course group connotation analysis
High adaptability competency	Humanization	Adapt to self	Self-life cognition, psychological traits cognition; Me and the outside world Self-management and self-value realization Self-development and evaluation
		Adapt to others	Empathy and respect Interpersonal communication skills Friendship, love and family

	I-level index	II-level index	Course group connotation analysis
Socialization		Adapt to occupation	Vocational cognition and orientation Vocational morals and ethics Occupation choice and planning
		Adapt to the society	Social development and human history Structural understanding of society Systematic understanding of social function Social behavior analysis and practice
Globalization		Adapt to globalization	International perspective Intercultural understanding and communication Sensitivity and depth of understanding of global topic Consciousness of global citizenship

B. Organic Combination of Core Curriculum and Extended Curriculum

In the process of constructing general education curriculum system, it is needed to establish a concept of "modern citizenship consciousness first, and employment demand second", combine core curriculum and distribution models together, and form a course group that can reflect the humanization, socialization and internationalization. By learning the curriculum theory, it is known that any course or any class of course is not in separate existence, but have somewhat connection with other courses. Therefore, each course group must have a relatively independent and exquisite core curriculum, as well as a certain scale and comprehensive extended curriculum. Only in this way, can it be available to form a three-dimensional and multiplex general education curriculum system. Core curriculum plays a key role in cultivating talents' ability. It has clear and systematic knowledge ability cultivation objectives and content design, and generally focuses on a specific knowledge field or special ability cultivation. In principle, the extended curriculum plays a supporting role in cultivating knowledge or abilities in other fields while expanding specific knowledge or abilities.

In addition to core curriculum and extended curriculum, it is also needed to assist holding expert lectures to mainly show the unique insights of experts in a certain field and help students to expand the breadth and depth of knowledge.

C. Organic Combination of Knowledge System Construction and Ability Cultivation

Specific to a course, both core curriculum and extended curriculum are required to construct a systematic knowledge system for the educated of a field or cultivate the educated a skill through a kind of "High-Impact Practices (HIPs)". The

curriculum should have specific standards, and teachers should complete the teaching tasks according to the curriculum standards. A knowledge tree structure is constructed with the help of learning the course group and doing HIPs training; meanwhile, some specific activities are also designed to help students forming specific adaptability.

The general education curriculum system based on high adaptability competency is different from the classical curriculum system design in traditional sense. It is more a reconstruction of knowledge system by ability analysis on the basis of people's adaptability and development ability. It also introduces HIPs to help students doing special training, and enhance and highlight the core ability of individuals. Although this research emphasizes the cultivation on the basis of ability system, it does not exclude the construction of knowledge system, and some specific links still need to be further researched and discussed.

V. CONCLUSION

The classic general education curriculum system is constructed based on the logical relationship of the knowledge system itself, and focuses on the depth and breadth of the knowledge understanding of the educated. It is believed that certain knowledge reserve can be transformed into the required capabilities, regardless of the extent and method in which individual can acquire knowledge. The construction of a knowledge system with certain depth and breadth and the construction of a high adaptability competency system are equally important for promoting the overall development of individuals. It is more practical to systematically analyze the logical link between individuals' ability system and knowledge system, and create a general education curriculum system based on ability system.

REFERENCES

- [1] Li Changjiang. General Education: Concept, Reference and Development [J]. *Journal of Higher Education Finance*. Vol. 18, No. 1, March 2015. (in Chinese)
- [2] Wang Wenhua. General Education at Yale University [J]. *Journal of World Education*. January 2007. (in Chinese)
- [3] Cao Shengsheng. On the Problems and Challenges of General Education in Undergraduate Research Universities in China [J]. *General Education Review*. Fudan University Press, November 2016. (in Chinese)
- [4] Hou Dingkai (ed. and trans.). *New Trends in General Education Design, Learning Objectives and Teaching Methods* [M]. February 2016. (in Chinese)
- [5] Xu Huixuan. General Education in Hong Kong Higher Education Institutions: GE Reform since 2012. Keynote Speech at the 2017 Annual Meeting of the University Quality Education Research Association and the 6th University Quality Education Summit, March 2017. (in Chinese)
- [6] Zhang Shenghua. Constructing the Future-Facing General Education Curriculum System in Higher Vocational Education [J]. *Education Teaching Forum*, June 2018. (in Chinese)