

# *On the Features of Postgraduate Students' Training System in Hiroshima University and Its Revelation*

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**Abstract:** Taking the postgraduates of higher education in Hiroshima University as the research object, this paper endeavors to analyze the training system of postgraduates of higher education in Japanese universities. The characteristics of the training system are attaching importance to professional courses about research methods, nurturing a diversification of thinking, improving the level of English proficiency in public courses, promoting problem-oriented talent training processes, and guiding personalized research. It is concluded that the cultivation of postgraduates in higher pedagogy in China can learn from Japan's experience, strengthen the understanding of research methods in teaching, attach importance to the cultivation of academic research and critical thinking ability in scientific research guidance, and attach importance to the guidance of dissertation in the process of talent training.

## **1. Introduction**

From the perspective of discipline construction in higher education, the cultivation of discipline talents is an important link. It should be said that the system of higher education belongs to China and the world. As for discipline construction, it should not only be limited to the practice in China, but also extensively and deeply study the practice abroad. [1] The United States is the main country in China that studies the training of postgraduate students majoring in higher education. Based on the analysis of graduate education of higher education in eight research universities in the United States, such as Harvard University, the results show that American graduate students of higher education not only attach importance to the study of core courses and major courses, but also emphasize the training of research methods. [2] From the comparison of research universities in China and the United States, the results of comparative study on the training system of postgraduate students in higher education in Xiamen University and Harvard University show that China and the United States have their own characteristics. [3] From the perspective of academic journal review, the common problems in academic journal submissions of graduate students in higher education disciplines are that academic innovation lacks an objective and comprehensive understanding, the research direction is not clear enough, and the discipline and training of research methods are still very weak. [4] However, Japan is a late-developing country in higher education research, and it is known in China. However, there is no relevant research on Japanese postgraduate students in higher education. Therefore, as a first-class research university in Japan, Hiroshima University's discipline

of higher education and its postgraduate education are among the best in Japan. The postgraduate education has accumulated many successful experiences in long-term exploration and practice, and its training system for postgraduate students in higher education is typical and representative. Studying the training system and characteristics of graduate students of higher education in Hiroshima University in Japan can provide enlightenment from Japan for the development of graduate education of higher education in China.

## **2. General Situation of Postgraduate Education in Higher Education in Hiroshima University**

Hiroshima University of Japan ranks among the top universities in QS World University Rankings and U.S.NEWS Global University Rankings in 2021. In 2014, the school was selected into the Top Global University Project of the Ministry of Education, Culture, Sports, Science and Technology of Japan, and became one of the 13 top key universities aiming at building a world-class university. On the subject level of higher education, in 1972, the establishment of the University Education Research Center of Hiroshima University marked that higher education research as a subject field was widely recognized by the Ministry of Education, Culture, Sports and the higher education circles in Japan, and it meant the official start of higher education research in Japan in organizational form. [5]

The research institute for higher education of Hiroshima University (RIHE) is not only the oldest institution in Japan, but also the largest institution with the right to grant degrees in higher education. In 1986, with the approval of the Ministry of Education, Culture, Education and Culture, the higher education major set up by Hiroshima University became the first unit in Japan to grant master's degree and doctoral degree in higher education. By 2019, the center has trained nearly 100 teachers, researchers, administrators and other professionals engaged in higher education-related courses for universities, research institutes, government agencies and other industries at home and abroad. [6]

In 2020, in response to the rapid development of research to a high level and the integration of disciplines, Hiroshima University drastically reformed the postgraduate education, breaking down barriers in various disciplines and fields, and integrating and abolishing the majors of natural sciences, humanities and social sciences. The newly established postgraduate education is divided into four major disciplines: human social sciences, cutting-edge science and technology, integrated life sciences and medical sciences. Under this background, the major of higher education is divided from the graduate school of education into one of the subordinate majors of the newly-established graduate school of human social sciences. At the same time, on the basis of maintaining professional characteristics and main courses in professional education concept and curriculum setting, it emphasizes the cultivation of diversified high-level talents to promote the harmonious development of all disciplines of human and society from the perspective of sustainable development of human and society and the realization of peace.

## **3. Hiroshima University's Postgraduate Training System of Higher Education**

### **3.1. Entrance Examination**

According to the identity and nationality of candidates, there are three kinds of entrance examinations for higher education majors in Hiroshima University. The first is the general selection examination for Japanese fresh graduates and previous graduates. The second is the in-service adult selection examination for university administrators. As appropriate, the candidates will focus on their work experience, teaching and research achievements related to university administrative positions. The third is the international student selection examination. Under normal circumstances,

candidates are required to apply for tutors in advance before taking the entrance examination for master's degree, and start their six-month study in higher education as trainees. Under the guidance of tutors, trainees study personal research topics, and take a certain amount of professional courses without credit.

### **3.2. Training Objectives and Academic System**

The training goal of graduate students of higher education in Hiroshima University is to cultivate the ability to comprehensively analyze higher education by using the academic knowledge and research methods of educational sociology, comparative pedagogy, educational administration and history. Cultivate the scientific research ability to engage in higher education research and the professional ability to engage in university education administration. [7]

The postgraduate training system of higher education in Hiroshima University is mainly composed of teaching, research guidance, practice and assessment. The standard length of study for graduate students is 2 years of full-time education. In recent years, in order to meet the needs of on-the-job staff to extend their study period, the two-year academic system has been reformed into a flexible one. Learners can apply for extension of postgraduate education for 3 to 5 years according to their work and study needs.

### **3.3. Curriculum**

#### **3.3.1. Course Credits and Number of Courses**

Before the reform of postgraduate education in 2020, the postgraduate courses of higher education in Hiroshima University were mainly composed of professional compulsory courses, professional elective courses and optional courses, as well as special studies of tutors (seminar: Seminar) every semester. Postgraduates must have 30 credits. The characteristics of the curriculum system are as follows: First, there are two core required professional courses with a total of 4 credits. Secondly, 15 selective basic professional courses are offered, which is characterized by offering a series of courses on micro-themes of higher education disciplines such as goal theory, enrollment theory, teaching theory, curriculum theory and evaluation theory from the perspective of higher education discipline system. Based on the horizontal comparative study between Japan and European and American countries, the evolution process and characteristics of this theme in medieval universities, modern universities and modern universities are traced vertically, and the development direction of universities is discussed. For example, the course "University Curriculum Development Theory" analyzes the main modes of university curriculum in talent cultivation and curriculum development from the historical, comparative and empirical perspectives, especially the development process and characteristics of university curriculum modes in developed countries with higher education; At the same time, it also discusses the reform trends and challenges of university curriculum models in major countries in the globalization trends such as popularization, marketization and internationalization. [8]

#### **3.3.2. Core Professional Courses of Higher Education Disciplines**

Specialty is the core of the curriculum system of postgraduate students majoring in higher education in Hiroshima University. As shown in Table 1, there are 17 specialized courses. Before the reform in 2020, there were four required courses. After the reform in 2020, the required courses were adjusted to two required courses: Basic Theory of Higher Education I (system and policy research) and Basic Theory of Higher Education II (theory and method).

Table 1: Curriculum System of Postgraduate Education of Higher Education in Hiroshima University in 2021

level	Course type	Course name	Methods and credits
Specialized courses of higher education	Specialized courses	Basic theory of higher education i (theory and method) and basic theory of higher education ii (system and policy research)	required 4 credits
	Elective courses	They are university teaching theory, university curriculum development theory, higher education goal theory, higher education economy theory, higher education organization theory, higher education evaluation theory, higher education enrollment theory, academic policy theory, student theory, tuition policy theory, higher education basic exercise (practical research), Japanese higher education research, comparative studies in higher education, Advanced Statistic、 Higher Education in Japan 、 Development of Higher Education.	Optional 8 credits
Whole school	Sustainable development course	Hiroshima-based World Peace Exploration, SDGs Academic Research A, SDGs Academic Research B, SDGs Practical Research, Diversity Exploration, Japan's Economic and Social Development: Foundation and Peace, Japan's Humanities and Social Development: Education and Health.	Selective compulsory 1 credit
	Career development and data application course	Data application, medical information application, humanities and social occupation management, science and engineering occupation management, introduction to MOT, emergency response management, information security, introduction to entrepreneurship.	Selective compulsory 1 credit
Social science	Public courses of humanities and social sciences	Special research of human social science, history of human social science, interdisciplinary cooperation projects, exploring the future and creativity, normative international standardization, management and organization theory of science and technology department, practice research of peace education, data visualization A, data visualization B, environmental basic theory A, environmental basic theory B.	Selective compulsory 4 credits
Educational discipline	Educational public courses	Scientific research law and ethics, educational science and society, Japanese educational development practice, sheltered instruction: making content comprehensive possible, religious culture in public education, academic writing for graduate students in education.	Selective compulsory
Optional courses	Non-professional courses	Basic courses and specialized courses offered by master's majors in humanities, science, engineering and medicine in the whole school.	take as an elective

Source: 2021 Hiroshima University Student Handbook. [9]

It is worth noting that Hiroshima University's higher education major not only offers four professional courses with English names, such as comparative studies in higher education, but also uses English academic literature as its teaching materials and English as its classroom language. Even the professional courses of various subjects are taught in English instead of Japanese.

### 3.3.3. Public Courses with Auxiliary Status

In 2020, Hiroshima University reformed graduate education, integrating humanities and social sciences, natural sciences and medicine, and added various public courses integrating social sciences, science and engineering, medical biology, etc. into the graduate education curriculum, aiming at cultivating talents with international vision and creative spirit, and at the same time having the ability to solve problems from various angles, which reflected Hiroshima University's pursuit of science and sustainable development goals (SDGs) through education. [10]

From the perspective of higher education in humanities and social sciences, public courses have the following characteristics. First, public courses are divided into three optional compulsory courses and optional courses: school-wide, humanities and social sciences, and educational disciplines. The second is multi-disciplinary integration and diversity, setting up multi-disciplinary and multi-disciplinary courses such as sustainable development (SDGs), social science, natural science, big data, medicine and health. The third is internationalization, adding English teaching courses and attaching importance to English academic writing ability.

### 3.4. Teaching Methods and Evaluation

The general teaching methods of cultivating postgraduates of higher education in Hiroshima University include classroom instruction, student publication, case analysis, discussion between teachers and students, etc. Courses are usually taught in small classes, usually with less than 5 students. It can be said that small class teaching with a small number of students ensures that teachers and graduate students can fully conduct seminars and academic exchanges, and improves the quality of classroom teaching and research guidance.

In addition, Seminar is a teaching and research mode in which the tutor guides the study and scientific research training of graduate students every week, and the master's degree thesis is the center. 1 credit per semester, held in each semester from the 1st year to the 3rd year, with a total of 6 credits in the 3rd year. On most occasions, teachers and students have in-depth exchanges and discussions on thematic studies, classic literature and dissertations. Under the Seminar model, teachers and students are both discoverers and explorers of knowledge and scientific truth. They can boldly express their personal opinions on academic issues, and they can engage in academic contention equally with each other, thus forming a free and relaxed academic atmosphere. [11]

### 3.5. Practical Practice

In the second year, the graduate student of higher education in Hiroshima University worked as a TEACHING ASSISTANT for various professional courses. Teaching assistants serve as a bridge between teachers and postgraduates. Hiroshima University requires teaching assistants of various courses to assist teachers in teaching, and to guide and help graduate students in course study; Teaching assistants are required to attend classroom teaching and participate in classroom discussions. Teaching assistants' work is not counted as credits, but they have salary equivalent to part-time jobs.

### 3.6. Assessment and Dissertation

Higher education in Hiroshima University does not require graduate students to publish academic papers during their studies. There are two links in the master's examination. First, the opening report will be held at the end of the first academic year. It is required to explain the research topic, research purpose, research significance, advance research, research methods,

research framework, research results accumulated so far and research plan for the second year in the form of oral statement. In the second year, I entered the dissertation writing stage.

Secondly, after the postgraduate students have completed all the writing contents of their dissertations, they will hold their dissertations defense meeting after being examined and approved by their tutors and guidance teams, and the final dissertations examination will be held by the postgraduate students' oral speeches and answering questions.

## **4. Characteristics of the Training System of Graduate Students in Higher Education in Hiroshima University**

### **4.1. Methodology-First Professional Curriculum**

The curriculum of higher education specialty covers the classical theories and research methods of sociology, the theories and methods of historical research and comparative research, the quantitative and statistical analysis of higher education, the research of system and policy, the theoretical research and methodology research, and lays a solid theoretical and basic knowledge of higher education disciplines for postgraduate students. Secondly, practical and exercise courses are offered to enable postgraduates to operate and analyze higher education data, so as to strengthen their study of quantitative analysis research methodology. Thirdly, the practice of teaching assistants' participation in classroom teaching promotes the study of higher education research methodology for postgraduates. It is not difficult to see that the curriculum of postgraduate students in higher education in Hiroshima University highlights the characteristics of attaching importance to methodology.

### **4.2. Multi-Disciplinary Public Courses of Diversified Thinking and English Ability**

The curriculum reform introduces public courses, breaking the tradition that Japanese graduate education lays too much stress on professional education. Set up the compulsory public course module and optional course module of the whole school from humanities and social sciences majors to education majors vertically. Horizontally, all kinds of courses at all levels cover many disciplines such as sustainable development of human society, big data, information security, education and peace, education and medicine, Japanese economy and society, etc. and interdisciplinary course, aiming at training graduate students to carry out original higher education research on the basis of understanding the sustainable development of human beings and multi-disciplinary knowledge such as arts, sciences and medicine.

English courses and English academic research are gradually added to the curriculum, which will stimulate the academic vision of graduate students and the international awareness of higher education research. For example, Japan's economic and social development: basic peace and equality. It reflects Hiroshima University's bold attempt and reform in postgraduate education. In addition, as shown in the academic writing for graduate students in education course, the English essay writing course, which is specially taught in English, aims to increase the intensity of writing English essays and publishing academic achievements in English, and realize the goal of Hiroshima University to participate in international scientific research cooperation and cultivate talents with international vision.

### **4.3. Problem-Oriented Talent Training Process**

Hiroshima University's higher education science attaches great importance to cultivating postgraduates' "problem awareness" and problem-solving ability. In the trainee stage, the research

topic, research content and research framework of master's degree thesis have been planned. The interview focuses on questioning candidates' research plans, judging candidates' "problem awareness" of higher education disciplines and drawing up research topics and problem-solving awareness under the research framework. The importance of various research methodologies is highlighted in the curriculum setting, and the research methods to solve the "problems" of higher education, especially the quantitative analysis research methods, are systematically taught. In teaching, we advocate reading and discussion with problem awareness, and attach importance to the cultivation of critical thinking and academic communication skills.

It can be said that although the two-year academic system is short, admission has a clear goal, which is conducive to master's students' planning of their study and research plans during the master's degree period. In the early stage, they can take targeted courses and study and research methods of various subjects, and apply them to the research and writing of dissertations, thus ensuring a high level of quality of dissertations. The high-level dissertations reflect Hiroshima University's emphasis on problem-oriented training of higher education professionals.

#### **4.4. Personalized Teaching and Research Guidance System**

The major of higher education in Hiroshima University is also to determine one main instructor and two assistant instructors for each student. From enrollment to graduation, under the academic guidance of the tutor team headed by the main tutor, the postgraduate students carry out personalized study and research according to their research topics and personal research interests, and each semester is a special study as a required course (Seminar). Research guidance in the form of Seminar is conducted irregularly from enrollment to graduation, even during summer and winter vacations. From the first year to the second year of uninterrupted Seminar, a typical mentoring teaching and research guidance mode, teaching and guiding research methods hand in hand. Therefore, the tutor responsibility system and Seminar's research guidance ensure that graduate students can learn higher education knowledge more deeply.

### **5. Enlightenment of Hiroshima University's Postgraduate Training System in Higher Education to China**

#### **5.1. Strengthen the Study of Research Methods in Teaching**

Japanese higher education attaches great importance to the study and training of research methods. Hiroshima University offers practical courses such as basic exercises of higher education. The course of research methods, including literature analysis and statistical analysis required for scientific research, is offered in postgraduate courses, and the combination of research methods and hands-on exercises is taught, so that postgraduate students can master all kinds of research methods engaged in higher education research. In the process of dissertation research, I can combine my theoretical knowledge with my thesis writing practice, and use appropriate research methods to complete my dissertation.

There is a tendency to ignore systematic methodology teaching and methodology guidance in the curriculum of postgraduate students in higher education in China, and most postgraduate students need to study methods by themselves. General dissertations use qualitative analysis such as literature analysis and historical method. As the saying goes, "It's better to teach people to fish than to teach them to fish." Therefore, it's the development direction of China's higher education to pay attention to systematic research methodology education and set up research methodology courses, especially the research methodology courses offered by Hiroshima University, which systematically study sociology, history, comparative law, system and policy research, and combine qualitative and

quantitative research methodology.

## **5.2. Pay Attention to Academic Discussion and the Cultivation of Critical Thinking Ability in Scientific Research Guidance**

The major of higher education in Hiroshima University requires postgraduates to critically and logically analyze the higher education system and problems. Have the foreign language ability to read foreign language documents of higher education. The major of higher education in Hiroshima University encourages students to ask questions boldly, expound their opinions with logical thinking and organization, so as to promote academic exchanges and communication between teachers and students. In this way, students' diversified knowledge, different perspectives and different life and work experiences can be brought into play, and their speculative ability can be improved and the understanding of basic knowledge of higher education can be promoted in inquiry classroom teaching.

Generally speaking, the postgraduate courses of higher education in China are a mode in which postgraduates share the teaching task of one class, take turns to teach the chapters they undertake, and teachers and students participate in the discussion. The original and useful research of higher education needs to cultivate critical thinking in the daily training of teaching methods and classroom teaching, not be afraid of academic authority, and dare to put forward one's own opinions and opinions within the logical and organized scope. In this process, the subject knowledge, multi-disciplinary knowledge and methods of higher education are used to analyze and discuss higher education.

## **5.3. Pay Attention to the Guiding Role of Dissertations in the Process of Talent Cultivation**

The major of higher education in Hiroshima University requires students to apply their knowledge and methods to the study of dissertations at an early stage with clear goals and strong learning consciousness. The whole master's degree has a very high degree of concentration, which is conducive to in-depth study of higher education knowledge and scientific research exploration.

Although China's postgraduate education in higher education attaches importance to a wide-ranging and foundation-oriented curriculum, there is no denying that it lacks a high degree of concentration in problem awareness and goal orientation from beginning to end. In particular, the problem awareness in research and its series of thinking, data collection and analysis, research methods, angles, research contents, research process and steps to solve the problem are not a one-off task from the perspective of scientific research, and it is necessary to enhance the awareness and ability of engaging in higher education research through accumulated study and practice. Therefore, the curriculum of postgraduate students in higher education in China can be actively adjusted. Determining the research topics and research plans of postgraduate students' dissertations at an early stage is conducive to learning with a sense of problems and goals, and improving the academic research ability and quality of postgraduate students' dissertations at the postgraduate stage.

## **6. Conclusion**

To sum up, this study introduces the postgraduate training system of higher education in Hiroshima University, a Japanese research university, summarizes its characteristics in curriculum setting, diversified public courses, personnel training process and teaching research guidance system. Hiroshima University is a research-oriented national university in Japan, and the postgraduate education of higher education is second to none in Japan. The postgraduate education



of higher education also reflects some characteristics of postgraduate courses and training. Although we can't copy Japan's experience completely, its mature and specific experience in personnel training is still meaningful for China to compare and learn from.

It is not difficult to see that this study focuses on case study and institutional analysis, but the deficiency is the lack of empirical analysis such as interview survey and questionnaire survey. The future research will be further based on the empirical analysis of interview and investigation, and explore the quality and significance of its talent training.

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