

# Study and Practice on “IT Japanese” Teaching Content in Colleges and Universities Under the Mixed Education Model

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**Abstract**—With the warming of China’s software industry, information technology service outsourcing, especially the service outsourcing to Japan, will still maintain a much higher demand for talents in the future. There are more than 600 colleges and universities across the country offering Japanese majors, but there are not numerous schools offering “IT Japanese” courses. Taking the “IT Japanese” course of Japanese department of Dalian Neusoft Information University as an example, the author carries out the exploration and practice of the teaching contents and methods under the mixed education model in order to hope to increase the employment weight of Japanese majors and explore a new way for the cultivation, perfection and development of compound Japanese talents.

**Keywords**—“foreign language for specific purpose”; service outsourcing; IT Japanese; information technology; mixed education

## I. INTRODUCTION

The newly released “National Standard for Teaching Quality of Foreign Language and Literature” (2018) clearly states that “foreign language majors can be combined with other related majors to form integrated subjects to meet the needs of social development”. In the construction of foreign language integrated subjects, the teaching and research of “foreign language for specific purpose” should be carried out by all foreign language and literature majors. In China, studies on English for Specific Purpose are relatively mature, but there are few related studies on Japanese. Information technology Japanese (hereinafter referred to as IT Japanese) belongs to the research category of “Japanese for specific purpose” (Liu Wei, 2013). On the purpose of using the subjectivity education theory, (that is, teachers’ guidance can give full play to students' subjectivity and stimulate their internal motivation, so that they can take the initiative to acquire knowledge), with the “IT Japanese” teaching in colleges and universities as the carrier, this paper discusses the teaching contents and teaching methods under the mixed education mode.

This paper firstly analyzes the current situation of Chinese outsourcing business to Japan, the setting of computer Japanese courses in colleges and universities in China, and the necessity of implementing mixed education mode. Then, taking the series of computer Japanese courses of the Japanese department of Dalian Neusoft University of Information

Technology as an example, it explores and practices the construction and implementation, teaching contents and methods, and examination methods of the IT Japanese series courses under the mode of mixed education, in hope of providing references for the curriculum construction of Japanese majors in similar universities.

## II. ANALYSIS ON THE CURRENT SITUATION OF CHINA'S OUTSOURCING BUSINESS TO JAPAN

At present, the development and reconstruction of global value chain widely expands to the service field. The rapid development of global service division network system makes service permeate into every link of production to integrate and coordinate all aspects of global production. Service outsourcing has thus become the core link and key node of global value chain. Taking software outsourcing as an example and according to the description in “Research Report on Supply and Demand Forecast and Investment Potential of China's Software Outsourcing Service Industry in 2017-2022”, due to the gradual reduction of labor cost advantage, the advantages of location and policy will be maintained and there is still much room for market development in the future. Therefore, China's software outsourcing industry will continue to grow at a high speed for a certain period of time. It is estimated that the annual average growth rate of China's implementation of offshore IT outsourcing will be 12% from 2017 to 2022, reaching 450 billion yuan by 2022. [1] Among the offshore service outsourcing contractors, Japan is the second largest software product and service market in the world and about 70% of its business is outsourced to China.

In addition, according to the latest survey data published by the Japan External Trade Organization in December 2017 in the “Survey of Current Situation of Japanese Enterprises in Asia-Pacific Region in 2017”, the Japanese enterprises answering the “expansion” of business scale in China account for 48.3 percent in the problem of the direction of the cause started in next 1-2 years, which is 8.2 percentage points higher than the survey results in 2016. It is expected that the growth of a certain proportion will continue in the next few years. According to the types of business, non-manufacturing industry is higher than manufacturing industry. BPO and ITO associated with “service outsourcing” account for the first and third respectively. [2] According to the above industry analysis,

it can be predicted that the service outsourcing industry to Japan will still maintain a high demand for talents in the next five years.

In view of the market demand for human resource, a questionnaire survey on companies in three northeastern provinces and coastal areas that are economically developed was carried out. The survey finds that enterprises engaged in service outsourcing business need compound Japanese talents who not only know Japanese knowledge, but also master professional vocabulary and computer skills and understand the operation rules and professional norms of IT enterprises. However, there are not many Japanese talents who can expertly master the above abilities and the growth of orders is far greater than that of talents. Therefore, the lack of outsourcing talents to Japan has become a bottleneck in the development of the industry.

### III. CURRENT SITUATION OF COMPUTER-RELATED COURSES FOR JAPANESE MAJOR IN COLLEGES AND UNIVERSITIES

In the era of information technology, computers can be seen everywhere. Computers have changed the world and people's way of life. Mastering computer application technology is not only a basic quality of individuals, but also an important skill for making a living in employment.

At present, there are 660 colleges and universities offering Japanese majors in China, and there are about 1.046 million Japanese learners in China. Most schools with Japanese majors offer computer-related courses. So far, there are few schools can offer the course of "computer Japanese". More colleges and universities adopt the teaching method of separating Japanese language from computer knowledge. That is, Japanese is taught by teachers from Japanese majors, while computer-related knowledge and skills are taught by teachers from computer major in Chinese. This kind of course design method, which separates language from industrial knowledge and skills, cannot integrate Japanese with computer knowledge and skills well. Students also lack the way to grasp relevant industrial vocabulary, and cannot grasp the business process and the latest situations of Japanese IT industry.

Most Japanese major teachers in domestic colleges and universities graduated from Japanese language and literature major. Due to professional restrictions, there are few teachers can teach computer courses in Japanese. Therefore, there are fewer colleges and universities that can offer computer Japanese courses. Even if some schools offer relevant courses that mainly focus on Japanese operating system and Japanese office software. Students lack the mastery of knowledge of Japanese and information technology, ITO, BPO business process, business content, project management and so on.

In view of the needs of ITO and BPO related enterprises for the basic information technology-related abilities that employees should master, universities should cultivate Japanese majors' proficient computer operation skills, relevant theories of information technology, and improve students' information technology-related Japanese communication abilities and team cooperation abilities through the relevant

courses of computer Japanese. With the increasing demand for compound talents in enterprises, the position of computer Japanese courses in Japanese majors cannot be underestimated.

### IV. NECESSITY OF IMPLEMENTING MIXED TEACHING MODEL

Bloom divides the dimension of cognitive process into six levels: memory, understanding, application, analysis, evaluation and creation. [3] In the actual class teaching, teachers still spend most of their teaching time on how to help students realize the "memory and understanding" of knowledge, that is, shallow learning activities. However, "application, analysis, evaluation and creation" and other higher-order thinking activities have not received enough attention. Mixed teaching focuses on how to help students achieve optimal learning results starting from the dominant position of teachers,

Li Fengqing thinks that "mixed teaching refers to the teaching method of achieving optimal teaching effect by applying proper media technology, providing proper resources and activities in accordance with the proper learning environment, and enabling proper students to form proper abilities in proper time." [4] That is, students take full advantage the pre-class time in independent learning way to learn the relevant online teaching resources that are carefully designed and prepared by teachers to make shallow knowledge learning occur before class; in class, students participate in practical activities of real problem settlement through the method of cooperative inquiry learning, and cooperate with their peers to complete practical activities, and complete the internalization of knowledge with the guidance and assistance of teachers, so as to promote the improvement of higher-order thinking ability.

Therefore, it can be seen that the mixed education mode is the best choice for talent training in the digital age.

### V. EXPLORATION AND PRACTICE OF "IT JAPANESE" TEACHING CONTENT IN COLLEGES AND UNIVERSITIES

#### A. Basic Competence Requirements for Information Technology-related Positions

IT is the abbreviation of Information Technology, which means information technology. Now information technology has become the social basis of economic development of all countries in the world. All employees of companies should have the ability to flexibly use IT. To this end, Japan has established the national qualification examination for information processing technicians. The "information processing technician examination" is divided into four levels, of which the "IT Passport" test is to examine the basic knowledge of IT Japanese, to examine the understanding degree of the common language in Japanese enterprises and IT-related businesses, which can prove the ability of business completion. The content of the examination can be divided into three major aspects: IT technology, IT management and business strategy.

In view of the needs of Japanese enterprises and IT-related enterprises for the basic abilities related to information

technology that employees should master, the author believes that for Japanese majors, besides better mastery of Japanese language knowledge and basic computer technology, they should also master the business processes, business contents and project management of IT industry that are all knowledge points the "information processing technicians examination" inspects.

*B. The Construction and Implementation of "IT Japanese" Course Matching Service Outsourcing Industry with the Employment Oriented*

As an IT university focusing on the cultivation of internationalized, practical and personalized applied computer talents, Dalian Neusoft Information University has been committed to the exploration and practice of applied talents cultivation mode, and has achieved favorable results. Since 2007, our department has offered series of "IT Japanese". We have also been exploring and reforming the teaching content of "IT Japanese".

The "IT Japanese" course that is designed for junior of Japanese majors totals 96 hours, which is carried out in two semesters by using the original Japanese teaching material. "IT Japanese (I)" totaling 64 hours mainly learns IT-related theoretical knowledge, including basic knowledge of information technology such as basic theory of computer science, software and hardware knowledge, network and security knowledge, multimedia and database, project development and management, enterprise management and strategy and the corresponding IT Japanese knowledge. "IT Japanese (I)" enables students to understand the basic professional behavior requirements of IT industry, the basic working methods that the industry should possess, and the legal knowledge such as intellectual property rights, business secrets, unfair competition in IT industry and other aspects. The content covers all aspects of skills and knowledge that junior developers must master.

"IT Japanese (II)", totaling 32 hours and on the basis of the previous learned knowledge, further practices the use of IT Japanese to cultivate students' ability to communicate in the work in the simulation of IT work situations, and further improve their Japanese business management and documentation abilities. Through the project drill, "IT Japanese (II)" lets students understand the IT industry workflow and common methods of communication, strengthens students' ability to communicate with Japanese in IT enterprises and carry out business. Under the premise of mastering IT Japanese vocabulary and workflow, students can carry out daily business conversations, business conversations, meetings, business negotiations and other business activities under the IT background. At the same time, students can have a certain understanding of the professional norms and ethics of Japanese IT industry, and can apply them to practice.

*C. Practice of Student-Centered, Task-driven and Project-oriented Mixed Teaching Methods*

Different teaching methods should be adopted according to different teaching contents and course training goals.

"IT Japanese (I)" focuses on the relevant content of information technology theory, and it is extremely important that how to teach abstract and obscure theoretical knowledge vivid, interesting and easy to understand and students can learn something from study. In terms of teaching methods, "IT Japanese (I)" adopts a mixed teaching mode that is characterized by "student-centered, task-driven and project-oriented". In the process of teaching, "IT Japanese (I)" pays attention to the organic integration of industrial dynamics, actual cases and teaching content, the interaction and two-way communication between teachers and students in the process of learning, and take pains to create a Japanese learning atmosphere that students to understand and perceive the real situation of information technology at the same time.

In the process of teaching, teachers use such resources as the Mooc learning platform, the question bank, the case base and the project database to assist teaching, which provides rich learning resources for students. At the same time, teachers should pay attention to the organic combination of pre-class, in-class and after-class. For example, in view of the weak science foundation of students specialized in Japanese and the binary computing and other contents that are difficult to understand, teachers make micro-lesson videos and exercises to upload to the Mooc learning platform. Students complete online learning tasks by self-study before class, and then teachers carry out analysis to understand the students' weaknesses according to their assignments submitted online. At the same time, teachers organize students to discuss and give a key explanation for those problems students not understand in class, so as to solve effectively more problems in a short period of time in class. Consequently, the optimal teaching effect is achieved. As for the content that is not mastered, students can watch micro-lessons repeatedly after class until they understand it; teachers make task cards and students get tasks by drawing lots in groups for the computer software, network, multimedia and other related knowledge that students often contact. Students work in groups of three to complete such project through teamwork, material searching, PPT production, task publication, interactive question answering and other links. In the whole process, students are the center of the whole class, and teachers only play the role of supplement and answering questions. Students complete the learning of relevant knowledge points by means of material searching and task publication and other means.

On the basis of "IT Japanese (I)", the "IT Japanese (II)" focuses on the cultivation of students' communicative ability and comprehensive application ability to use IT Japanese in their work. That is, on the premise of mastering IT Japanese vocabulary and workflow, students can carry out such business activities as daily business conversations, business conversations and conferences and business negotiations under IT background, which strengthens their ability to communicate with Japanese people and carry out business in IT enterprises. At the same time, it can make students correctly apply various kinds of documents in the simulated working environment of IT enterprises, and correctly apply IT Japanese to written and oral expressions. Therefore, in terms of teaching methods, based on CDIO engineering education concept, teachers organize the teaching with project-oriented, and information

technology-related knowledge is introduced into the teaching process driven by information technology and industry applications. Teaching simulates all kinds of real IT work scenarios and put students in this kind of environment, at the same time, teachers can carry out targeted guidance according to the practice of student, and create a learning and practical environment that is close to the actual IT enterprise environment for students. Teachers can mobilize learning enthusiasm of the students, enlighten students to actively think through the practical link, so as to give full play to the practical guidance role of them and complete the role transformation from "teacher" to "mentor". In the teaching process, teachers should take the students as the main body, encourage students to study independently and teamwork and so on. At the same time, teachers should strengthen the training of vocational ability of students and use various kinds of interactive teaching methods such as inspiration guidance, task guidance, problem orientation and collaborative teaching to complete the teaching task.

For example, when learning the business model and workflow of IT enterprises, students simulate and manoeuvre the workflow of enterprises in the form of self-made conversation publication under the guidance of teachers. On the one hand, students' independent learning ability, problem analysis and problem solving ability, practical ability, application ability and communication ability can be boosted through project preparation, demonstration, evaluation and other links, so that students can truly achieve the effect of "learning in doing"; on the other hand, teachers can confirm students' application and mastery degree of the knowledge they have learned by making a speech in class, at the same time, it can exercise and improve students' communicative and teamwork ability. In addition, teachers can carry out teaching with a definite object in view by focusing on different levels

and characteristics of students, combine collective learning with individual guidance, and adopt a "student-centered, project-oriented" teaching method. In the process of teaching, we should also pay attention to the organic integration of industry dynamics and practical cases with teaching content, the interaction and two-way communication between teachers and students in the learning process.

*D. Flexible and Diverse Assessment Methods*

Course assessment is an important link of teaching activities in colleges and universities, which has both feedback function and orientation function [5]. That is to evaluate and examine teachers' teaching effect and students' learning results. Different assessment methods will prompt teachers to make different arrangements and choices for teaching contents and methods, and students will adjust their learning methods according to the assessment methods. Assessment mechanism that is fair, reasonable, and scientific and effective will not only give real and objective feedback and evaluation to the teaching effect, but also mobilize students' enthusiasm and initiative in learning [6].

"IT Japanese (I)" mainly learns IT-related theoretical knowledge. In addition to daily performance and homework tests, it mainly examines students' mastery degree of knowledge points by using online examination system based on the past and simulated exercises of IT Passport. In addition, a three-level project is set up to train and assess the abilities of "comprehensive application of IT Japanese" and "introduction, digestion, absorption and re-innovation". The corresponding assessment methods and the component ratio of scores are shown in "Table I".

TABLE I. "IT JAPANESE (I)" EXAMINATION METHOD AND COMPONENT RATIO OF SCORES

Categories	Assessment Items	Assessment Main Contents	Assessment and Evaluation Methods	Assessment Time Arrangements	Weighting
Formative Assessment	Daily Performance	Classroom Performance		Week 1-16	10%
		Homework		Week 1-16	
	Level Project 5	Word Test	Oral examination is organized by teachers in class	3-16 Weeks	20%
		Question Test of Question Bank	Computer-based test is organized by teachers in class	Week 5/13	
	Level Project 4	UP (1/2) IT Passport Past Exercise Test	Computer-based test is organized by teachers in class	Week 13	10%
Level Project 3	CP(1) Task Publication	Project outcomes are organized by teachers in class. Mutual Evaluation	Week 6-12	20%	
Summary Assessment	Final Exam	All Knowledge Points in Textbooks	Computer-based Test is unitedly organized by school	Week 17	40%

In the process of project assessment, we add evaluation link. Through students' self-evaluation, group mutual evaluation and teachers' comments, we can promote students' self-learning and self-reflection, which can not only arouse the enthusiasm and initiative of students, but also exercise and improve the students' communication and team-work ability.

"IT Japanese (2)" cultivates students' ability of communication and comprehensive application by using IT Japanese in their work. Therefore, in addition to daily performance and homework tests, we test the achievement degree of students' related abilities by setting up 3, 4 and 5 levels of projects, such as "new employees initially involved in IT workplace", "participation in new projects", "conferences at work" and "IT workplace experience". For example, through

the five-level project of "new employees initially involved in IT workplace", it mainly examines the students' response ability in the interview occasion organized by IT enterprises or their ability of the application of IT Japanese and professional behavior ability as new employees when receiving job instructions and filling of an application. "Participation in the new projects" examines students' IT Japanese application ability, professional behavior ability and business document making and editing ability (Q&A production) in working arrangement, problem confirmation and opinion exchanges in IT project. "Conference at work" examines students' IT Japanese application ability, professional behavior ability in work progress conferences and customer talks in the project, and relevant business document making and editing ability such as work progress reports and meeting records and others. The corresponding assessment methods and the component ratio of scores are shown in "Table II".

TABLE II. "IT JAPANESE (II)" EXAMINATION METHOD AND COMPONENT RATIO OF SCORES

Categories	Assessment Items	Assessment Main Contents	Assessment and Evaluation Methods	Assessment Time Arrangements	Weighting
Formative Assessment	Daily Performance	Classroom Performance		Week1-16	10%
		Homework and In-class Tests		Week1-16	15%
	Level 5 Project	UP (1) New Employees Initially Involved in IT Workplace	Oral examination/project outcomes is organized by teachers in class	Week 5	25%
		UP (2) Participation in new projects	Oral examination/project outcomes is organized by teachers in class	Week 9	
		UP(3) Conferences at Work	Oral examination/project outcomes is organized by teachers in class	Week 13	
Level 4 Project	Japanese Basic Knowledge Testing	Closed-book written test is organized by teacher in class	Week 15	20%	
Summary Assessment	Level 3 Project	CP (1) IT Workplace Experience	Oral examination is organized by teachers in class. Self-assessment, Mutual Evaluation	Week 16	30%

## VI. THE PROBLEMS TO BE SOLVED

Through several years of implementation, we have continuously explored and improved the teaching content, teaching methods and assessment methods of "IT Japanese", which has been recognized by experts in the industry, but there are still some problems that are need to be solved urgently. For example, the IT Passport certification examination has not been introduced to China, so we can only carry out the test of our teaching effect through simulation test. In addition, how to teach abstract courses vividly, interestingly and easily understandable, besides the setting of teaching contents, teachers' own experience and level are also very important. Professors need to have a certain working experience on Japanese IT enterprises, understand the relevant workflow, and have a certain technical background. However, it is difficult for Japanese teachers in general colleges and universities to meet the above requirements.

## VII. CONCLUSION

With the development of Sino-Japanese economic and trade relations, society's demand for applied business Japanese

talents is continuously increasing. This paper conducts an analysis for the current situation of China's outsourcing business to Japan, the setting current situation of computer Japanese courses in domestic colleges and universities and the necessity of implementing the mixed education mode. Taking the computer Japanese series courses of the Japanese Department of Dalian Neusoft University of Information as an example, this paper carries on the exploration and practice about the construction and implementation of IT Japanese series courses under the mixed education mode, the teaching contents and methods, and the examination mode. It is hoped that this will increase the employment weight of university students specialized in Japanese, explore a new way for the cultivation, perfection and development of compound Japanese talents, contribute to the diversification of Japanese courses in colleges and universities, and provide reference for the course construction of Japanese majors in similar colleges and universities.

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