

Summary of the “Comprehensive Study on Pre-service Training, Placement and In-service Training of Teachers to Foster Students’ Competencies: Survey Report on Pre-service Training and In-service Training Programs for Proactive, Interactive, and Deep Learning”

1. Purpose and Summary of the Research Study

(1) Purpose of the research study

Integrated reform of pre-service training, placement and in-service training is being promoted in order to develop the professional skills of teachers so that they will be capable of responding to emerging educational challenges, such as the need to foster the competencies of children so as to enable them to survive in the 21st century. Among others, developing the practical teaching skills of teachers so that they will be able to design “a new form of learning” such as improving the lessons from the perspective of “proactive, interactive, and deep learning” is an important issue. Going back and forth between theory and practice is said to be essential in order to develop teaching skills, and there has been an increasing number of pre-service training and in-service training programs established through the collaboration of the boards of education, schools and universities that actually support this cycle. Therefore, in this research, we seek to clarify the characteristics of the pre-service training and in-service training programs, which aim to foster “teachers who continually learn” so as to be able to continuously improve their lessons, and the characteristics of a pre-service training and in-service training system that supports these programs.

(2) Summary of the research study

In this research, we conducted a study through collaboration among teacher education graduate schools and universities and the boards of education and secondary schools on pre-service training and in-service training programs which allow teachers and student teachers (collectively referred to as “teachers”) to be able to learn while going back and forth between learning theories and teaching lessons, and identified the characteristics of the program and system necessary for the training of “teachers who continually learn”. The subjects of the survey were the programs run by the institutions in Table 1. The study consisted of document research on policy documents, a literature review of the learning sciences, document research such as on the training system of prefectures and ordinance-designated cities around the country, a study of pre-service training examples in Japan and abroad such as those of teacher education graduate schools, and a study of examples of teacher training through a collaboration with universities of seven local governments in Japan.

Research period: FY2015- 2016, Research Representative: Akihide Osugi (Director of the Department of Elementary and Secondary Education Research)

Table 1. Survey subjects of the research

Summary	Subject institutions	Subject persons	Collaboration
Overseas teacher education	OISE, University of Toronto	Undergraduates, graduate students, teachers	Universities x schools
Teacher training at a teacher education graduate school	Graduate School of Education, Fukui University	Graduate students (including current graduate students)	Universities/ graduate schools x boards of education / education centers x schools
	Graduate School of Education, Shizuoka University	Graduate students (including current graduate students)	
Teacher training by the boards of education	University of Tokyo CoREF x Saitama and Tottori boards of education	Young and mid-career teachers	
Exchanges between the boards of education	University of Tokyo CoREF x seven local governments	Teachers and educational administration officials	

2. Summary of the research outcomes

(1) Teacher Standards and Training Programs of Prefectures and Ordinance Designated Cities around the Country

We examined the teacher standards (ideal teacher images, etc.) and the training programs of prefectures and ordinance-designated cities by going through various documents including websites, and 70.1% of the organizations were seen to incorporate some form of follow-up training such as second and third year training with regards to the novice teacher training, ensuring that sustained learning opportunities were available. Almost all the institutions had established ideal teacher images, but there were few institutions, which emphasized the role of “teachers designing the learning of learners” or institutions that set target goals through connecting the image of the teacher to the annual training program.

(2) Teacher education research in the learning sciences

We reviewed research on the learning sciences relating to teacher education and established the following two hypotheses after confirming the importance of considering both improving the quality

of the programs and the quality of the entire system encompassing the programs.

1. In teacher education programs, it is important to treat lesson planning as a shared task, and to have the teachers create a hypothesis, and to examine the hypothesis by focusing on the fact of the learner’s learning through the teaching, leading to the teacher creating their own lesson design principles and theories, and deepening their understanding of learning.

2. Even in programs with the same content, from the perspective of guaranteeing the sustainability of learning (whether there is an opportunity to continue learning), multiple levels (whether various levels of support can be obtained) and development (leading to exchanges among the student teachers), it is easier to produce “teachers who continue to learn” if a program is designed and a system is formed.

(3) Examples of pre-service training in Japan and other countries

As an example of teacher education in other countries, we studied the Ontario Institute for Studies in Education of the University of Toronto (OISE) in Canada, which has multiple programs with different characteristics within the same institution. Table 2 summarizes the four programs. As a result of the survey, we came to understand that when the programs of (i) and (ii) were abolished at the time of the master’s degree level of teacher education being established, the MA-CSE program of (iii), which was the most successful was taken as a model and expanded. It is inferred that the biggest success factors of (iii) were that the participants (graduate students) are able to experience the cycle of teaching and evaluating classes on the basis of the theories of the learning sciences at the experimental school, the site for practical training (hypothesis 1), and that this process is supported by a community of constructive learning of researchers and teachers (hypothesis 2).

Table 2 Characteristics of the teacher education program of OISE, University of Toronto

	Period	No. of students and acquired qualification	Characteristics (measures)	Summary of achievements
(i) Consecutive Teacher Education Program	One year after graduation (including long-distance learning)	Approx. 12,000 students (30 – 60 students per unit) BEd, teaching license (kindergarten – G6 / G4 – 10 /G7 -12)	Teaching and reflection (65 days of teaching and reflection; voluntary internship plan)	After an extension of two years → end of recruitment in 2015
(ii) Concurrent Teacher Education Program	Five years including undergraduate studies (concurrent enrollment in another undergraduate program)	Approx. 250 students Concurrent acquisition of a bachelor’s degree, BEd, teaching license	Emphasis on subject knowledge (enhancement of subject knowledge from the first year; emphasis on lessons on the teaching	Persons working in an occupation other than that of a teacher → end of recruitment

		(kindergarten – G6 / G7 – 12)	profession for third to fifth-year students)	
(iii) Master of Arts in <u>Child Studies & Education</u> Program	Two years after graduation	Approx. 45 students Teaching license (kindergarten – G6), MA	Emphasis on the learning sciences (theory (going back and forth between knowledge construction) and teaching (experimental schools))	Highest rate of employment as a teacher (low rate of leaving the teaching profession) / model program after the end of recruitment of (i) and (ii)
(iv) <u>Master of Teaching</u> Program	Two years after graduation	Approx. 130 students Teaching license (kindergarten – G6 / G4 -10 / G7 – 12), MT	Traditional pedagogy research subject	Lowest rate of employment as a teacher (low rate of leaving the teaching profession)

For Japan, we examined two contrasting institutions, the Graduate School of Education of Fukui University which emphasizes field experience, and the Graduate School of Education of Shizuoka University (area of educational methodology development) which emphasizes theory and teaching methods. As shown in Figure 1, Fukui University divides the students into current graduate students and former graduate students, and aims to develop practical theories by having the students experience and describe their challenges and lives at the school where they teach, and have them share and discuss their experiences regularly at conferences from different perspectives. Shizuoka University does not divide the graduate students as shown in Figure 2 and, after the students have studied learning theory and teaching methods (bottom of Figure 2), has first-year students work in teams to design, teach and evaluate a shared lesson, while second-year students individually conduct action research (see Figure 2), and thereby aims to integrate theory and practice (Figure 2 right). As a result, this suggests that graduate students at Fukui University acquire the practices of reflection and collaboration, which are the foundation of the teaching profession, while graduate students at Shizuoka University are able to acquire a fundamental understanding of teaching methods through collaborative lesson planning. As the next task, the former lists opportunities and places for students taking the course to talk about shared lessons such as through collaboration with education in specific subject areas while the latter cites linking classes to theory and transformational changes at each school, although both adopt the direction of “connections through dialogues on theory and practice” (hypothesis 1).

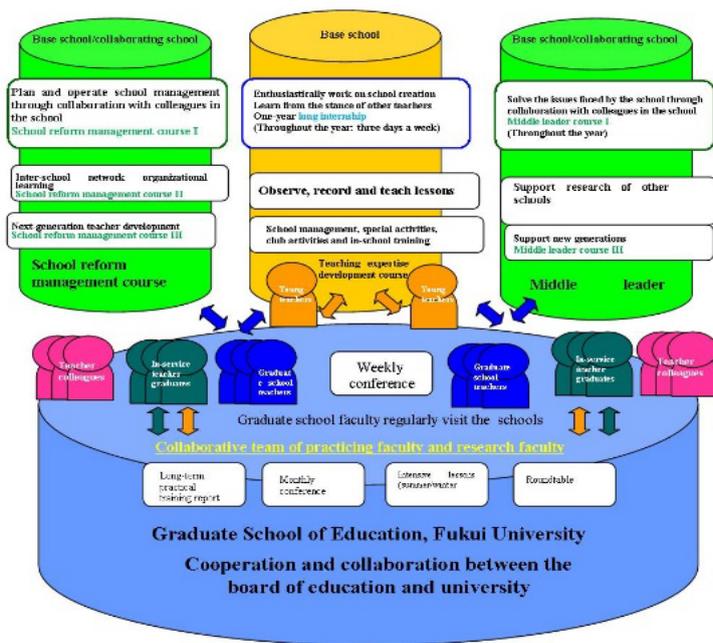


Figure 1. Overview of the program of the Graduate School of Education of Fukui University

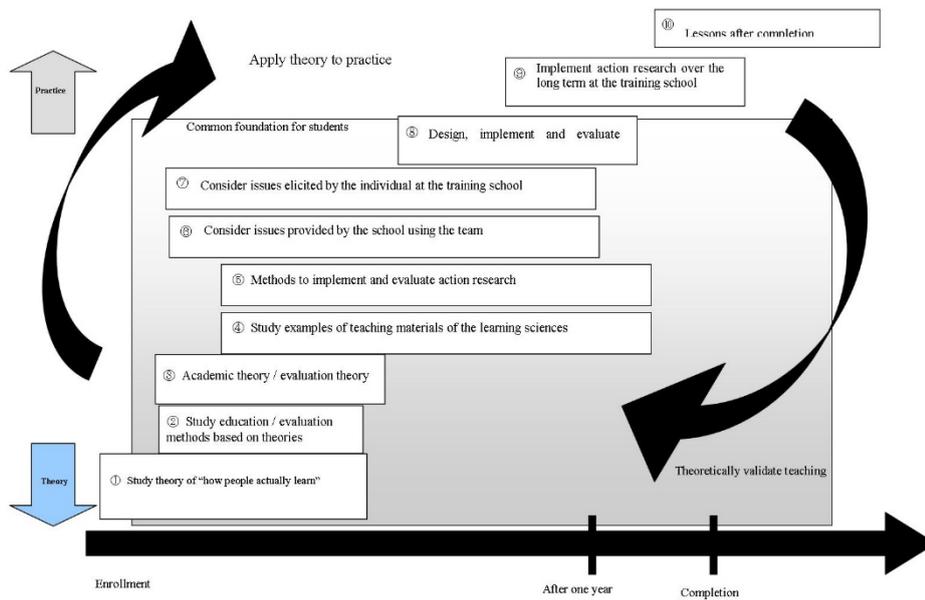


Figure 2. Overview of the program of the Graduate School of Education of Shizuoka University

(4) Examples of teacher training through collaboration between universities and the boards of education

In order to compare and contrast multiple training programs, we examined the teacher training programs developed by Saitama Prefecture and Tottori Prefecture developed in collaboration with the University of Tokyo Consortium for Renovating Education of the Future (CoREF), which have almost the same content. As shown in Table 3, both prefectures conducted training using a lesson type known as the “Knowledge Jigsaw Construction Method”, but the training for high school teachers in Saitama Prefecture had the characteristics of having the participants 1) adopt the practice of continuous lesson improvement by twice using the cycle of designing, teaching and reflecting on the lessons (hypothesis 1), and 2) forming a system for teachers at different stages in their career to continuously deepen their learning by relying on other teachers as a learning resource, and developing and collaborating with multiple training and research collaborative projects to support the aforementioned practice (hypothesis 2).

Table 3. Characteristics of teacher training programs relating to lesson planning in Saitama Prefecture and Tottori Prefecture

	Saitama Prefecture	Tottori Prefecture
Individual teacher’s lesson design		
Provision of a lesson model	Yes (Knowledge jigsaw construction method)	
Design and review	Both design and review (twice)	Design and review (once)
Individual teacher’s theory development		
Theory and experience (main emphasis and sequence)	Theory ⇒ Teaching experience ⇒ Own theory	Theory ⇒ Teaching experience
Objective data and subjective interpretation	Objective data / Subjective interpretation	
Dialogue among teachers and researchers		
Common tasks and individual tasks	The lesson models are common subjects, while the contents of lesson itself are individual tasks set by each teacher	
Whether sustainability is guaranteed	30% of the students continue on to other programs	—
Whether multiple layers are guaranteed	Five layers of meister, teaching supervisor, R & D staff, manager, student	Three layers of meister, mentor, student
Whether development is guaranteed	Improvement of the quality of AL and regular use through the dialogues of the abovementioned five persons	Possibility of regular use of AL led by the mentors

When the local governments of the seven prefectures, including the abovementioned two prefectures, which developed similar efforts endeavored to share and exchange their achievements and issues (through exchange meetings), every institution succeeded not only in improving the quality of their training programs, but in addition, a plan for system improvement was created that aimed for

collaboration with other training programs and also to promote networking among participants or diverse stakeholders. Figure 3 shows the relationship between training and projects in Tottori Prefecture before the exchange meeting, and Figure 4 shows the relevance in the year following the year when the ideas were conceived at the exchange meeting. All of these proposals for improvement have the aim of guaranteeing the sustainability and multi-level aspects of the learning of the students, such as those falling under hypothesis 2, and the specific measures showed diversity based on the situation and needs of each prefecture and their past progress suggesting that such diversity can lead to further learning by the institutions.

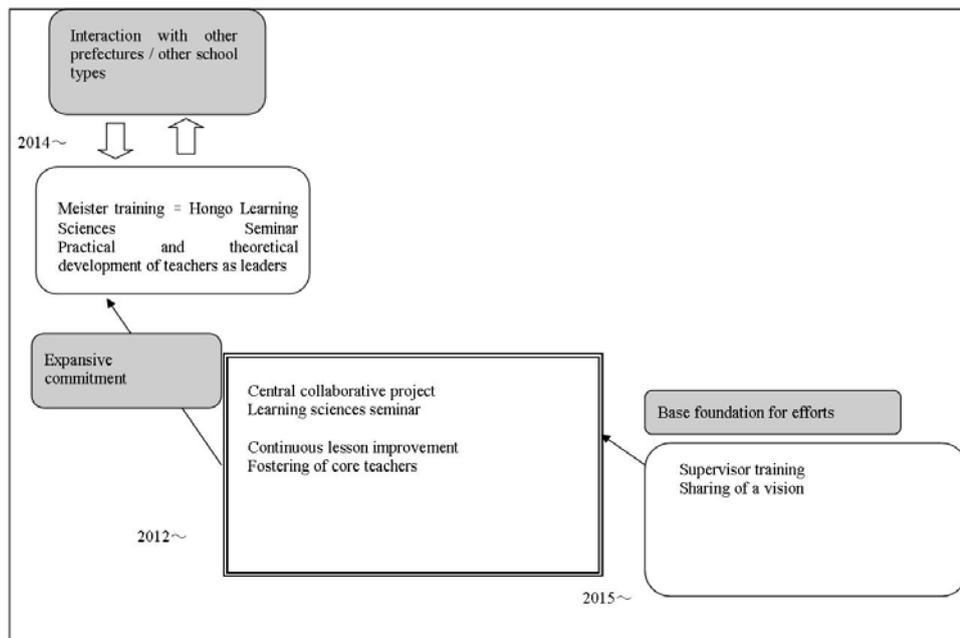


Figure 3 Tottori prefecture's FY2015 training system

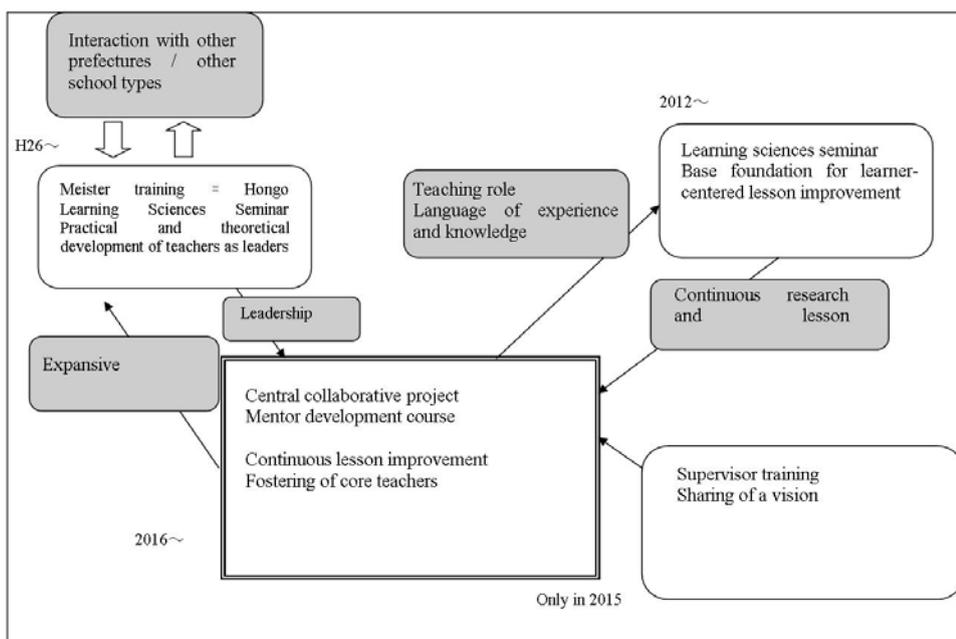


Figure 4 FY2016 training system

(5) Summary of the results

The results suggest that it is necessary to have pre-service training and in-service training programs where the teachers themselves are able to engage in “proactive, interactive, and deep learning” so that the teachers will be able to equip themselves with the competence to design a lesson that realizes the “proactive, interactive, and deep learning” of the children, and to have a support system such as a collaboration and training system comprising the teacher training graduate schools, the schools where the student teachers are to teach, and the local governments in which these programs are embedded, and this further suggests that education administration officials, researchers, managerial staff, etc. also need to engage in “proactive, interactive, and deep learning”; and therefore, we acquired results that support our two hypotheses

