

Best Practices and Achievement Factors in the Recruitment
System of the National Institute of Technology, Japan

Office of the Teacher Civil Service and Educational Personnel Commission

Ministry of Education

Abstract

Thai institutes operating specific education system have faced the problem of teaching and learning quality due to their teachers' specification and recruiting system. Thus, Office of the Teacher Civil Service and Educational Personnel Commission (hereafter OTEPC), acting the central organization responsible for the personnel management of the government teachers, realized the need to revise the rules and regulations regarding the teachers' recruiting system in these institutes. OECD Reviews of Tertiary Education showed that the National Institute of Technology, Japan (hereafter NIT), has operated best practices in its personnel management system, especially in recruiting system. So, OTEPC aimed to conduct the knowledge-capture in order to illustrate the best practices in NIT's recruiting system and diagnose the achievement factors influencing its recruiting system. Data on recruiting system were collected from previous research papers, articles, reviews, reports and related institution publications. Then, the interview items were set and investigated by three experts in order to apply to the in-depth interview and focus group discussion procedure. In-depth interview and focus group discussion were conducted to gather the data. Fifteen key informants from two NIT colleges: Kumamoto and Ube; and its head quarter: Tokyo, were selected to be involved. All collected data were synthesized using data analysis method. The findings revealed that NIT's excellent recruiting system included 4 components: principles and important concepts; recruiting process; channel of recruitment and public relations; and recruiting method. Besides, each college or campus of NIT has been able to independently conduct its recruitment process, set the selection criteria, and make the decision to select their own lecturers. NIT's lecturers' specification was set up consisting of 5 core criteria: educational level and background; reputation, interests, attitude, vision, and belief; skills and experiences; academic and research publication; and other qualification requiring by each college. Besides, there were other systems that influence its success, namely, the recruitment for promotion system; the value system; and the incentive system for retention. The findings also revealed NIT's both external and internal factors influencing the achievement of its recruiting system. External factors included 1) educational system 2) networks among all related campuses, companies, and manufacturing 3) organization rules and regulations and 4) organization explicit roles and structures. Internal factors involved 1) self- belief in their organization, system, themselves, and learners 2) value 3) discipline 4) devotion 5) willingness 6) loyalty and 7) good relationship. In addition, the experimental pilot project should be held in order to examine its teaching and learning quality outcomes.

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Unit 1

Introduction

Background and Significance of the Research Problems

The significance of the research on the best practices and achievement factors of NIT's personnel management presents in two parts.

Part 1 Significance of the research consists of 1) source 2) significant problems 3) reputation, education system, and teacher recruitment system of NIT.

Part 2 Crucial details of the report consist of 1) research objectives 2) research questions 3) scope of the research 4) definition 5) benefits 6) research results into practice 7) limitations of research and 8) research framework

Part 1 Significance of the research

Significance of the research explained 1) source 2) significant problems 3) reputation, education system, and teacher recruitment system of NIT as follows.

1. Source

National Education Plan 2017-2036 (Office of the Education Council, 2017) stipulated education development strategy relating to the six major strategies of the 20-year national strategy. It has been aimed to produce and develop manpower. It has been to create a competitive edge by promoting and supporting the institutes with specific teaching and learning system. These institutes have produced highly specialized graduates in the field corresponding to the needs of the country development as shown in the following Strategy 2.

Strategy 2 aims to produce and develop a manpower that meets the needs of the job market and the economic and social development of the country, promotes the utilization of research and innovation for added value and productivity. It also increases the productivity of the country's labor force by defining the direction, production and development goals. Manpower is evident in various disciplines: national qualification framework and career / professional standards; the teaching and learning skilled workforce; the training and practical internships in a real-world situation; skill development for high level of target industry in the country;

promote learning at the knowledge integration; science, technology, engineering (STEM Education); improve your English skills and develop qualified teachers to build a manpower to respond to the needs of the job market and the country's economic and social development, the support of global dynamics and competitiveness in the 21st century aligning with the national strategies of Thailand 4.0.

National Education Plan 2017-2036
(Office of the Education Council, 2017)

The aim of this important strategy was to enhance the improvement the quality of education and learners in Thai educational agencies to the international standards. As a result, it has influenced the integration of modern education system of foreign countries into the education system of Thailand. Thus, the main Thai educational institutes in the Office of Basic Education Commission (hereafter OBEC), the Office of the Vocational Education Commission (hereafter OVEC), and the Office of Higher Education Commission (hereafter OHEC) have adapted and adopted the new systems from overseas. The establishing of new educational institutions providing specific education system in the form of bilateral system has occurred throughout Thailand (Office of the Vocational Education Commission, 2016).

However, the institutes that adopted foreign education system into their affiliation had to change and develop their own system to conform to the new education system. This consistent change has to be done in order to effectively promote the education system. Therefore, the systems relating to this change has to be developed. The teacher's personal management system is one of them. It consists of production, recruitment, development, motivation, salary shift, remuneration, welfare or special allowances and retention and post-retirement care. The crucial aims of the system development are its consistency, appropriateness, fairness, and universality. Its results were expected to build the teachers' morale and to promote their performance efficiency.

Thai OVEC has signed a Memorandum of Understanding (MOU) with NIT to establish a new education system in its institutes. However, it was found that the formulation of policies and regulations in those institutes has not compatible with the changes and needs of NIT's education system. The report of the information exchange meeting on research and human resources management (OTEPC, 2017) with the representatives of NIT revealed the differences in educational contexts in Thailand and Japan. This makes it difficult for NIT to apply its recruitment and selection system to Thailand.

It is clear that Japan has no central agency to determine the qualifications or characteristics of those who will teach in the institutes. NIT institutes have the right to independently define the qualifications or characteristics of the person who will teach in their institutes. Consequently, this enhances the flexibility of its recruitment and selection system.

The qualification and specification in Thai educational institutes are determined by TEPC in two main criteria: the applicant must have a minimum of bachelor's degree and hold a teaching license. It also provides opportunities for the institutes to designate other appropriate specific qualification to meet the needs of the institutes.

However, TEPC may consider the revision and development of the specific criteria for recruiting which compatible with the needs of NIT's education system. This will promote the educational implementation in such system in a great way to reach the most effective goal and international standard. The key factor is to recruit a person who meets the needs of the organization. This will be a valuable and important asset to drive the organization to achieve its goals and objectives.

The firstly and very important mission for the success of any operation is the human resources management of the organization through the recruitment, selection, and placement process (Mathis & Jackson, 2000). Ineffective recruiting resulted in a poor quality of organization personnel. Eventually, this will cause the failure of an organization (Heneman & Heneman, 1994). Since each job is different, the tasks in each job are also different. Since each person has different attributes, the knowledge, ability, skills, and personality are also different. Thus, it is very important to select a person compatible with each workload. Each one is suitable for unequal jobs, so recruiting and staffing people that fit the job is the best solution for the organization to help motivate and create personnel's

morale and job satisfaction. In this way, the staff can perform their tasks efficiently and commit to their organization (Samitikrai, C., 2013).

OTEPC, the central organization responsible for the personnel management of the government teachers, realized the need to develop teacher recruiting system by defining and revising rules and regulations regarding the qualifications or attributes of teachers in the institutes providing a new educational system. This is to recruit qualified teachers with appropriate attributes consistent with the changes and needs of the new education system.

The renewed recruitment system must be modern, up to date, internationalized, and fair. It required two parts of the activity. The first part is a study to gather, synthesize, and summarize the body of knowledge or best practices on the qualification or specifications of the teachers. It will lead to a policy recommendation for administrators to set policy for developing teacher recruitment system. The second part is the implementation and revision to develop the regulations and recruitment criteria in accordant with the results of the study.

For the purpose of the research study, TEPC must collect, analyze, and synthesize the body of knowledge or best practices concerning the necessary and appropriate qualification or attributes for the teaching functions in the institutes that provide new teaching and learning system. Through this research process, the synthesized data will be summarized as the recommendation to the administrators for determining and developing teachers recruiting system policy. The results of the research studies will be used for the revision and development of regulations and criteria for recruiting teachers in institutes that provide new teaching and learning system.

For the purpose of criteria implementation and revision, TEPC must apply the research results into the development of regulations and criteria for recruiting teachers with the following procedures.

- 1) The findings on the policy recommendations will be presented to top executives who responsible for the consideration of the action in the relevant tasks. The action may be considered by the top executives for the setting, improving, or revising the policies on teacher personnel management and recruitment systems development. The revision must respond to the needs of the institutes that provide new teaching and learning system.

2) The results on the body of knowledge or best practices will be brought into consideration for the revision and development of teachers recruiting regulations and criteria. Through the participatory process, it promotes cooperation among relevant educational agencies, namely, OBEC; OVEC; and OHEC. These educational agencies are important variables in the teachers' production, recruitment, and preparation. This process helps maintain both appropriate and qualified people and teaching and learning standard of the institutes that provide new teaching and learning system.

The developed policy in order to match the needs and suitability for the new education system in the institutes will create a new culture for Thailand's teacher recruitment system. It is able to motivate quality personnel to fall into the system. Most of the top talented new generation cannot adapt to Thai culture. They like to find an organization with precise and rapid management policy that gives them the opportunity to think and express their opinions. The organization cannot find or hire the perfect person it desires if the organization cannot attract good and qualified people to join the organization or cannot evaluate who appropriate to the organization (Samitikrai, C., 2013).

Then, the results of the implementation, revision, and development of the recruiting rules and criteria must be used to determine policies related to salary, scholarship, welfare, or other special compensation. This is to create a new culture for the organization. The key achievement factors are payroll, salaries, psychological reward, challenging work, rapid promoting (position, authority, responsibility, and incomes), style of command, support for further study or study abroad, and the values of the organization (Samitikrai, C., 2013; Kulpeng, K., 2012).

In summary, the process mentioned above can attract people with high level of knowledge and ability to enter the system and increase effective motivation and morale of teachers. Besides, this can maintain high quality teachers with a great contribution to the institution in the long run. This leads to the creation and development of the country's quality driving the country development and elevates Thailand to a sustainable and developed country. This complies with the intent of the Teacher Civil Service and Educational Personnel Act of B.E. 2547 and government officials and educational personnel (Teacher Civil Service and Educational Personnel Act, 2004) and 20-year National strategy (2017-2036) (Office of the National Economic and Social Development Board, 2017).

Moreover, the results of the two sections above also respond to the key principles of OTEPC's strategic plan as follows:

1) The vision to enhance OTEPC status as a high-potential organization for personnel management of government teachers and educational personnel to promote the quality of education;

2) The mission to create a human resource management system for teachers and educational personnel in order to standardize and motivate teachers and educational personnel to perform effectively;

3) The goal to develop and standardize the system of human resources management for teachers and educational personnel in order to enhance effective performances and reward and benefits system, as well as to maintain standards and protect the moral system;

4) The OTEPC authority and duties under the Teachers and Educational Personnel Act B.E. 2547: section 19 to provide advice, counseling, policy definition, promotion, development, rules, regulations and other responsibilities for personnel administration for teachers and educational personnel.

2. Significance problems

OTEPC hold a meeting to exchange information on human resources management, research opportunity, and other related topics with representatives of NIT. NIT, with the collaboration of OVEC, currently implemented NIT or KOSEN education system in OVEC institutes that provide new teaching and learning or bilateral education in Thailand. Meeting report stated that OVEC bilateral institutes found the problems in the quality of teachers teaching in its institutions. Most teachers were unqualified. Their knowledge, ability, or experiences in education were not appropriate to its teaching and learning system. This resulted from the inappropriate recruiting rules and regulations and specification within the recruiting process.

The problems identified in the report were consistent with the information obtained from OVEC staff interviews (Officer Interviews, 2018) stating that selected teachers have faced the problems as follows:

- 1) Teachers feel that they lack quality and appropriate qualifications for the teaching and learning system. Due to the expectation of the management and parents, the teaching and learning must be of high quality and able to create high quality students;
- 2) Teacher has lots of workloads. They teach good students so they need to dedicate themselves to develop their teaching skills. But they do not have enough time to develop themselves since they are required to take care of their students 24 hours a day;
- 3) Teachers lack the motivation to develop their knowledge, their ability, and morale of the duty resulted in the decreasing of their performance capacity;
- 4) Teacher resigned or transferred to their hometown which prompted to a shortage of teachers and the recruiting rate does not meet the demand;
- 5) The teacher has no progress in their work. They spent their free times on reading more than teaching in order to pass the exam to transfer to other institutes; and
- 6) Teachers encounter problems in communicating with foreign languages.

To solve these problems, OVEC staff suggested that the relevant educational agencies should renew and develop specific teachers' personnel management rules and procedures in bilateral institutes which are different from the one in normal institutes. The new teachers' personnel management such in the recruiting system, namely, teachers' specification, qualifications, and recruitment methods must be agreeable with this specific teaching and learning system. Development of new teachers' personnel management must be defined along with the career path planning. The system of payment of salaries, bonuses, salaries or other special funds must relate to the development system. Thus, this will motivate quality teachers to remain in the institutes providing new education system.

Barber, M., & Mourshed, M. (2007) argued that education systems cannot be of quality beyond the quality of teachers. Therefore, recruiting the right people and develop them to be an efficient and qualified teacher is the most important to the top schools. Teacher quality is one of the main factors that affect the students' achievement and learning. Reports of TDRI research in 2016 (TDRI, 2016) and Thai Publica in 2014 (Thai Publica, 2014) stated that compensation factor was not a problem in attracting good people to become teachers for the salary of the teachers in Thailand has been gradually increased. However, the two reports also confirmed that the standardized teacher selection system was important to effective teaching and learning.

Sustainable quality education reform requires continuous selection of good teachers. Teacher quality is one of the factors that affect students' learning. A good teacher helps students learn faster than when they learned from bad teachers.

(TDRI, 2559)

3. Reputation, education system, and teacher recruitment system of NIT (KOSEN)

Professor Dr. Isao Taniguchi speech including the results of online documents and publications revealed data on NIT in three main areas: 1) NIT's reputation; 2) NIT's educational system; and 3) NIT's lecturers' recruiting system as follow.

3.1 NIT's reputation

National Institute of Technology (NIT) is one of the most important and famous institutes of Japan according to the report of the Organization for Economic Co-operation and Development (OECD). It also revealed the best practice of its educational system in human resource management, especially the standards and qualifications of those who will be teaching both in its institute in Japan and in a bilateral institute outside Japan supported by NIT (Newby, H., Weko, T., Breneman, D., Johanneson, T., & Maassen, P., 2009).

NIT explicit success

- 1) NIT has been sponsored and cooperated with leading Japanese industry companies to train the NIT learners;
- 2) NIT graduates have been offered a position by the company. One graduate has been offered positions from more than 20 top companies;
- 3) NIT graduates have worked in leading Japanese companies;
- 4) NIT graduates were able to pass the examination for further study in the top-class universities in Japan;

The identity of NIT

- 1) NIT is a higher education institute;
- 2) NIT regular course is a five-year course for students aged 15 and advanced course where higher education in engineering is conducted for two years.
- 3) NIT focuses on students' science experiments, practice training involvement, and skill and performance training in industries. In addition, NIT graduates from

KOSEN are also helping to improve their social health and well-being, they think of others and society before thinking about themselves.

4) All NIT campuses provide dormitories both inside and outside the campus.

NIT personnel context

- 1) Total 51 campuses located throughout Japan
- 2) About 50,000 students are studying in the institutes: 500 foreign students including 13 Thai students
- 3) Approximately 4,000 teachers from both domestic and international faculties and 90 percent completed Ph.D.

NIT professors' qualification

- 1) NIT lecturers have the same skills as university lecturers since 90 percent of the lecturers have obtained doctorate degree.
- 2) NIT lecturers, from both inside and outside the country, teach in a vigorous and powerful *manner*
- 3) NIT teachers participate in research activities as same as university researchers

The outstanding features of NIT

- 1) Overall key skills of students
 - 1.1) Teamwork skills include:
 1. Teamwork
 2. Independence/ability to perform actions
 - 1.2) Problem-solving skills
 1. Problem-solving skills/Logical thinking
 2. Ethics/Social responsibility & action
 - 1.3) Communication skills
- 2) Specific skills for engineering students
 - 2.1) Application skills
 - 2.2) Communication skills
 - 2.3) Consensus building
 - 2.4) Skills to gather, utilize, and address information

- 2.5) Discovering challenges
- 2.6) Logical thinking skills
- 3) Attitudes, orientation, and personal qualification
 - 3.1) Independence
 - 3.2) Self-management skills
 - 3.3) Ability to take responsibilities
 - 3.4) Teamwork skills
 - 3.5) Leadership
 - 3.6) Ethics: respect to originality and public morality
 - 3.7) Future-oriented mind and career building skills
- 4) Comprehensive learning experience and creative cogitations
 - 4.1) Creative competencies
 - 4.2) Engineering design skills

Graduates from NIT are widely known as practical engineers and researchers with creative minds. They are very popular among Japanese industry companies for being the key agents driving Japanese industrial development. Thus, this feature supported Japan to be a leading industrialized country in the world.

Therefore, it is very challenging for Thailand to be able to create and develop the country manpower. We should figure out how to nurture our students to become an engineer, a practitioner, and an innovative researcher with the same qualifications as those who have graduated from NIT. They will be able to drive continuous development of Thailand's industrial sector in a sustainable industrial development process and lead Thailand to become a developed country.

3.2 NIT's educational system

NIT or KOSEN is a higher education institute. KOSEN is a Japanese acronym for Koutou Senmon Gakkou (translated into English as the Superior Professional School or High School of Vocational Education). It is translated into English as the National Institute of Technology.

Japan's KOSEN education system is a system that accepts only students with good mathematics and science abilities as well as strong aspirations of becoming engineers and researchers. KOSEN has a very selective and competitive entrance process and

low acceptance rate. Only 1% junior high school graduate students in Japan was offered admission almost every year.

With basic math and science talents, KOSEN students will gain experience in the industry as well as deepening theoretical knowledge from classes. The graduates of KOSEN are qualified engineers, practitioners, and researchers who are the most important people in Japanese industrial development.

KOSEN courses are divided into 2 phases.

- 1) The first one is a 5-year regular course for 15 years old students
- 2) The second one is a 2-year extended advanced course

Both courses provide classroom training focusing on science experiments. In addition to those classrooms experiments and coursework, the practical action and skills training in cooperation with the industrial facilitators in the workplace was also provided. This will allow these engineering students to be creative and skillful under the challenging spirits. Each of which consists of two parts:

Part 1: Knowledge content that focuses on theoretical study in comparative with research work which is equivalent to university level study;

Part 2: Engineering skills that demonstrate the ability to collect and analyze data which is higher than university level study.

3.3 NIT's lecturers' recruiting system

Lecturers' recruitment system is based on the consensus of all parties and also flexible throughout the system. The testing and selecting criteria are differently defined according to each institutes' specific needs. Therefore, it is said that each NIT institute can set its own standards of lecturers' qualifications or characteristics and independently select their lecturers.

Criteria for qualifications of those who teach in NIT institutions are summarized as follows.

1) A doctorate degree in engineering or mathematics or equivalent
(This qualification is very flexible.)

2) A bachelor or master degree with an excellent educational background or high level of work experience and skills in the workplace or company or in university

3) Skilled workers in the workplace or company and university lecturers are also eligible for a part-time teaching vacancy

4) Researchers with academic paper or research paper published in peer-reviewed international journals or made a presentation at international conferences (a very important criterion) or

5) Have specific qualifications in the fields each institute needed

6) Strong Japanese communication skill

In summary, this research has been studied in three main themes as follow.

1. Principles and concepts

Barber, M., & Mourshed, M. (2007) indicated that the quality of educational system cannot exceed the quality of teachers. TDRI (2016) report also stated that the reform of sustainable education quality requires the selection of good teachers continuously. The quality of the teacher is one of the factors that affect the learner's learning; therefore, it is necessary to conduct the research to figure out how to effectively recruit the appropriate and quality teachers. The selection of qualified human resources for the job of teaching is essential.

2. Problems

From the study of documents, report of the keynote speech at the meeting, report of the meeting to exchange information, and the interview of related staff revealed that the bilateral educational institutions adapting new education system in Thailand lack of qualified teachers who meet the needs of education management. This is due to the current inappropriate policy, rules, regulation, and criteria.

3. Framework of Problems Solving

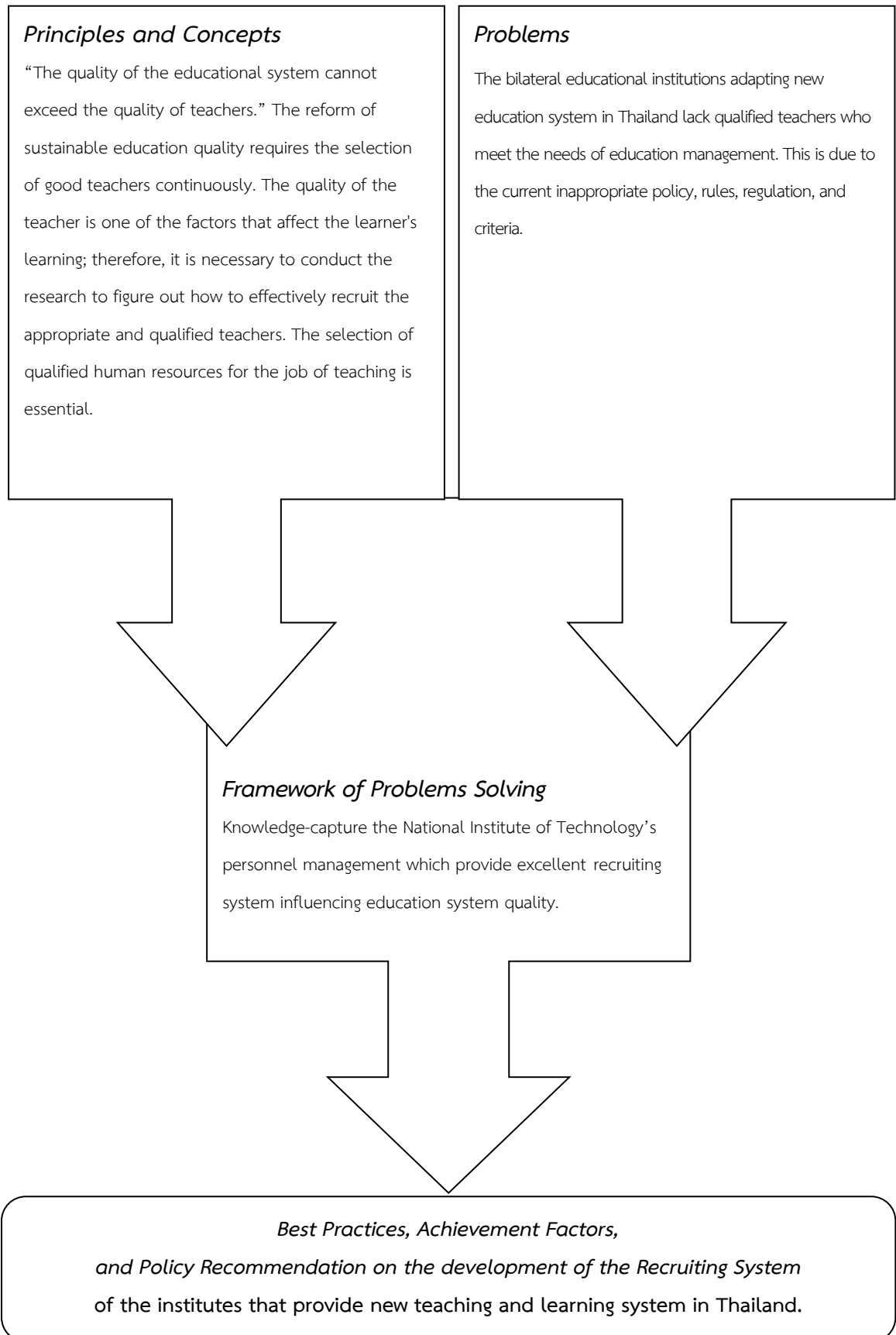
It is in regard to the qualification of those who will serve as the teacher in the institutions with excellent educational management like NIT.

Therefore, the two main objectives of this study are as follows:

1) To study the best practices and achievement factors on NIT's recruiting system

2) To establish the policy recommendation in the development of the recruiting system for Thai institutes that provides new teaching and learning or bilateral education as shown in the following figure.

Figure 1 *Conceptual framework*



Researchers believe that the results of the study were very useful to educational agencies for the setting and developing of policy, rules, regulations, and criteria on appropriate teachers' qualifications and selection regarding the needs of the education system. This was to promote the efficiency of education management and quality development of teachers and learners. Research results would be published for those who were interested to apply to their context.

Part 2 Crucial details of the report

Crucial details of the report consist of 1) research objectives 2) research questions 3) scope of research 4) definition 5) benefits and 6) limitations of research.

Research objectives

1. To illustrate the best practices and achievement factors of NIT's recruitment system
2. To establish the policy recommendation for the development of the recruiting system of Thai institutes that provides new teaching and learning or bilateral education

Research questions

1. What are the best practices and achievement factors of NIT's recruitment system?
2. What are the policy recommendation for the development of the recruiting system of Thai institutes that provides new teaching and learning or bilateral education?

Scope of research

This study was to capture the knowledge of the best practices and achievement factors in NIT's recruitment. It was conducted in the fiscal year 2018 and the scope of research was in the following areas.

1. Scope of resources
 - 1.1 Scope in documentary resources

Researchers have defined the documentary as research papers, laws, texts, dissertations, and other publications from Thailand and other countries relating to the following topics.

- 1) Importance of recruitment system
- 2) Teachers' recruitment system in Thailand
- 3) Teachers' recruitment system and lecturers' tasks in Japan
- 4) General context of Japan
- 5) General context of National Institute of Technology, Japan (NIT)

1.2 Scope in the area of study

The study results from both domestic and international document sources, exchanged information between educational agencies, report summary of top executives of NIT speech confirmed the reputation of NIT educational system and its personnel management system. NIT or KOSEN also operated the best practice of its academic staff recruiting system for NIT. This matches the interests of the research team regarding the best practices in the recruitment system, especially the qualification of teachers in order to improve those systems in Thai institutes. Then, the results of the study are used as the basis for the development of teacher recruitment system in such institutes. Due to this reason, NIT was chosen as the major source of information in this area of the study.

2. Scope of the informants

The key informants in the study were the key personnel in NIT, namely, executives, middle-rank management staff, administration staff, and academic staff as well as the executives in NIT headquarters. In this study, the data were collected from the documentary, in-depth interview, and focus group discussion in 2 NIT major colleges in Japan: Kumamoto College in Kumamoto City and Ube College in Ube Town.

3. Scope of study contents

The research study contents were as follows:

3.1 The best practices in NIT's recruiting system, lecturers' specification, and other systems influencing the achievement of its recruiting system

3.2 The external and internal achievement factors influencing NIT's recruiting system

4. Scope of study period

The duration of the study is the fiscal year 2018.

5. Scope in related dimensions

5.1 Economical dimension

Since 1946, major changes in Japan's economy caused by the force of the country recovering after World War II era. It was a time when Japan entered the economic transition. Japan was able to expand its educational opportunities to the local population, thus making the growth of education more visible.

This was the important turning point of modern education in Japan. The emphasis was on the introduction of high technology from the West to create a wealthy and strong civilization for the country by promoting industrial development and increasing productivity plus investment initiatives. The education is focused on producing a high potential new generation to be able to create and work together with advanced technology. The technology has been developed to support the growth of a modernized industry the country needs.

Japan awareness of reform was focused on its educational management system. The government has turned its attention to educational institutions that conduct new education system: the emphasis on learning theories within the school and the practical learning in the workplace simultaneously. As such, it resulted in the rapid expansion of the Japanese National Institute of Technology (NIT) throughout Japan (Khlanguwan, Y., 2003).

Japan's need for economic recovery after World War II caused the Japanese government to accelerate the development of education responding to the world in the 21st century. Its economic benefits were the most important pace upgrading Japan to become one of the most powerful economic countries (Inganant, P., 1980). It is an important part to cultivate its ability to develop the country in a way that is comparable to civilization countries. Therefore, there must be a study on the impact of the Japanese economy on the new educational management system especially the recruitment process.

5.2 Social and cultural dimension

Japanese society is unique in terms of being a society of unity and a social order. It is influenced by cultures and traditions inherited from the past (Khlanguwan, Y. 2003). In addition, Japanese society is a strong society and most people value success, courage, expression, challenge, and reward for concrete success. So, the Japanese society focuses on the competition, long-term success, and future-oriented (Hofstede, 1981; Hofstede, 1991).

Japanese culture is influenced by a national culture which can be seen from the organization management in Japan: the management style of the father and son (Paternalism). It is a distinctive feature of Japanese organization management that reflects traditional culture and values of "Group reliance and unity" (Tsutsui, 1997).

Not only the education system but the organization system in Japan are also influenced by culture and traditional values and were recognized as a system promoting collaborative learning, unity, and social order (Khlanguwan, Y. 2003), Japan policy focused on its development for prosperous economy after World War II. It was aimed at recruiting satisfied talented people to work in the organization and study or work in educational institutions.

Thus, education policy of Japan society focused on the study for the benefit of the public and the nation not a study for the benefit of an individual. It indoctrinated Japanese people to always consider putting the national needs in the first place - before thinking of their own personal needs (Wray, H. 1999).

It is concluded that Japanese society and culture have a great influence on the lives and beliefs of the people in Japanese society. It was used as a basis for the personal characteristics and working performances of the people in Japan society which also influence the determination of recruiting and selecting process in its management system. Therefore, Japanese' social and cultural dimensions are two important components for the analysis and synthesis of the data and the discussion of research results.

Definition

Institute means the schools or colleges that provides new teaching and learning or bilateral education system

Recruiting system means the principal concepts, recruiting process, channel of recruitment, recruiting method, lecturers' specification, and other systems influencing the achievement of the recruiting system

Achievement factor means the internal and external positive environment influencing the success of NIT's recruiting system

Benefits

The benefits of the study in 3 aspects were as follows.

1. Benefit for the central organization

The benefit for the Office of the Teacher Civil Service and Educational Personnel Commission (OTEPC) divided into two areas as follows.

1. 1 Benefit for research study consisted of 2 parts as follows:

1) The knowledge of critical contexts and best practices in the teacher recruitment process of NIT which can be used as a database to compare and analyze the possibility of applying, improving, developing, and integrating with Thai teacher recruitment process;

2) The guidelines for synthesizing recommendations regarding policy determination, development, and improvement on teacher recruitment process in the institutes that provide new teaching and learning or specialized education system toward the international standards, fairness, and effective personnel performance motivation.

1.2 Benefit for development was the guidelines for the development of policy, rules, regulations, and criteria on the recruitment process including the recruiting and selecting, specification, and teacher standards. The development must be conducted on the basis of fair, appropriate, and universal standards to serve the needs of the institutes that provide new teaching and learning or specialized education system. This is to motivate high-quality lecturers to enter the system and have the morale to work effectively.

2. Benefit for national education

OTEPC concrete action on the operation mentioned in 1.1 and 1.2 will result in the development of the country's quality. It can drive the national development and sustainably elevate Thailand as a developed country regarding the intent of the 20- year national strategic plan.

3. Other benefits

1) Benefit on academic contribution

OTEPC, educational sectors, government teachers, government administration officers, and interested parties are able to use the results of the study as a referenced database for their production of research articles or other academic works.

2) Benefits on governmental contribution

Government, Ministry of Education, and the superior unit of OBEC, OVEC, and OHEC with responsibility for human resource management are able to implicate the results of the study as a referenced database for human resource management policy and strategies formulation and development.

3) Benefits on society and community

The results of the publication of research articles or other academic works in 1 and human resource management policy and strategies formulation and development in 2, accordingly, will benefit the quality development of schools, government officials, teachers, learners, parents, and communities.

Limitations of research

The research design was a knowledge capturing so the in-depth data collected from the interviews and group discussions with key informants in real research area were needed. To conduct the in-depth data collection as needed, therefore, the oversea field trip was made. Since the research team had to collect data oversea which was Japan, the data collection was necessarily conducted in limited time and sampling areas. The evaluation of KOSEN should be made by graduates of KOSEN. Therefore, to collect information from the companies that accepted the graduates was also recommended for the next time.

However, the research team has cooperated to coordinate the collection of data from NIT. Two qualified sampling areas: Kumamoto College in Kumamoto City and Ube College in Ube town including the headquarters in Tokyo, were chosen as the representatives of the National Institute of Technology of Japan.

Unit 2

Literature Review

Results of the literature review from books, textbooks, laws, circulars, and relevant papers, internet documentation, and previous research and dissertations reported in 2 parts. They were the personnel management focusing on recruiting system and general context of Japan and NIT. Details were in the following items.

1. Importance of recruitment system
2. Teachers' recruitment system in Thailand
3. Teachers' recruitment system and teachers tasks in Japan
4. General context of Japan
5. General contexts of NIT, Japan

The details of each item were summarized as follow.

1. Importance of recruitment system

Scholars in personnel management had given the concept of the importance of the recruitment system as follows.

Barber, M., & Mourshed, M. (2007) indicated that an *education system* cannot exceed the quality of its teachers. Teachers' quality is one of the main factors that affect learners' quality. Therefore, recruiting the right people to become teachers and developing those people to be effective teachers was the most important aspect of the world's best performing *school systems*.

Mathis & Jackson (2010) indicated that the most important mission for any organization's success was the human resources management of the organization through the recruitment, selection, and placement process.

The report of TDRI research (2016) and Thai Publica (2014) argued that compensation was not an important factor for attracting good people to become teachers. These two reports revealed that the salary of Thai teachers' salaries had gradually increased in a good amount. However, they also confirmed that the standard of teacher recruitment system is important to effective teaching and learning.

Orawongsuphathat, C. (2013) confirmed that the key to a successful organization was the person who meets the needs of the organization. This would be a valuable and important asset to drive the organization to achieve its goals and objectives.

Smithikrai, C. (2013) stated that each job is different. Each person had different attributes, knowledge, ability, skills, and personality. These different features were compatible with the different workload which was suitable for inequitable tasks. So, to recruit; select; and deploy qualified person with appropriate tasks, this would produce the best results for an organization. It was the best motivation input for creating morale and job satisfaction of all staff. This could enable them to work effectively and engage organizational commitment. Unqualified personnel recruitment, selection, and placement resulted in unqualified staff and organization failure eventually (Heneman & Heneman, 1994).

2. Teachers' Recruitment System in Thailand

The details of Teachers' Recruitment System in Thailand regarding its related laws, regulations, and criteria; and teacher qualifications were as follows.

2.1 Related Laws, regulations, and criteria

Related Laws, regulations, and criteria regarding Teachers' recruitment system in Thailand defined in Teacher Civil Service and Educational Personnel Act B.E.2047 (2004) and the amended Act (No.2) of B.E. 2551 (2008) were as follows.

1) Section 45 the recruitment of a teacher civil service and educational personnel to be appointed to any position shall be made from a person who passes the examination for that position in order.

2) Section 47 TEP subcommittee in educational service area shall have the duty to conduct the examination for the recruitment and appointment of the teacher civil service and educational personnel.

In the case where any education agency is qualified under the rule and procedure as prescribed by TEPC, TEP subcommittee in educational service area shall entrust such education agency to conduct the examination.

The scope of, methods and procedures for examination, the rule for making decision and listing of successful candidates, the rule for transferring the successful candidates in one list to the other and the cancellation of the list of successful candidates shall be determined by TEPC.

2.2 Teacher Qualifications

Teacher qualifications according to Teachers' recruitment system in Thailand defined in Teacher Civil Service and Educational Personnel Act 2004 (2014) were as follows.

1) Section 30 Subject to the provisions of the law on teacher and educational personnel council in relation to practicing of teacher and educational personnel profession, a person who serves as teacher civil service or educational personnel shall possess the general qualification as follows:

- 1.1) having Thai nationality;
- 1.2) being not less than eighteen years of ages;
- 1.3) being enshrined in the democratic regime of government with the King as head of State under the Constitution of the Kingdom of Thailand;
- 1.4) not holding any political office, or being a member of local assembly or local administrators;
- 1.5) not being incompetent or not having mental infirmity or disease as prescribed by the Rule of TEPC;
- 1.6) not under a suspension order for official duties or the order discharging from official service temporarily under this Act or other laws, or professional license has been suspended or revoked under the rules as prescribed by the laws establishing such profession organization;
- 1.7) not being deficient in good moral as required for practitioner of teacher and educational personnel profession;
- 1.8) not being an administrator or officer of political party;
- 1.9) not being bankrupt;
- 1.10) not having been sentenced by a final judgment to a term of imprisonment, except for an offence committed through negligence or a petty offence;

1.11) not having been expelled, dismissed or removed from State enterprise, public organization or other State agencies or international organization;

1.12) not having been expelled, dismissed or removed on the grounds of breach of discipline under this Act or other laws;

1.13) not having conducted a fraudulent act in the admission for official service or for the performance of duties in State agency

2) A person who serves as teacher civil service or educational personnel shall possess all the specific qualification according to position standards under of the Act on Teachers and Educational Personnel BE 2547, section 42, prior to the date of application. An applicant who is qualified for the positions specified by the TEPC must hold the qualification as follow.

2.1) one must hold the minimum educational background is bachelor's degree in Education or any other course designated by TEPC.

2.2) one must hold a teacher license or evidence used to perform professional teachers prior to an appointment.

3. Teachers' recruitment system and teachers tasks in Japan

Teaching is a popular profession in Japan and the system has an oversupply of qualified candidates. The lowest level of certification in Japan teaching education system is temporary, valid for 15 years, and available to graduates of a junior college teaching program. Whereas the highest, or advanced level, certification is available to teacher candidates who hold master's degrees. The vast majority of Japanese teachers hold at least a bachelor's degree. In Japan, teaching is a respected profession, and teachers have traditionally been paid better than other civil servants. Due to the over concerns about teacher shortages after World War II, a teacher would be paid 30 percent more than other civil servants. 50 years later, this situation still remains the same (NCEE, 2018).

Recruitment system contained almost the same procedures. Teacher candidates must pass a hiring exam overseen by the prefectural board of education. They were also required to pass several tests before being hired such as taking the form of proficiency tests; interviews or essays includes a demonstration lesson, and examine a candidates' pedagogical and subject area knowledge. The top list of the candidates

who passed all exams would be hired first. So teaching is one of the very highly competitive careers (NCEE, 2018).

Japan is unique in how it assigns teachers to schools. They were found working some of the longest hours among OECD member countries, but the time they spent directly teaching students was below average. Japanese teachers spent substantially more time on other tasks such as planning lessons, working with peers, counseling students, and leading extracurricular activities, such as sports and cultural club activities (NCEE, 2018).

Though, teachers were assigned more working hours than teachers in other countries, they did not feel less prepared to perform their tasks. One of the reasons related to the teachers' selection criteria. Teachers candidates needed to pass a competitive examination and acquired a teaching license. In 2009, there was a Teacher License Renewal System which all teachers had to renew their teaching licenses by joining the 30 hours professional development program every 10 years to improve their knowledge and practices (OECD, 2015).

4. General Context of Japan

Details on general context of Japan regarding its economy; social and cultures, and related rules & laws and policy & regulation were as follows.

4.1 Economy

In the 18th century, efforts were made to reform the fiscal economy in Japan. New economic policies are being prepared since the condition of world economy changed. Money became important for the governor of the feudal system in Japan. However, economic changes had brought financial tensions to Japan leading to the failure to adjust the country financial system to the changing economy. Despite the encouragement of greater trade or increased agricultural productivity, but the income was not enough to pay for a living. The cost of living had increased. Disasters such as fire or flood also increased the burden of spending money and reduced the country's income as well. So there were no other solutions except to seek ways to increase government revenue and legislating law to control money spending. Governors viewed that there were two main factors in economic reform: the efforts to revive its financial system and to tackle the poverty of the samurai. This led to economic reform in the 19th century.

In the 19th century, there was a tumult in Japan, also known as riots. The farmer group was forced to pay extra tax for the debt of the loan taken by the feudal elite including the erroneous of local government which caused the increase of grain prices. There had been an attempt to increase country revenue by adjusting the coin value and land tax in order to solve this problem. They brought the rural people who immigrated into the city back to the countryside to increase agricultural labor resources. There was also a debt settlement system reducing interest and canceling a debt. Moreover, the prices of goods or products selling in the market were discounted. Extravagance spending and monopoly of merchants were blamed. But this has affected the credit system so this reform has failed again. However, we had seen some important developments of the reform in the last 50 years. Firstly, it affected the natural change of the Japanese economy which created a new economic network outside the city. Productivity and trading including industrial and financial profession were stimulated. Unlike the concept of feudal society, economic beliefs focused on increasing much profit and productivity. Besides, economic policy and benefits were defined as a major factor in life.

The success of the Japanese education system was influenced by foreigners who came to Japan. American and European teachers brought new ideas and gave the advice in terms of content, system and administration. This led to 20 years long lasting education system with the support of the Ministry of Education designing all textbooks. School supervision was the responsibility of local government. The whole system of education was going to promote the needs of the government. The training focused on practical. The course was based on the western concept on the one hand and on the ethics teaching: confucianism and nationalism, on the other hand.

The 20th century was the beginning of the "economic neutrality" that proved the uniqueness of the unifying power of Japan in a changing education system. This was the education system that became the basis of the development of industrial society. They learned the experience and technology from the western countries on technology integration in the country. It started with the development of agriculture, the increasing of productivity in the same amount of agricultural areas, the development of fishing equipment; silk and cotton weaving industry; heavy industry; and etc. Therefore, the small and larger factories had been established in the country.

It had led to a successful commercial and industrial system for creating greatness for the country just as it was the foundation of the greatness of the West.

The government encouraged the creation of a technical school and sent its students for training in Europe and America. It also invited foreign consultants and engineers to work in new enterprises and to train technicians to take on future tasks.

Industrial production development was a public-private partnership. Activities in the form of construction and operation of various factories were used as a prototype to support the advanced technology and techniques into the country. Japan economy expanded.

In addition, the structure of the Japanese business group was still using the collective management system, even if the company was divided into groups. The main company was the headquarters and there are branches. These company branches had a unique business model that emphasizes the relationship between the closely linked of power chains (Sathume, A., 2012).

Toward the 21st century, for country economy, there was a clear global trend of the internationalization. Japan planned to engage more with the outside world. Accordingly, there came the new trend in education system emphasizing overseas activities (Aspinall, R. 2010).

4.2 Social and cultures

To study the context that influenced the education system in Japan, the study of Japanese society and culture should be considered as another important portion. Many scholars had given description and concepts on this topic beneficial to the analysis or synthesis of Japanese organization or institution success as follow.

Tantirattanasunthorn, B. (2015) described that the basic characteristics of Japanese people and society were unique and distinctive from other countries especially with the social image of disciplinary and unity. It might be summarized as the three basic characteristics of the society of Wa; the thankfulness spirit; and perseverance spirit. It had the characteristics of Asian cultures, such as keeping one's words, dignity, and honor. They solved the problem by negotiating such in the intent to duty; the praise of strength; patience and perseverance; not from cleverness or deceit; fully dedicated to what they do; and do not give up. These were the pride of the family and the ancestry as well as the society and the community. *"...The story of the persevering*

fighters who do not give up is inherited in the society, no matter to which class or age they belong. No matter which sub-functions were performed, they were seen as a valuable asset to social and national organizations.... The knowledge transfers from generation to generation continuously in all types of work. Japanese society does not like the people who often change their jobs or abandon their intention. With implantation and training since childhood, they are able to make their own decision and do not dissolve what they choose to do. It is not a surprise to see Japanese people have exceptional ability, satisfaction, and pride to do what they do. Accordingly, the society around them goes in the same way, that is, they praised and complimented people in that way. "

These basic characteristics enhanced Japan to restore the country from the damage suffered in World War II so quickly. It was not difficult for Japan to be back to its reputation as the second powerful country in economy after the United States. Besides, there had also been a long and continuous economic expansion of 18 years.

Caudill, W. (1970) summarized that Japanese live with a strong sense of the group and communality; of “we” versus “they”; of a willingness to work hard and to persevere toward long-range goals – “...if a person is treated well he works willingly and hard”; and of devotion. “When the individual feels taken care of and secures in a tight vertical structure, he can work successfully and creatively.” Tominaga, K. (1962) also reported the lowest rate of job changing.

Tsutsui (1997) stated that Japanese paternalism, a very distinctive feature of Japanese management, also developed from the cultural heritage and reflected traditional values of “groupism” - feeling of dependency and high regard for harmony”. Besides, a strong sense of “we” versus “they” and emphasis of our group was strong in Japanese society (Caudill, W., 1970).

Even some scholars stated that Japanese lacked of consciousness in relation to publicity. That meant the ability to judge or deal with problems in society. It was generally known that most ethnical scholars view the Japanese as a nation that was more focused on work and society than personal matters. The practice of Japanese people was typical and highly responsible and self-sacrifice for the collective. The concept of management called public policy. This was a policy that focuses on

empathy and respect for those who live in society. The purpose was to solve problems arising from the coexistence of people in society (Sathume, A., 2012).

Japan society was a masculinity society which the preferences for the achievement, heroism, assertiveness, and material rewards for success value. The society at large was more competitive. Japanese value more success and challenge. Besides, Japan society was more long-term oriented and Japanese are more future-oriented (Hofstede, 1981; Hofstede, 1991).

Khlangsuwan, Y. (2003) indicated that Japanese society is unique in terms of being a society of unity and social order which is influenced by culture and tradition inherited from the past. In addition, Japanese society was a strong society and most people value for success, courage, expression, challenge, and material rewards for concrete success. So, Japanese focused on the competition and long-term success in the future (Hofstede, 1981; Hofstede, 1991)

The culture of the Japanese organization was also influenced by national culture as could be seen from the organization management. It was a kind of father and son management – paternalism. It was a unique feature of the management of Japanese organizations that grow from cultural heritage and reflects traditional values. "Group reliance and one united." (Tsutsui, 1997) valued and was aware of the relationship between the boss and his followers in terms of engagement and interdependence. It is the duty and responsibility of each person to society. It was also considered as high standard ethics and a virtue that is inherited from generation to generation (Sathume, A., 2012).

The education system in Japan themselves was influenced by traditional culture, and is recognized as a system of education that emphasizes collaborative unity and social order. Khlangsuwan, Y. (2003) summarized that after World War II, when Japan needed to recondition their economy, they aimed at recruiting and satisfying talented people to work in the organization or study and work in educational institutions. The study consequently focused on education for the benefit of the public and the nation not education for the benefit of an individual. Japanese people always remember that national needs come before personal needs (Wray, H. 1999).

It was concluded that Japanese society and culture had a great influence on the lives and beliefs of the people in its society. This applied as a basis for the people in society in both work and practice, including the recruitment process in personnel management system in an organization or in schools.

4.3 Related Rules & Laws and Policy & Regulation

The summarized highlight on Japanese government's related rules & laws and policy & regulation were as follows

1) Rules & Laws

The fundamental law of education or Basic Act on Education summarizing in 5 topics: purpose; preamble, aims of education, objectives of education aims, and teachers presented on the following timeline.

Timeline

1. Pre-World War II, March 31, 1947

Purpose	According to the law, the purpose of education is “the full development of personality”
Preamble	We, the citizens of Japan, desire to further develop the democratic and cultural state we have built through our untiring efforts, and contribute to the peace of the world and the improvement of the welfare of humanity. To realize these ideals, we shall esteem individual dignity, and endeavor to bring up people who long for truth and justice, honor the public spirit, and are rich in humanity and creativity, while promoting an education which transmits tradition and aims at the creation of a new culture. We hereby enact this Act, in accordance with the spirit of the Constitution of Japan, in order to establish the foundations of education and promote an education that opens the way to our country's future.

Aims of Education

Article 1 Education shall aim for the full development of personality and strive to nurture the citizens, sound in mind and body, who are imbued with the qualities necessary for those who form a peaceful and democratic state and society.

Objectives of Education aim...

1. to foster an attitude to acquire wide-ranging knowledge and culture, and to seek the truth, cultivate a rich sensibility and sense of morality, while developing a healthy body.
2. to develop the abilities of individuals while respecting their value; cultivate their creativity; foster a spirit of autonomy and independence; and foster an attitude to value labor while emphasizing the connections with career and practical life.
3. to foster an attitude to value justice, responsibility, equality between men and women, mutual respect and cooperation, and actively contribute, in the public spirit, to the building and development of society.
4. to foster an attitude to respect life, care for nature, and contribute to the protection of the environment.
5. to foster an attitude to respect our traditions and culture, love the country and region that nurtured them, together with respect for other countries and a desire to contribute to world peace and the development of the international community.

Teachers

1. Teachers of the schools prescribed by law shall endeavor to fulfill their duties, while being deeply conscious of their noble mission and continuously devoting themselves to research and self-cultivation.

2. Considering the importance of the mission and duties of the teachers set forth in the preceding paragraph, the status of teachers shall be respected, their fair and appropriate treatment ensured, and measures shall be taken to improve their education and training.

From Wikipedia: Fundamental law of Education (2018)

http://en.wikipedia.org/wiki/Fundamental_Law_of_Education

2. After World War II, December 22, 2006

Purpose

According to the law, the purpose of education is “the moral provisions as to nurture an attitude [...] to love our country and our home”.

Preamble

We, the Japanese people, wishing to further develop the democratic and cultural state we have built through tireless efforts, also hope to contribute to world peace and to improving the welfare of humanity. To realize these ideals, we will implement education that values the dignity of the individual that endeavors to cultivate a people rich in humanity and creativity who long for truth and justice and who honor the public spirit, that passes on traditions, and that aims to create a new culture. We hereby enact this Act, in accordance with

Preamble (continued)	the spirit of the Constitution of Japan, in order to establish the foundations of education and promote an education that opens the way to our country's future.
Aims of Education	Article 1 Education must be provided with the aim of fully developing the individual character, as we endeavor to cultivate a people that are sound in mind a body and imbued with the qualities that are necessary in the people who make up a peaceful and democratic nation and society.
Objectives of Education	<ol style="list-style-type: none"> <li data-bbox="853 887 1461 1144">1. having students acquire wide-ranging knowledge and culture, fostering the value of seeking the truth, and cultivating a rich sensibility and sense of morality as well as building the health of the body; <li data-bbox="853 1162 1461 1525">2. developing individual abilities, cultivating creativity, and fostering a spirit of autonomy and independence by respecting the value of the individual, as well as emphasizing the relationship between one's career and one's everyday life and fostering the value of respect for hard work,; <li data-bbox="853 1543 1461 1854">3. fostering the values of respect for justice, responsibility, equality between men and women, mutual respect and cooperation, as well as the value of actively participating in building our society and contributing to its development, in the public spirit; <li data-bbox="853 1872 1461 2011">4. fostering the value of respecting life, caring about nature, and desiring to contribute to the preservation of the environment; and

Objectives of Education
(continued)

5. fostering the value of respect for tradition and culture and love of the country and regions that have nurtured us, as well as the value of respect for other countries and the desire to contribute to world peace and the development of the international community.

Teachers

1. Teachers of the schools prescribed by law shall endeavor to fulfill their duties while remaining deeply conscious of the exalted nature of their calling and continuously devoting themselves to research and self-improvement.

2. In consideration of the importance of the calling and the duties of the teachers referred to in the preceding paragraph, the status of teachers must be respected, their fair and appropriate treatment ensured, and measures must be taken to improve their education and training.

From MEXT: Basic Act on Education (2018)

<http://www.mext.go.jp/en/policy/education/lawandplan/title01/detail01/1373798.htm>

2) Policy & Regulation

After World War II, there was a great change in the national policies. In terms of education, its basic national policy changes focused on 3 main circumstances: science and technology; advanced information technology; and internationalization. Hereby, two circumstances: science and technology and internationalization, related to this study were reviewed as follows.

The existing Basic Act on Education was completely revised and established on December 15, 2006. Science and technology policies were developed to maintain international competitiveness in order to be a world leader. The nation needed to foster human resources to secure these activities.

2.1) Science and technology

The science and technology (ST) basic plan was established and aimed to systematically promote career education. This was to encourage and educate children in their views of career and work. In addition, this was also to cultivate their ability to select and decide their career path. The policy was set to promote systematic career education through experience in the workplace. Systematic career education has been promoted for learners applicable to the view of career and work so that they gained the opportunity to experience in the workplace (Ministry of Education, culture, sports, science and technology: MEXT, Japan, 2018).

Thus, Japanese government policy emphasizing on vocational education was promoted with the increasing numbers of vocational colleges which provided practical vocational training. Positive indicator on Japanese learners' performance improvement in science was found in the result of PISA 2012 (OECD, 2015).

Due to ST plan, research approach has taken into account and more research money has been offered to encourage its dynamism (Aspinall, R. 2010).

2.2) Internationalization

All aspects of education policy were reviewed; one area was the call for education to be "internationalized" (Schoppa, L. J., 1991). The policy was designed to nurture Japan and its people to earn the trust from international community. Therefore, the consensus on the improvement and development of international education policy in order that the people could live in international community were resolved. This led to the basic plan for the promotion of students exchange; cooperation in education, sports, and culture; expansion of language education for foreigners; and improvement of overseas education (Aspinall, R., 2010).

International activities such in the increased numbers of international students, overseas students exchange programs, and a share of non-Japanese academic staff, were launched. The Japanese education system was created by learning from abroad: learning from foreign models (Newby, H. et al., 2009).

Thus, MEXT was doing to develop the talents of young children to be leading researchers and engineers. The establishments of colleges of technology, vocational schools have emerged. The professional engineer system has been promoted (Ministry of Education, culture, sports, science and technology: MEXT, Japan, 2018). The new spotlight policy in developing global human resources started in 2014 to train global leaders. Scholarships were launched for Japanese students to study abroad between 2014 and 2020 (OECD, 2015).

5. General context of National Institute of Technology, Japan (NIT)

The 1st KOSEN was established in 1962. There were 51 KOSENs with 55 campuses nationwide in Japan. After World War II, there was a huge higher educational shift in Japan. It shifted from elite to mass and a trend towards more “vocational” degree program had been introduced (Newby, H. et al., 2009). National Institute of Technology (NIT) Japan or KOSEN which offered more of a fit-for-purpose license to engage in professional practice served to this policy aim. OECD Reviews of Tertiary Education also showed best practices in its own individuality and distinctiveness in NIT’s educational system: the mixed or co-curriculum between practice experiences in manufacturing companies and in-depth theories learned in class. Besides, the focus on regular production of research studies could improve the quality of both teachers and students. Accordingly, this opened the opportunities for students’ success in jobs finding. 40% of graduates could take further education or advance course in famous universities and 60% could obtain job offers from well-known industries, manufacturing, maintenance service, IT, and etc. worldwide.

“They are widely admired internationally, not only for the quality of the high-level vocational training they offer, but also for their degree of responsiveness to the needs of Japanese industry, especially the manufacturing sector.” (Newby, H. et al., 2009). To successfully run this new trend of education system, NIT had to meet the challenge of international competition in research. Therefore, NIT had to internationally compete with respect to the recruitment and retention of high-impact researchers. Focusing on NIT’s policy of lecturer recruitment, most of NIT’s lecturers or academic staff must hold Ph.D. degree due to NIT mission and the value of the country. Its mission was to produce research paper and create innovation while the value of the

country is to maintain the quality and standards of education in order to develop industrial workforce. Thus, it was a common belief that one of the best practices led to NIT success was its lecturer's quality which resulted from NIT personnel management, especially its recruitment system.

The most important tasks KOSEN lecturers have are

5.1 Education - Other than classes, they also provided their students the education including guidance on daily life, after-school activities, and others.

5.2 Research - Since KOSEN students needed to work on their graduation research, teachers were required to understand the cutting-edge technologies to do research activities with students. As for researches, they were also evaluated from the organizations outside of the college.

5.3 Community service - Technology was essential for the development of the society and they needed to return their research results to both local and national community. In order to achieve this mission, they accepted consultations from local companies and worked hard on joint researches with them. Moreover, they worked on activities to teach elementary and junior high school students the fun of learning engineering. By doing so, the number of students who wanted to be the engineers would increase in the future.

After all, based on the above reviews regarding the issues in personnel management in Thailand, the study on the importance of recruitment system; and the best practice in NIT personnel management; and the study on NIT personnel management focusing lecturers' specification, were conducted.

OTEPC, a secretariat office, responsible for the establishing of rules; regulations; criteria; and methods regarding the system of teacher personnel administration, raised a collaborative project with NIT. The project contained a series of studies in order to develop a personnel management system for Thai teachers in special educational institutions in Thailand. This knowledge-capture report on lecturers' specification of NIT was its initial study. It aimed to illustrate the study on knowledge-capture on lecturers' specification of NIT and diagnose its achievement factors in personnel management.

Unit 3

Methodology

A knowledge-capturing of the best practices and achievement factors in NIT's recruiting system performed in the form of qualitative data collection: a documentary study, in-depth interview, and focus group discussion. Details were as follow.

1. Research methods

This research divided into 2 sessions: the documentary study, and the in-depth interview and focus group discussion. Details of each session were as follows.

Session 1: the document study

Data were collected from previous studies, articles, report, reviews and related institution publications both in paper and online on the following items.

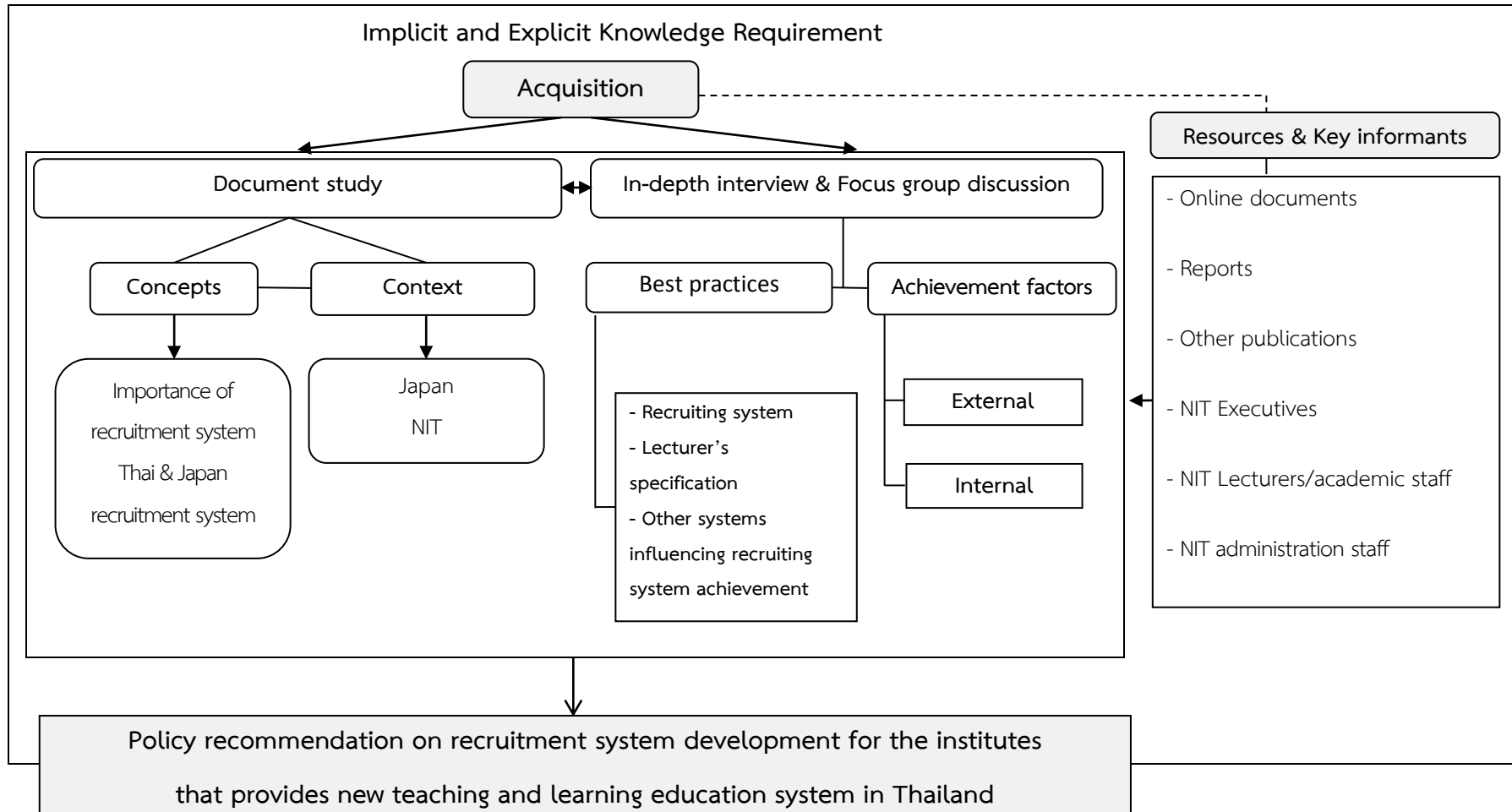
- 1) Importance of recruitment system
- 2) Teachers' recruitment system in Thailand
- 3) Teachers' recruitment system and teachers tasks in Japan
- 4) General context of Japan
- 5) General contexts of NIT

In addition, three meetings between OTEPC and NIT were set for the discussion regarding the overview of personnel management. The reports of the three meetings were reviewed and all data were analyzed. The analyzed data was used to design interview items for the next session.

Session 2: the in-depth interview and focus group discussion

Data were collected via in-depth interview and focus group discussion. Purposive sampling with the snowball method was used to select the key informants. Fifteen NIT key informants: executives; academic staff; and administration staff from Kumamoto College and Ube College including one executive at NIT headquarters in Tokyo were involved. Focus group discussion, interview, and campus context were observed and noted. All collected data were analyzed and synthesized into 2 parts: NIT's best practices in recruiting system; and achievement factors influencing recruiting system using content analysis method. Based on these data, policy recommendations were summarized. (See Figure 3)

Figure 2 Research framework



2. Research area sampling

The key areas for data collection were selected by NIT experts using the purposive sampling method through a snowball sampling technique were as follow.

- 1) NIT headquarters in Tokyo.
- 2) Kumamoto College in Kumamoto which was considered as one of NIT's largest colleges among the 51 campuses nationwide.
- 3) Ube College in Ube City which was considered as one of NIT important small-sized college.

3. Research participants

Research participants were 15 key informants from Kumamoto College, Ube College, and NIT headquarters. The executives, academic staff, and administration staff were selected through snowball technique by NIT experts. The selection criteria were as follow.

- 1) Academic professors in NIT major colleges
- 2) Present or former executives
- 3) Instructors or researchers
- 4) Administration officers at both executive and operational levels whose work were in charge of teachers' personnel management
- 5) Person from both Thailand and Japan whom the research consultants or experts in items 1 - 4 considered as reliable informants.

4. Research tools

Research tools consisted of two forms of interview and discussion and researchers' observations items as follow.

A semi-structured interview and discussion item, investigating by three OTEPC and NIT experts, was designed regarding NIT's structure and context and the best practices of its recruitment system and lecturers' specification. The example items were as follows:

- 1) Principal concepts: vision; identity; policies etc.
- 2) Recruiting process: recruiting structure, recruiting manners
- 3) Channel of recruitment

4) Recruiting method: selecting specifications; duties; criteria; staff profile such as academic background and experiences; other responsibilities and tasks; activities as NIT staff

5) Other influencing systems: promotion, value, retention, problems, and academic and/or administration-related problem solving

6) Internal and external factors: Reasons to work with NIT; Job satisfactory as NIT staff; impression toward NIT; impression toward higher rank officers, colleagues, and students

7) Others

A researchers' observations form consisted of the following items:

- 1) Best practices of NIT's recruiting system
- 2) Achievement factors of NIT's recruiting system
- 3) Reaction
- 4) Others

5. Data collection

Data collection performed in three parts: an in-depth interview; a focus group discussion; and an observation. Fifteen key informants were selected by experts through a snow ball sampling technique. They were NIT executives, academic staff, and administration staff in Kumamoto College and Ube College, and NIT headquarters. In-depth interview and focus group discussion were conducted from February 25 until March 2, 2018. Semi-structured interview form was used to collect data from an in-depth interview and focus group discussion. Observation form was used to record the results of researchers' observing data.

6. Data analysis

The analysis of data collected from the in-depth interviews, focus group discussion, and observation were conducted using the content analysis method. The results of the analysis were investigated by 3 qualified experts. Qualified experts must be the members of NIT. They can be the executive, lecturer, or staff who involved in teaching, management, research, human resource management or the administration of the lecturer.

Unit 4

Results

The results of this study revealed NIT's best practices including NIT's recruiting system, NIT's lecturers' specification, and other systems influencing the achievement of the recruiting system. Besides, the findings on both internal and external achievement factors of NIT's recruitment system were also revealed as follows.

National Institute of Technology's (NIT) Best Practices

The best practices in personnel management system of NIT was its recruitment system and the unique lecturers' specification. The effectiveness of the recruitment system reflects on the success of all alumni and reputation of the institute. Qualified lecturers willingly shared the mission in performing quality tasks to produce creative and globally – minded engineers with practical skills. They nurtured students in spiritual richness, fine sensitivity, and a high sense of responsibility and discipline. They cultivated students who had an extensive knowledge of specialized subjects in order to solve the problems in appropriate ways. And they develop human beings who had overall abilities to create something new. Details of the system were as follow.

NIT's recruitment system

Recruitment system was the best practice in NIT's personnel management. NIT education system was very unique with the identity of its own. That was the design of education management emphasizing the balance between theory instruction in classroom and practice in the workplace. In addition, the system also focused on research methodology to promote students' practical problem solving and creative skill. For these reasons, NIT had to seek a unique person to serve this unique education system through its unique recruitment process. Thus, its colleges or campuses freely set their own recruiting criteria and perform their own selecting and decision making process.

The recruitment process was under the supervision of the human resources management department in each college. The personal committee was appointed to perform the main duty in the recruitment process - the selecting and decision making as mentioned below.

“Personnel Committee is the main committee to take charge of lecturers’ recruiting and selecting in the context of human resource management. The committee also has a responsibility on recruiting both academic and administration staff.”

Human Resource Office, Kumamoto College

25 February – 2 March 2018

Personnel committee consisted of the college executives such as Dean, Vice President, and President. The President was the chairman of the board. In the recruiting process, the Dean of each department investigated the applicants’ document and resume. They might seek valuable opinions and information from their former companies or universities to hear about their competitive skills and qualifications for being a lecturer in NIT. The consideration had carried on until the last step. At that point, all parties had discussed and collectively decided the most suitable candidates. The final decision had eventually been made by the president of the college.

The probationary period had been around 3-6 months. Qualified applicants who passed the evaluation had received the formal contract to be NIT lecturers. Within the probationary period, the colleges were allowed to terminate the one who had not done well at their job. However, it had been difficult to terminate selected applicants since they had already passed the intensive selecting process except for serious matters such as crime or harassment.

It was also found that NIT recruitment system consisted of 4 important components.

1. Principles and Important Concepts
2. Recruiting process
3. Channel of recruitment and Public relations
4. Recruiting method

Details of each component were as follow.

1. Principles and Important Concepts

Principles and important concepts of NIT’s recruitment system had appeared in several places and aimed at demonstrating KOSEN identity. This was a

reminder that applicants who had joined NIT had to hold these important qualifications as shown in the statements and conversations with the key informants from Kumamoto College and Ube College below.

Ube College's shared motto

"Take risks, Go deeper, Reach higher!"

Kumamoto College's shared core values

"Be human, be tough and be challenge-seeking"

Kumamoto College's shared mission statement

"To nurture students in spiritual richness, fine sensitivity, and a high sense of responsibility and discipline"

"To cultivate students who have an extensive knowledge of specialized subjects in order to solve problems in appropriate ways"

"To produce creative and globally – minded engineers with practical skills"

"To develop human beings who have overall abilities to create something new."

Ube College's and Kumamoto College's Manual

25 February – 2 March 2018

The data also revealed that independence, transparency, and non-interference manners of NIT recruiting process had been considered as other important principles for NIT reputation.

"With my experience, we don't interfere in recruiting because we don't have any rights to select or choose any person to be recruited as staff. But we have many friends in Japan so we can give information about the recruitment to the college but we don't give comment or testimonial to the personnel staff to recruit my friend because it's not fair."

"... and the personal information is confidential. We can't touch that sensitive information."

"The recruitment process is very clear."

"We just give information; we can't give extra information to

our friend even the staff, even the students.”

“No NIT stakeholders, former staff, or companies are able to interfere or have any influences on each selection procedure. “Personal Committee” only is a committee to select NIT lecturers.”

Academic staff, Ube College and Kumamoto College

25 February – 2 March 2018

2. Recruiting process

The findings of the recruiting unit and the application documents within the NIT’s recruiting process had shown in the details below.

2.1 The recruiting unit

In NIT recruitment system, the personnel section under the General Affairs Division of each NIT College was a recruiting unit responsible for all recruitment procedures.

“Personal committee” was the main committee appointing to select new academic staff in a transparent and independent manner.

2.2 Application documents

The applicants had had to hand in 7 items of paper.

- 1) Application form & Resume
- 2) List of Researches: categorized by articles, books, patents, conference presentation and others
- 3) Reprint or copies of 3 major articles
- 4) Summary of No.3: around 1,000 letters with size A4, free format
- 5) List of the past 10 years research grants
- 6) Achievements record (if they apply from the cooperation enterprises)
- 7) 3 essays about the aspiration on KOSEN’s education, researches, and students guiding (Each topic should be around 500 letters, but the total of 3 topics should be less than 2,000 letters)

3. Channel of recruitment and Public Relations

NIT colleges had both similarities and differences in channel of recruitment. Mostly, it had involved both paper and online jobs posting channel. Paper job posting had been done through colleges' or universities publication, Academic Society's HP, Engineering Associations, and companies. Online job posting had been done through some main websites such as Japan Research Career Information Network (JREC-IN) and NIT Headquarters' HP.

In summary, the public relations channel to recruit NIT lecturer has divided into two major channels as follows.

- 1) The channel of Japanese academic association such as Japanese Academics Society, engineering association, college, university, or company
- 2) Online channel through websites such as the main website of Japan Research Career Information Network: JREC-IN and NIIT Headquarters

"...if we need the newcomer then we recruit and give information to many institutes, colleges, universities, and through related main society - engineering and academic associations including companies and enterprises, for example."

"First we upload the information to the various networks: the JREC-IN (Japan Research Career Information Network); Japan research career information network which is the biggest network for recruitment of the researchers. We also post on KOSEN head quarter webpage and Japan academic associations. Personnel Section – Personal Committee under the General Affairs Division take charges on the selection decision making."

Human Resource Office, Ube and Kumamoto Colleges

25 February – 2 March 2018

After the application process, the applicants had entered the selection process. The selection had been done through the applicant's documents evaluation. The first step, the administration officers had to carefully consider the application documents in order to reduce the number of applicants to the nearest number needed by the institution. The screening of resume, research reports, articles, and other

supporting documents had been made by the human resources officers in personnel section. The qualified person had been invited to the interview, presentation, and trial class. All these processes had taken 1 hour.

For the question about transparency issues in recruiting, the key informants had insisted that there had been no internal and external influence on each procedure relating recruiting performances. They might only support in other processes such as promoting the enrolment to the outsiders that the college has opened for staff. The statements and conversations with the key informants from Kumamoto College and Ube College had shown below.

“The selection of academic staff is the responsibility of the Personnel Committee. Former professors have no right to interfere or suggest their friends, relatives or acquaintances. But we can only promote the open positions and the recruitment information to the public.

Executives, Kumamoto Colleges

25 February – 2 March 2018

“After we post recruitment information, the next step is recruiting. The consideration was first made with the application form, resume, research entries, articles, and other documents. This is the great way to help reduce the number of candidates to 4-5, and then they will be invited for the interview, research & essay presentation, and trial class (15 minutes) which will take about 1 hour.”

Human Resource Office, Ube College

25 February – 2 March 2018

4. Recruiting method

The following details revealed the two parts of the recruiting method: the screening and selection; and the selecting criteria.

Part 1 the screening and selection

The screening and selection process consisted of two steps: step 1: checking and screening of application documents; and step 2: interview; presentations; and trial class as shown in the following details.

Step 1: checking and screening the application documents

At this step, the lecturer applicants handed in their outstanding documents such as resume, list of articles, books, patents, certified documents for domestic and international journals publication or the presentations at international conferences, the summary of 3 major articles, list for the past 10 years research grants, their achievements record, and 3 essays about the aspiration on KOSEN's education, researches, and student's guidance. The personnel section had to review and screen all application letters and supporting documents. Reviewed documents and lists of qualified candidates as required by the institution had handed to the committee to screen, examine, review and select qualified applicants for the first round selection.

Step 2: interview; presentations; and trial class

Qualified candidates had been invited by the college to an interview. The prospect applicants have been interviewed. After the interview period, they had gotten an opportunity to make a presentation showing their vision, researches, and other reputation. The interview period ended up with their 15-minute trial class in front of the committee members. Their ability, skill, and knowledge had been evaluated by the judges in the committee. Applicants' appropriate qualifications for being KOSEN teacher had been evaluated for their overall image and performances. Then, the final selection had been made. All these processes took around 1 hour. The transparency on NIT lecturers' selection process was known as one of NIT's best practices giving them outstanding reputation.

Part 2 the selecting criteria

Three crucial criteria: attitude; content; and overall image and performances, have been set up with 15 points equal weight ranking of 1 to 5 each. Total summed up at 45 points. The attitude was rated through the evaluation of applicants' way of talking, voice projection, eye contact, way to answer the question, and way of convincing people. The content was rated through 2 portions: the appropriateness; clarity; and balance of the applicants' essay; and the performances of their presentation, their trial class, and their interview.

NIT's lecturers' specification

NIT lecturers' specification consisted of 5 core criteria: 1) educational level and background; 2) reputation, interests, attitude, vision, and belief; 3) skills and experiences; 4) academic and research publication; and 5) other qualification required by each college such as mental and physical health, age. Details were as follow.

The first core: educational level and background

NIT set the educational level and background as an important and essential feature of the institution's teaching and learning. It recognized lecturers with good education background as qualified personnel. Their educational background had to meet the needs of research development for it is the heart of effective institution's education system. As a result, the qualifications of excellent candidates of the NIT were set as follows.

1. Applicants have a doctoral degree in engineering or mathematics or been expected to complete a doctoral degree within the application date or
2. Applicants have a lower degree with high working skills and experiences in manufacturing and company or excellent education results and teaching experience at university.
3. Applicants who apply for part-time lecturers are also eligible.

The government changing policy was the reason behind this specification setting. It had been 25 years ago since the beginning of NIT establishment. Each NIT College had a very small number of lecturers who hold doctoral degree. Most of them were bachelor and master degree graduates. The situation in the later years had changed. The economic government policy changes influenced the policy change of the Ministry of Education, Culture, Sports, Science and Technology (hereafter MEXT). So, MEXT suggested the institute to launch an advanced course which was a major change in NIT education system. Each college encouraged the lecturers to further their study at the doctoral level in order to effectively handle the teaching and learning in the advanced course curriculum. The examples of the conversations with the Kumamoto College administrators were as follow.

“In the beginning of KOSEN history, of my knowledge around 25 years ago, each college has few numbers of academic staff with Ph.D. degree - only master degree and others are bachelor degree. But this situation has been changing year by year. The situation dramatically changed when KOSEN develop and establish advanced course. MEXT encourage academic staff in each college to obtain Ph.D.”

“At that time the opposite percentage almost less than 10 percent of doctor holders - remaining is masters 30 percent which is less than 50. And after that educational politics changed at that time, Japanese society needs high level engineers so the universities developed many doctoral courses.”

“Companies need high level engineers so universities’ education shifts to promote high level engineers. So many doctoral level engineers graduated from universities. They work at the company, research center, universities, and also come to our colleges. So percentage of the doctoral and master degree staff increasing year by year while we set up the advanced course. Advanced course successfully established after the increased percentage of academic staff with doctoral degree and researcher due to politics change.”

Executives, Kumamoto College

25 February – 2 March 2018

In the selection process, NIT recognized the priority of the ones who held a doctoral degree due to KOSEN mission - to produce a research paper and create innovation, and the values of the country. In addition, Japanese society also valued the quality and standard, thus, Ph. D. applicant was required to maintain the quality and standards of national education in order to develop an industrial workforce of the country. However, the qualification of the applicant's education was very flexible. The documents and some conversations of key informants from Kumamoto College and Ube College indicated as follow.

“We hopefully recruit doctoral researchers and also the academic staff of KOSEN has to get doctor degree. So we tried hard to recruit doctoral degree due to the main task in the college is doing research work which is a very hard work.”

“Japan society needs high level then we can’t select, we have to. We must get doctoral degree. It’s a demand of Japan society. We can’t escape.”

“I think why KOSEN teacher is Ph.D. because teachers must instruct students in graduation research so teacher must have Ph.D.”

“We have additional 2 years for advanced course, which is equivalent to Year 3 and Year 4 of the University students who have to do research, so teachers must be able to give advice on the research.”

Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

The discussion with the college's executives in focus group revealed that the Ph.D. lecturers were required in the majors and liberal arts fields as much as possible. But, the demand for Ph.D. lecturers had not been required in some majors such in the field of physical education. The indications of the key informants indicated below.

“Yes, for the advanced course, we have to set up liberal arts subjects. Japanese government stipulates that the instructors in the advanced course must have at least a Master’s degree.”

Executives, Kumamoto College

25 February – 2 March 2018

In summary, the most important requirement of applicants' qualification was the education level and background, especially the Ph.D. degree. According to the study, it was found that there were not many differences among most NIT colleges on this requirement.

The second core: reputation, interests, attitude, vision, and belief

It was found that the NIT's applicants had 1) an interest in NIT education system, 2) an eager to teach and research, 3) a good aspiration toward teaching NIT students, 4) an interest in a collaboration and cooperation with local companies to make the contribution due to the college duty, and 5) a readiness, a willingness, and an ability to support the community which was the key mission of NIT's colleges. Details were as follow.

1. Reputation

NIT had set the reputation of the candidates as one of important qualifications since the positive reputation had ensured to enhance effective teaching and learning. Therefore, ones with remarkable awards or excellent working experiences in either internal and international famous educational sectors or private enterprises were preferable. The evidence of performance documentary had been provided for the evaluation in the selection process. Colleges' executives as key informants gave some statements below.

"WE asked the applicant to submit testimonial written by the supervisor. Sometimes we can contact the supervisor to know the characteristics of the candidate."

Informant: "Actually he graduated here 20 years ago and then transferred to Kumamoto University to get a master degree after completed the master course he got a job at the company and worked for 2 years."

Researcher: "Which company?"

Informant: "OKI Company. Then decided his career to get doctoral degree and worked here. (*Kumamoto College: researcher)"*

“When we recruit, ... what we also considered is the contribution to the society. It means how many company they are collaborating with. The role in the society. Published research paper, presentation in domestic and international conferences, and award given by the society.”

Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

2. Interest

Applicants who applied for lecturer position in NIT had an interest in NIT educational system and enthusiastic about teaching and research. They also had a good motivation to teach NIT’s students and an attention to collaboratively work with local companies or local enterprises. Each NIT’s college considered this qualification as an important attribute for NIT teaching and learning. NIT’s innovation served to the development of the community, local companies, and local enterprises and also served the government policies. Besides, NIT’s lecturers had been working with local schools teachers and students in the community. In addition, each local NIT’s college had been working on to grasp the characteristics of its community and provided their professionals required by the community. Also, it was important for NIT to know what kind of students they expected to nurture. Consequently, NIT had employed their lecturers regarding this notion. The answers from the key informants in Kumamoto and Ube colleges showed below.

“...They also need to be interested in cooperating with local companies, because the college must take responsibility on the development of local organization and community.”

“One of KOSEN’s main responsibilities is to support the community. Therefore, our teachers or staff must be qualified and willing to support the community.”

Executives, Ube College

25 February – 2 March 2018

3. Attitude

NIT's lecturers possessed a positive attitude toward NIT's students and NIT's teaching and learning. They also committed to teaching, sufficient understanding, and dedicating to work hard that suited well with KOSEN's students' living and learning style. This revealed in the following conversation below.

Researcher: "What do you think, talking about yourself, what qualification or characteristic that you think that proper to be the KOSEN teacher?"

Informant: Understanding. I think students are very young, but they need to study hard and play. Of course, we need to help them (students) manage their time and balance their knowledge and life.

Academic staff, Kumamoto College

25 February – 2 March 2018

Additionally, NIT's lecturers possessed a positive attitude towards local community, local enterprises, and companies. This led to the willingness and ability to support and work with them which were NIT's important mission. Supportive statements revealed in the excerpt from NIT documents below.

"Requirement ...

2. ... are motivate to teach students at KOSEN

3. ... are eager to research

4. ... are interested in collaborating with local companies"

Kumamoto College's Manual

25 February – 2 March 2018

4. Vision

NIT envisioned future-oriented qualification from its lecturers. Lecturer applicants had to write essays reflecting their viewpoint and showing what and how NIT educational system had inspired them. Thus, *"Most of the directors have interviewed the candidates for the research they have already done and what they*

have expected to do in the future." The examples of an interview with executives and lecturers demonstrating the vision of qualified lecturers were as follow.

"For the teachers, to support the students is part of their job. ... they also support students to create the concrete achievement in the project. When that project goes well, sometime it is upgraded to be the upper level research. So it is not only a subject, it also has future prospective. This is the example, the fisherman's cooperative association, a teacher investigate to restore the shallow reef. His professional field is environment ... so he accepted the proposal of the association and until now this research has been ongoing for 4 years. And this project also involved the students. When he accepted the proposal, then, the students, the teacher associated in a joint project with researchers from a university. So this is very big growing.

Executives, Kumamoto College

25 February – 2 March 2018

"I met my graduate 2 days ago. He graduated 10 years ago. He has been working at the Japanese company in Tokyo for 5 years and had to move and live in England because the company has a branch there. He went back to Japan few days ago and came to the college to meet me. When he was a student, he didn't know about the world. I advised him to learn to speak and read English but he didn't like it because English is not easy for Japanese to understand. But once he had the chance to move to England, he realized that it is a one of the communication tool to communicate to each other in the world. So he wanted to tell other students to learn English now.

Academic staff, Kumamoto College

25 February – 2 March 2018

5. Belief

NIT defined “belief” as one of the important qualifications which NIT requires. Unlike other educational institutions, NIT was unique with its educational and teaching and learning management system. In order to promote the unity of all employees who assimilated to the same values, NIT lecturers should have abode the same belief. As a result, this enhanced the ease of personnel management which led to the teaching and learning effectiveness and NIT quality standard. The interview with key informants revealed as follow.

“... my first supervisor talked me if I came here (Kumamoto College: researcher) I could do research, write, and publish my paper because he said the students here are very good. He said they are excellent ... So, After I came here, it was true. ... I think they are qualified in terms of skills in mathematics, calculation, programming, especially for writing papers.

Academic staff, Kumamoto College

25 February – 2 March 2018

The third core: skills and experiences

NIT required applicants with essential skills while other specialized skills were also much preferable. The qualifications in both skills and experience divided into two areas: basic skills and relevant experience determining by the institution and specific skills and experience with special expertise. Details were as follows.

1. Basic skills and relevant experience determining by the institution

Basic skills and relevant experience determining by the institution related to every field that opened in each college. If the applicants applied for the position of computer science staff, they were required to have the computer skill, for instance. If they applied for the position of robotics staff, they also were required to have the control and mechanics engineering skill. In addition, applicants were required to have the necessary skills for other lecturer tasks such as students’ guidance or problem-solving skill. Then, each college sent its applications advertisement to educational agencies or companies with related fields. The example of the requirement in the application ads revealed in the excerpt below.

Requirement to recruit...

1. A computer science staff, we post the announcement to the institute of Electronics, Information and Communication Engineering web site and academic journals.

2. A robotics staff, we post to the Robotics Society of Japan and the society of Instrument and Control Engineering and so on.”

Kumamoto Colleges' Manual

25 February – 2 March 2018

2. Specific skills and experience with special expertise

Apart from the required essential skills, i.e. basic skills needed for each of college determined areas, specific skills and experience with specialized subjects from candidates' former workplaces might also be considered as a preference.

The fourth core: academic and research publication

The publication consisted of an academic or research paper, an article published in either internal or international peer-reviewed journals, a book, a patent of products' innovation and design, a conference presentation, and other reputation. This core area was the most necessary qualification since it reflected the ability and potential of the applicants.

The fifth core: other qualification requiring by each college

Each NIT's college imposed the qualifications other than those mentioned in 1-4 cores according to specific needs of the college such in the following items.

1. Potential candidates who are in good health with mentally and physically fit.

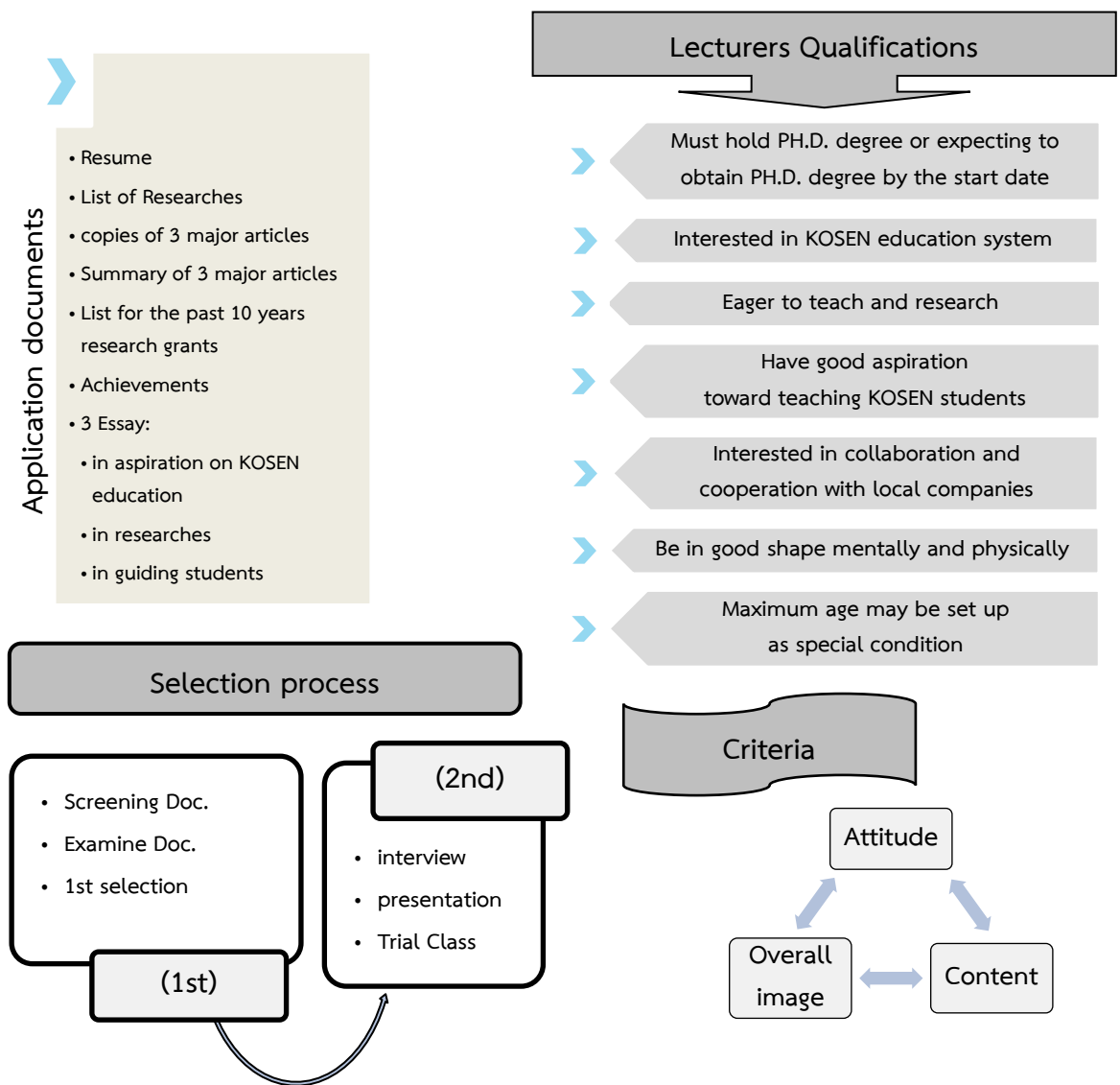
2. Ones who are ready to work hard in every task as prescribed by NIT lecturer's job description.

3. Ones who have appropriate age for both regular and advanced course. The minimum and maximum age have not been fixed. However, age may have been defined as a special condition in each college.

4. Ones who have a strong command in both Japanese and English languages for communication.

In summary, applicants' qualifications consisted of 5 core criteria: an educational background, an interest, a skill, a publication, and other qualifications such as a good shape of mentally and physically health or maximum age. Details of NIT's recruitment system reflected in a clear chart and a job posting information below.

Chart 1 NIT's Lecturer recruitment system



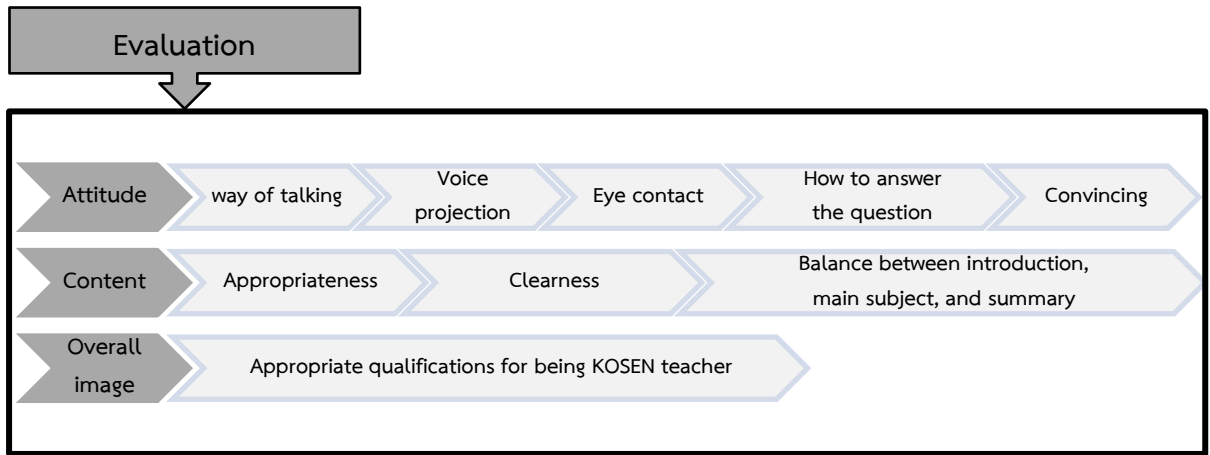


Figure 3 Job posting information of Ube College

Posting for a Professor at Ube Kosen

Title	Professor
Institution	National Institute of Technology, Ube College
URL of Institution	http://www.ube-k.ac.jp/
Department	General Education
Specified Field	Mathematics, Mathematical Sciences
Teaching Subjects	Mathematics, Applied Mathematics
Qualifications	Must hold Ph.D. degree or expecting to obtain Ph.D. degree by the start date Interested in Kosen education system, research, Eager to teach students, in good shape mentally and physically
Start Date	April 1/2018
Required Documentations	<ol style="list-style-type: none"> Resume (download resume from our website) List of researches (categorize by articles, books, patents, conference presentation and others. List them by issue date with volume, number and page. For article, states if it is reviewed or not, co-author's name if you have) Reprint or copies of 3 major articles Summary of No.3 (around 500 letters with size A4, free format) Essay about what your aspiration on Kosen education, your research and guiding students. (Each topic should be around 500 letters, but total of 3 topics should be less than 2,000 letters, size A4, free format)
Closing Date	Wednesday, December 20/ 2018
Selection Process	First selection – Screening resume and documentations Second selection – Interview and presentation if you pass the first selection *Please note that we do not cover the travel cost for interview.
Mailing Address to submit resume	Ube Kosen, xxxxxxx
Others	<ol style="list-style-type: none"> All qualified candidates are encouraged to apply, however female candidates will be given priority if the qualification is same level of male candidates as we support gender equality. Candidate's information we collect will not be released to the public or the third party as it is only for hiring purpose.
Inquiry	Mr. xxx, General Education Department Phone: 0836-xx-xxxx, Fax: 0836-xx-xxxx Email: xxxxx@xxxx.jp

Source: National Institute of technology, 2018

The above synthesis revealed the uniqueness of NIT's recruitment system and lecturers' specification. However, NIT would not be successful without the operation of other related systems: recruitment for promotion system; value system; and incentives system for retention. To maintain the quality lecturers who passed the

selection process, a variety of incentives was very important. Ones, who have been treated well, have worked well. Thus, it is important to explain about those systems as follow.

Other influencing systems

Apart from the recruitment system itself, the recruitment for the promotion system, the value system, and the incentive system for retention were also revealed in this study. It was found that they engaged alongside to enhance and support its success. Details were as follow.

1. Recruitment for the promotion system

NIT's recruitment for promotion system was slightly different but it was as important as the recruitment system. Rankings of position for promotion started from assistant professor or lecturer to associate professor and professor. The followings explained the details of the system in 3 parts: its components; its procedures; and its criteria.

1. Components of recruitment for the promotion system

Components of recruitment for the promotion system consisted of education qualifications, evaluation items, scoring criteria, evaluation documents, and presentation. Details were as follow.

1.1 Educational qualification has to obtain at least a master's degree or Ph.D.

1.2 Evaluation items focus on four areas: academic achievement; research achievement; contribution to community; and educational management.

1.3 Scoring is determined by the percentage of evaluation items in each position as follows.

1) Promotion from Assistant Professor to Lecturer rating in each evaluation item is as follows.

- 1.1) academic achievement score has passed 30 points
- 1.2) research achievement score has passed 30 points
- 1.3) contribution to community score has passed 20 points
- 1.4) educational management score has passed 20 points

2) Promotion from Lecturer to Associate Professor rating in each evaluation item is as follows.

2.1) academic achievement score has passed 25 points

2.2) research achievement score has passed 20 points

2.3) contribution to community score has passed 15 points

2.4) educational management score has passed 8 points

3) Promotion from Associate Professor to Professor rating in each evaluation item is as follows.

3.1) academic achievement score has passed 20 points

3.2) research achievement score has passed 18 points

3.3) contribution to community score has passed 7 points

3.4) educational management score has passed 4 points

1.4 Evaluation documents consisted of a recommendation letter issuing by a professor in a major department or a campus or college president.

1.5 Presentation of academic achievement, research achievement, and expectations for future studies in research and management has been provided by the applicants for Associate Professor and professor positions.

2. Procedures of recruitment for the promotion system

Recruitment for promotion system procedure was similar to the new lecturer recruitment process dividing into 3 stages as follow.

Stage 1 Recruitment announcement

The recruitment unit handed in the information to the Research Information Network at the National Institute of Technology Headquarters in Tokyo. This was to inform all staff at each college or university about the recruitment.

Stage 2 Document and qualification screening

Application form and other documents have been screened. Approximately, 4-5 qualified candidates whose qualifications met the criteria were selected.

Stage 3 Interviews, presentations, and trial class

Those who passed the stage 2 of the selection process were invited to an interview, research presentation, and trial course in front of the

director. The trial class took 15 minutes and the whole process took 1 hour. Later, the board selected the most appropriate and eligible person for each open position.

3. Criteria of recruitment for the promotion system

Evaluation for academic position promotion adapted a set of criteria from recruiting system of new lecturers as follows.

The first criterion was the attitude. The way of talking, voice projection, eye contact, way to answer the question and way of convincing people was evaluated.

The second criterion was the content. The appropriateness, clarity, balance of the applicants' essay, presentation, trial class, and interview was evaluated.

The third criterion was the overall image. The suitability of being NIT's lecturer was evaluated.

The scaling evaluation scores were 1-5 and the total rate for each criterion was 15 points. The total scores had been calculated and considered according to the rating in number 1. The process of recruitment for promotion system was shown below.

Figure 4 Promotions and Recruitment at Ube College

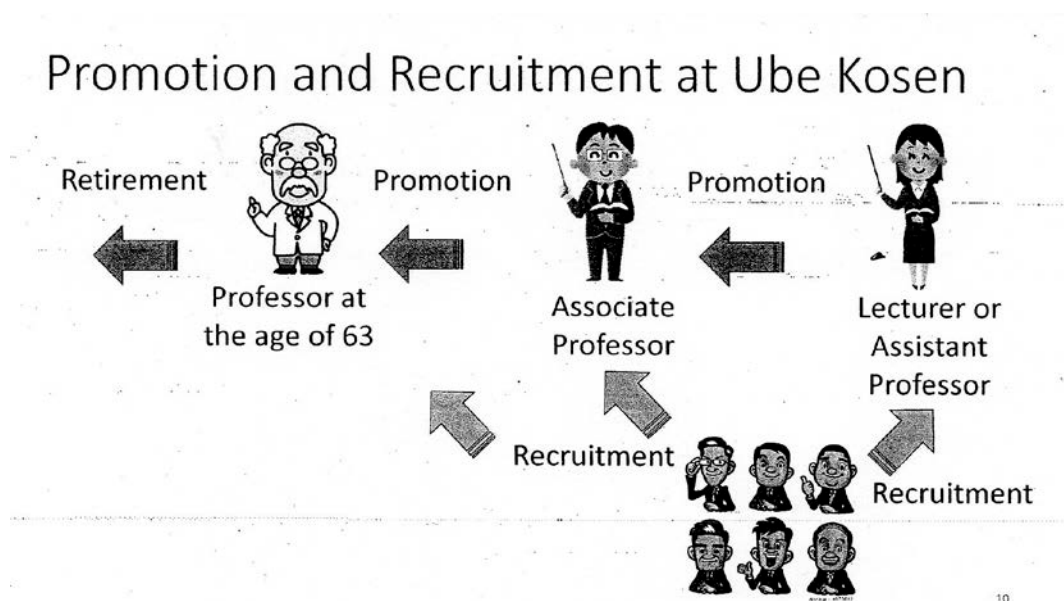
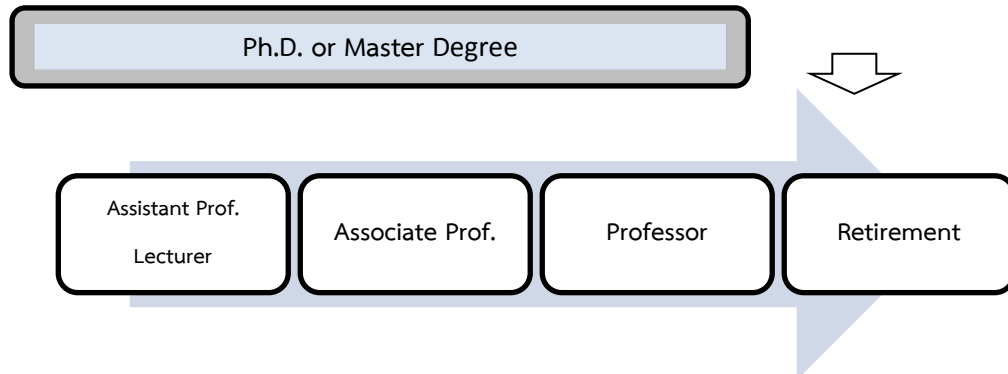


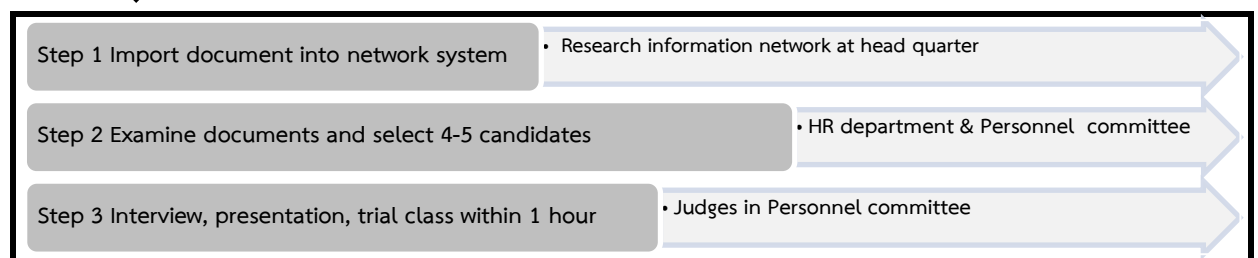
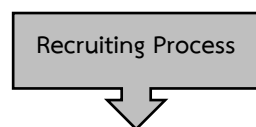
Chart 2 Recruitment for promotion system

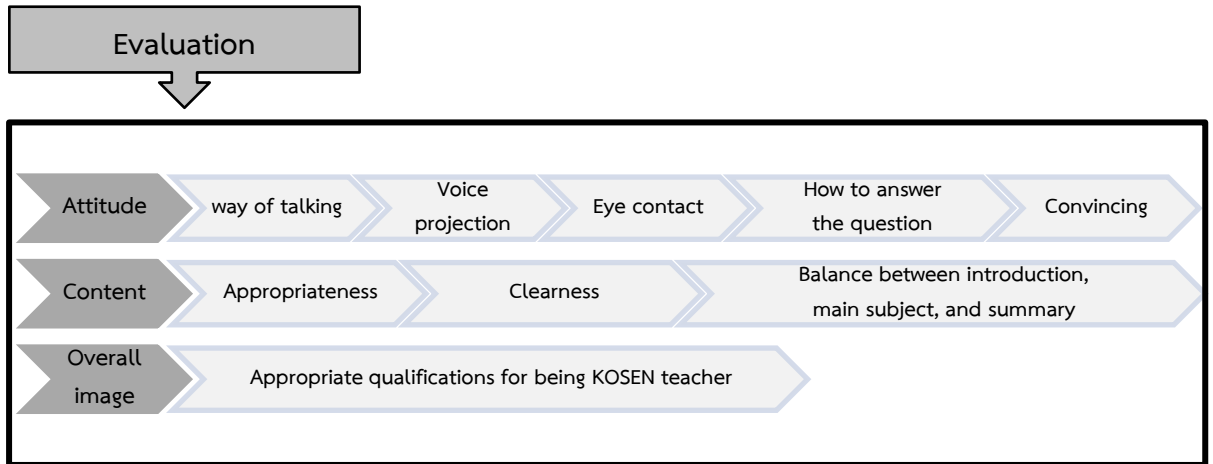


Evaluation items	Promotion			Retired age
	Assist. Prof. > Lect.	Lect. > Assoc. Prof. Assist. Prof. > Assoc. Prof.	Assoc. Prof. > Prof.	
Academic Achievement	30 ≥	25 ≥	20 ≥	63 Years old
Research Achievement	30 ≥	20 ≥	18 ≥	
Contribution to Community	20 ≥	15 ≥	7 ≥	
Educational Management	20 ≥	8 ≥	4 ≥	

+ Letter of Recommendation from President or Department Prof.

+ Presentation on Educational and Research Achievement, expectations for future education, research and management (for up to Associate Professor and Professor only)





2. Value system

Value system was another distinctive feature which supported the operation of NIT's recruitment system. It represented the qualities or attributes of "KOSEN" shared by its executives, lecturers, and other personnel in each college. The value the staff had kept and performed in the proper manners and proper times, finally, enhanced the success of the organization. The value system was clearly revealed through the observation of the interview and focus group discussion with college personnel, namely, the key achievement factors. These factors were NIT physical characteristics and its personnel quality as shown in the following details. It would be explained more in details in the achievement factors part.

The institute physical characteristics consisted of 1) the educational system, 2) the networks among all related colleges, campuses, community, local companies and industries, and other educational networks, 3) the rules and regulations, and the explicit roles and structures.

The qualities of the personnel consisted of 1) self-belief in their organization, system, themselves, and learners, 2) value, 3) discipline, 4) devotion, 5) willingness, 6) loyalty, 7) good relationship, and 8) attitude toward problem-solving

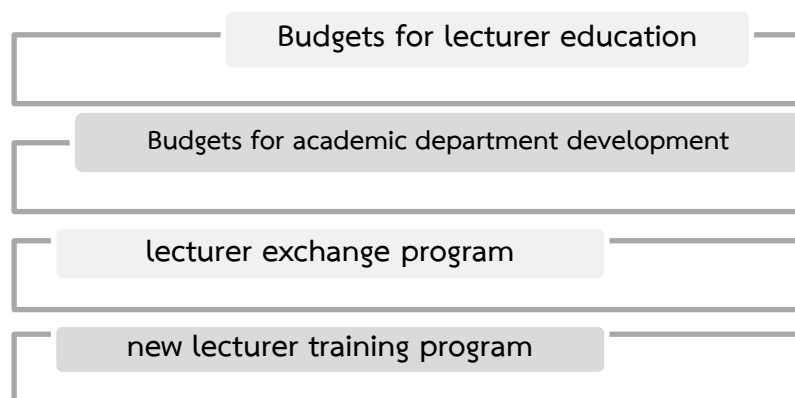
3. Incentives system for retention

Incentives system for retention contained the motivated incentives including pay-raised salary, extra payments, development, scholarships, benefits, and welfare. This was to motivate quality lecturers to remain in the institute until retirement which defined in many aspects as follow.

NIT had promoted and supported its personnel development in all forms since the first day of the employment. Development budgets had allocated to personnel in various projects. The calculation of a scholarship budget for research study had allocated to lecturers based on their achievements in the past year. Additionally, research grants or scholarships in sciences had also provided by the government and other sources. The grants might have been a collaboration project with other educational agencies. The following were the example of a scholarship and money grants have provided by various sources for development.

1. Budgets for lecturer education
2. Budgets for academic department development
3. Budgets for a new lecturer training program in terms of discipline, morality, ethics and conduct, as well as the culture and values of KOSEN within 3-4 days
4. Budgets for domestic and overseas lecturer exchange program
5. Budgets for technical and teaching skills training program by inviting local and international experts, especially in technical and new skills. Training courses at colleges includes foreign language and other professional development programs depending on the request of the lecturers' need.
6. Budgets for joint research projects abroad (Lecturers will spend the semester break to study abroad and live independently for about 1 year.)
7. In-country Joint Research Projects (Lecturers will have the opportunity to spend some times in the local universities in Japan to do a joint research project.)

Chart 3 Incentives on development



NIT lecturers and staff in each college received the same benefits and welfare as other state employees. In addition to the regular benefits and welfare, NIT provided the savings projects at about 8 percent of the monthly salary. It scheduled to pay all savings back with interest every 6 months. NIT also allowed seasonal holidays like New Year's and staff were provided with extra money to give to their family as a present.

NIT provided the research funding for doing research, research presentation, and research publication both local and international for its lecturers. This had reduced the pressure on academic competition which had been less pressure than a university. Additionally, NIT had also provided the opportunities to allocate funds and time to do research or other projects related to their work. More time and money had considerably been provided than usual, i.e. 3-4 years of study and about 3 million yen of budgeting, which was a better chance comparing to the workers in the factory or companies. Varieties of scholarships were as follow.

1. Research grant in science from the Ministry of Education, Culture, Sports, Science and Technology
2. Joint project research scholarships
3. Research funding for both the government and business sectors' request
4. Subsidized money
5. Other forms of funding and scholarship

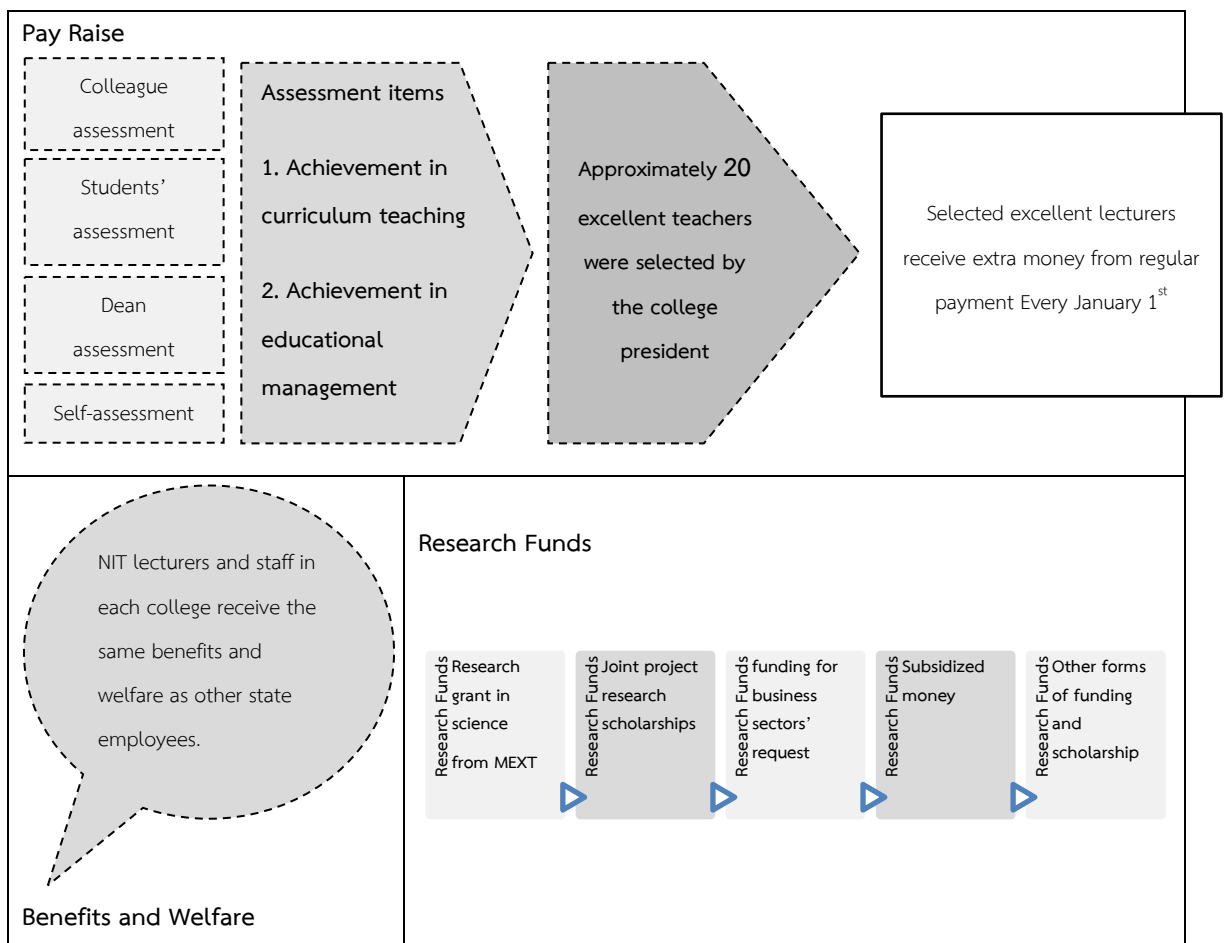
NIT has offered a 1-year sabbatical leave for lecturers to further their education or research. NIT staff had also taken sick or errand leave for a total of 30 days (regular leave for 20 days and New Year's leave for 10 days) with regular payment. After the lecturers had received the scholarship or research grant, most of them had not moved to other companies or educational institutions due to a large amount of funding. If they moved to another workplace, they had to return all funds to the fund providers. If they continued to work in the same college or college under the supervision of a state or national institute of technology, they had not to pay the fund back. The conversation with Kumamoto College's lecturer revealed as follows.

“I have another reason, when I was a university student I received a scholarship from Japanese government. ... If I continue to teach at the university, college, or some other colleges managing by the government, I don’t need to pay back the scholarship to the government. Its amount was big for me, for around 5 million yen. So I have to pay back if I don’t teach here at this college. So I decided to teach here and I don’t have to pay back.”

Academic staff, Kumamoto College

25 February – 2 March 2018

Chart 4 Incentives on salary, payments, scholarships, benefits, and welfare



The example of Kumamoto College lecturers' satisfaction on research capital motivation appeared in the following conversations.

Researcher: What do you like most in here?

Informant 1: Mainly research, my area does not required so many money. I need money to present to conference. I can research.

Informant 2: Japanese government established fund for research with a very large amount of budget for all scientists working in university, KOSEN, and other research centers. All researchers can apply for a scholarship from the government. All KOSEN teachers try to get that government budget in order to access to related resources."

Academic staff, Kumamoto College

25 February – 2 March 2018

Achievement factors on recruiting system

Important factors behind NIT personnel management achievement revealed in terms of external and internal factors.

External factors

External factors influencing the achievement of NIT's personnel management were NIT's education system, the invaluable networks, the explicit and transparent organization structure and rules, and clear staff roles and responsibilities. Details of each factor were as follow.

Factor 1 NIT's education system

NIT's education system focused on teaching both theoretical and practical in the same weight. In addition, the research-oriented education system was the key to the teaching and learning of the National Institute of Technology. The results of this teaching and learning system had provided great benefits to NIT students' innovative contribution. This had eventually accommodated national policies to change the country to become the country of excellent industrial productivity. This illustrated in the excerpts from the in-depth interviews and focus group discussions between the research team and key informants of the National Institute of Technology at Kumamoto College and Ube College.

"I think that KOSEN use the weight both on theory and practice, 50-50. But universities give the weight mainly on theory. It's a big difference."

"Engineers need both knowledge and practice skill. So KOSEN produce such students for model 50. Qualification three plus four become seven. That's mathematic calculation. Three year high school, four year university, so It's a long time. Economic situation needs high skill and high educated personnel in both theory and practical training. This is a basic concept."

"When I looked back to my graduation, I realized that it was a project based learning, PBL for short. There are many learning units such as designing, operating, testing and analysis. Currently, new learning unit such as a finding of result by student themselves and presenting the result in front of teachers."

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 2 NIT's invaluable networks

NIT's invaluable internal and external networks had been weaving and linking in order to help, support, and encourage each other in various fields. They were NIT's colleges and campuses networks, alumni networks, and local private sector networks. This private sector included the local companies; manufacturing; and enterprises. The local government sector network included the local community; universities; and local government offices. This revealed in the following excerpts of the in-depth interviews and focus group discussions with the members of NIT, Japan, at Kumamoto College and Ube College.

"We have such a friendship we established. Many companies join, the number is almost 80 companies. Outside Kyushu island. And the leader of global leadership development center. They develop our students the global leadership skills and ability. This is a very good and important target in educational objective of our college, so we establish global leadership center."

"KOSEN has various partners including universities, national research institute, private enterprises and so on."

"In the recent years, the teachers expected to be a good facilitator. One of the important missions of KOSEN is to revise local economy. The teachers are required to serve as leader for the research and development of new products and new system in partnership with local institution."

"This college has a strong connection to Kumamoto University."

"With our style and teaching ideology focusing on project-based learning, we can build network with local communities, corporations, and alumni."

"We build network according to our teaching style - to help local people, such as local communities and local companies or enterprises with our will."

"Students will apply the engineering design in the company. They specify their topic of study to relate to the local companies' or organizations' problems."

"One of KOSEN's main responsibilities is to support the community. So our teachers or staff must be ready and willing to support the community."

"Japanese society requirement focuses on quality of education. Teachers need to be interested in cooperating with local community and companies. Colleges must support the development of local community and companies."

“So it is not only a subject, it also has future prospective. This is the example, the fisherman’s cooperative association, a teacher investigate to restore the shallow reef. His professional field is environment ... so he accepted the proposal of the association and until now this research has been ongoing for 4 years. And this project also involved the students. When he accepted the proposal, then, the students, the teacher associated in a joint project with researchers from a university. So this is very big growing.”

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 3 NIT’s explicit and transparent organization structure and rules

NIT’s explicit and transparent organization structure and rules enhanced the fairness of NIT’s administration. The consideration of each issue within NIT, Japan, was mainly in the form of the board or committee. Therefore, the operation of the institute was free from any interference. Even the stakeholders such as former executives or the companies could not interfere with the operation of the board. Thus, the corruptions in the organization’s personnel management process had rarely occurred. This revealed in the excerpts below.

“Only the headquarters of this college make this decision and final decision is made by the president. The personnel committee consists of deans, vice president, and president make final decision, such HQ persons discuss and decide final recruitment.”

“This shows the decision making system of the KOSEN. The steering committee is the highest legislative organization, discussing the matter submitted by this committee. The executive committee is one which discusses various issues in the school management and decides the school policy. And this committee work like a control tower of the KOSEN.”

"We have clear roles and rules, such in recruitment and selection; no one can influence or take power over the board in personal in order to select people they know.

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 4 NIT's clear staff roles and responsibilities

The establishment of NIT's clear staff roles and responsibilities had influenced the success of NIT personnel management. However, this would not be successful if there is no clear communication. The internal communication for staff understanding of all important information such as their roles and responsibilities had regularly been conveyed before and during job implementing. This ensured that all staff understanding, recognizing, and value of the roles and responsibilities are in common. This revealed in the following excerpts of the in-depth interviews and focus group discussions with members of NIT, Japan, at Kumamoto College and Ube College.

"The teacher's tasks at KOSEN are classified into three large groups. They are lecture, research and management."

"Extra curricular activities, All of our staff will be in charge of at least one activity. Third one is the contribution to the society. It means how many company they are collaborating with. The role in the society. ... The last is school management."

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Internal factors

Internal factors, influencing by the evaluation criteria on applicants' attitude and qualifications for being "KOSEN" teacher, enhanced the achievement of NIT's personnel management. It results in staff's belief, value, discipline, devotion, willingness, loyalty, relationship, and attitude toward problem-solving.

Factor 1 Belief

NIT had a long history since 1962. It has been a well-known educational organization that had produced quality personnel in manufacturing engineering and technology which served the needs of national development and

industrial demand. Currently, there were NIT's colleges and campuses in many areas throughout Japan - 51 colleges with 55 campuses. Alumni who graduated from each college or campus were over 370,000 students. Most of them took the key roles in the world's leading companies such as Panasonic. All staff felt proud of being a member of NIT organization. They had a confident belief of the institute in many aspects as follows.

Belief in organization

Executives and lecturers of NIT believed in the standards and quality of the organization recognition both nationally and internationally. NIT was indicated as an institute with the production of highly skilled personnel in engineering. This affirmative evaluation was the key quality assurance of the excellent Japanese engineering institutes. NIT graduates were also specialized in specific fields as determined by each college. This recognition served the needs of the modern industrial market of the country. In addition, it also responded to the expectation of the society. Thus, NIT had been promoted as the leading institute in innovation and technology. This was illustrated in the excerpts below.

"Each KOSEN college has its own specialized expertise and set up upon the establishment of colleges."

"The JABEE is non-governmental institution but it evaluates and accredits the education program in accordance with Washington Accord, in the concept with Washington Accord and so on. In other words, the JABEE ensures the international equivalency of the education program of the KOSEN. This is the reason why we need the accreditation by JABEE. It is also expensive. The individual teachers must be qualified by NIAD. After completion of advanced course (two years program) the students get bachelor degree, similar to graduate from university. Therefore, the KOSEN teachers must be qualified in order to teach the advanced course. The requirement is shown here and the accreditation is conducted every 5 years."

"As I show before, there are two types of accreditation institution that is NIAD and JABEE. The accreditation by NIAD is compulsory to institution for higher education in Japan every 7 years. And the accreditation by JABEE is optional."

"Number of teachers, all branches 79 including 66 Ph.D. holders graduated qualified by two institutions, both names are too long so that are called NIAD and JABEE for short."

Staff, Ube and Kumamoto Colleges

25 February – 2 March 2018

Belief in the system

Over 50 years ago, Japan had a demand for the country's development in technology and engineering. The institute which was able to produce the practical knowledgeable and capable personnel had been established as a major force in the manufacturing sector. Its education system focused on both practical along with theoretical learning in the same weight. This system was different from the university system at that time which focused mainly on theoretical learning.

Until now, NIT had produced quality personnel upon the demand of the industrial market through course integration of both practical experience and in-depth theoretical learning. More than 40% of NIT graduates had been able to pass an admission or the intensive courses in prestigious universities. The remaining 60% of the graduates had been offered to work with well-known information technology manufacturers and industries from inside and outside the country. This had increased NIT students' positive believes toward its educational system.

NIT lecturers and other staff also believed that the integration of theories and practices instructional process was the best way of teaching and learning. This inspired them to work here with the idea that the institute has been able to produce good and quality engineers to serve the needs of the society in the future. This illustrated in the excerpts below.

"The teachers' must have Ph.D. because they need to do research ... and must be published."

"So originally we taught students how to use the machine and to become an engineer. That's an original way. And university at that time has more weight on research. So the difference between the university and KOSEN in Japan. We put more weight on technical side. University put more weight on a theoretical research. So that is the difference."

“We want to create or train technician like engineers, university they wanna educate more researchers, so higher level of education. I think KOSEN use the weight both on theory and practice, 50-50. But university gives the weight mainly on theory. It’s a big difference.”

“KOSEN outstanding is to teach students to practically perform by themselves, so our graduates is required by workforce industrial market. Our students have high skills and experiences from NIT concept of practical training in order to produce a professional engineer.

“To summarize, I learnt these two things. ‘Make it yourself’, this is the starting point of KOSEN education. PBL is another important role of KOSEN education. The PBL and the group work raise possibility to demonstrate students’ abilities. So these two philosophies are two constant in the past, present and future, I think.”

“...university staff salary was higher than KOSEN academic staff. If ones had a chance, they can move to university. But, honestly, I had chances, but I think KOSEN system is very unique. Younger students enrolls to this KOSEN are very pure and they try very hard. After the 5 years course, they get very high skills equivalent to university graduate. So I get some feeling of interesting in KOSEN system. I just recognized it for over the past 20 years.”

Staff, Ube and Kumamoto Colleges

25 February – 2 March 2018

Belief in learners

NIT was an institute of advanced technology. It supported students with talents in science and technology and aspiration to be a future engineer. To be accepted in the program, applicants had to be the graduates of compulsory education which was equivalent to junior high school. It was found that only 1% of all junior high school students could pass the admission system when compared to the proportion of all the ones enrolled in NIT.

NIT graduates were hired by the well-known industry not only by their solid basic knowledge, talents, and commitment of the students but also the educational system aiming at developing deeper theoretical knowledge and practical experience in industrial practice. Job offering from leading companies to NIT graduates was in a very high proportion. In addition, they were admitted into leading universities in the country if they were interested in furthering their study. This reflected in the conversation with key informants below.

"The students are committed and have a good attitude to study."

"KOSEN's very young person, 15 years old students comparing with university, the students age is younger than university. The students' hearts are very pure and they push much effort to learn new skill and get knowledge of technology, and they want to learn technical skills. So company human resource work told us KOSEN graduate is very skillful, they can directly to work and have adaptive skills. And they never say "I cannot do such work." but "I try, I don't know now to solve this problem but I try." That's a very big advantage of such attitude to solve the problem. Such attitude of KOSEN graduates growing up in KOSEN education, very fresh mind, very pure mind."

"The students here are willing to be engineers. Many people dream to build robots. Many people want to develop software for their comfortable life in the future."

"My first job was at the university..., it's not a national university, it's a private university and level of the students is poorer than the KOSEN students. So I decided to move from private university to here."

Academic staff, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 2 Value

Japan has been a prosperous country since it had valued education and provided a variety of science to its citizen. The country aimed to maintain and upgrade education. Therefore, Japanese society honored and praised teachers. Teaching

career had been regarded as a prestigious and popular profession. The teacher's compensation subjected to the special provisions of the law to keep quality personnel in the education system. In addition, there were special measures to set salary rates in order to motivate people with special abilities to become teachers. With these measures, the government set their hope to increase the importance of education development and to guarantee their survival in the midst of the diversity and complexity of the nation's economic status.

Japanese society expected a very high quality of educators' role. It has been said that Japanese teachers had a limitless professional spirit. NIT's lecturers valued this spirit and thought that they had to dedicate themselves for their students and to treat them well. Though, other companies or institutes had offered them better income, they had also adhered to the values of being a lecturer at NIT and served the society as an educator. This reflected through the excerpts from the interview and focus group discussion below.

"Our teachers are happy to serve the community and teach. And everyone is highly efficient. "

"This is Japan culture. And also teacher continuously respectful by students which worth than money."

"Money is not important for the Japanese. But to be remembered such as students returning to school after graduation is the motivation for being a teacher of KOSEN. "

"In the recent years, the teachers expected to be a good facilitator. One of the important missions of KOSEN is to revise local economy. The teachers are required to serve as leader for the research and development of new products and new system in partnership with local institution."

"Yes, I am happy here. Here I can choose, I can work freely than company. At company, there is boss but now here, I can work freely and I can choose how to do the work."

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 3 Discipline

The basic characteristics of the nation and Japanese society uniqueness were its unification, discipline, and tolerance. These distinctive attributes of all members had been cultivated from family, school, and society. They had been taught to be patient, to fight, and to persevere to do the best in every effort, not to give up. These basic characteristics had encouraged their confidence and pride of their work, willingness to work, and ability to do what they intend to do. This had empirically appeared in their disciplinary attribute.

In addition, the society also expected the teachers to be a knowledgeable and creative leader of new technology development to facilitate the modern living. NIT lecturers' mission responded to this expectation by learning and inventing products or systems through research. Systematic "do-it-yourself" manner on research built their disciplinary in both successful tasks and personal living as illustrated below.

"The professor's policy was 'Do it yourself'. So we decided all things ourselves and we made the machine ourselves, repeating the failure. And finally we complete the machine and did the fatigue test and analyze the data. "

"Many KOSEN teachers do research not only to write articles or present paper, but also to teach students through research."

"KOSEN instructors must regularly produce research for the development that serve the changes of knowledge and technology."

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 4 Devotion

The Japanese' social and educational regime had an ambition to revive the country after World War 2. Thus, the direction for country development focused on qualified personnel recruitment. The country aimed to recruit the personnel with self-sacrifice, dedicated efforts, and high sense of responsibility into the system. Besides, the emphasis was on their empathy and respect for others in the society.

The culture of Japanese society based on the assumption that national interests must be served before private interests. Therefore, the educational management of the nation focused on education for social benefit rather than education for personal benefit.

These outstanding attributes influenced directly to the education system and the operational approach of the institute. NIT lecturers held a philosophy of dedication and sacrifice in their duties. They had a strong desire to inspire students to love being an engineer and create outstanding personnel to meet the needs of society.

With the spirit of NIT lecturers, they devoted themselves to hard work in teaching and learning management. This was to produce a professional engineer whose progress can create social benefits. The reflections were in the excerpts below.

“We have to spend our own time to take care and foster students. ... The amount of the task is the same, sometimes it growing up bigger and bigger but number of staff shrinking. It means we have to work more and more. It reduces my time with my family. In this several days, I'm not in my house. I didn't spend my time with my family because I have to write a lot of documents to submit to HQ., incredible number of documents.”

“I donate my time for teaching and learning. I have less private time with my family. I have to take care of students including those in the dormitory. I have to provide the tutoring for the test and examination. Students who do not pass the exam, of course, they will not be able to further the advanced lessons.”

“Teachers must closely monitor students’ learning. And they must assign more study from the library, database, or experiments and follow up their progress until they have passed the progress assessment and can continue to study the lessons in the next phase.”

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 5 Willingness

NIT has been a famous and prestigious institute in both national and international levels with a successful and well-managed teaching and learning process. The success of the organization and its challenging objectives attracted teachers who interested in and committed to being good teachers and producing quality human resources.

NIT lecturers, responsible in 3 areas: teaching, research, and management, committed and were willing to work heartily. They were fun and enjoyed working in the college. They thought that the work was appropriate and challenging. It stimulated their desire to work, to improve, and to develop all the times. It also promoted their progress and provided the opportunity to thoroughly learn and develop. Eventually, it led them to a good future.

Some teachers who were NIT alumni committed to being NIT lecturers since the time they were students. They had devoted themselves to complete their doctoral degree in engineering and were selected as NIT lecturers. Although they were offered incentives with higher rate payment and full-optional welfare from the companies or other institutes, they were willing to become NIT lecturers. This reflected through the excerpts from the interview and focus group discussion below.

“I love to be a teacher and when I graduate I returned to teach at KOSEN. I was willing to teach. ”

“What I like the most in KOSEN is that I teach everything to the students. Everything does not just mean knowledge or skills but also teach what to do in their living. I hope they enjoy school life like I do.”

“I’m willing to teach here. Because this is my dream. My dream job. I was very happy and thought that maybe I was born for this.”

Academic staff, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 6 Loyalty

The organization loyalty has been recognized by the global community as the most prominent feature of the Japanese working culture. Staff behavior: diligence; perseverance, and willingness, had prominently displayed no matter how small the tasks were. Everyone realized the value of all that had been beneficial to the society. This value has been cultivated from generation to generation for a long time. Japanese respected the hard work and long-term goals. Therefore, most Japanese had not changed their jobs. So these were a powerful attitude for creativity and dedication to success.

NIT selecting process was very competitive. All applicants had a strong desire to be a member of NIT, though NIT has offered a lower rate of return than many leading organizations in and outside the country. With their trust and faith in NIT, it was not so difficult for them to decide to work for NIT.

They had been willing to devote a great deal of effort to the benefits and success of NIT. They concerned about the well-being of the college even when it encountered the limitation and obstacles. The nation’s economic crisis affected the management of the institute budgeting. Though there was lower budget or higher rate of tasks burden, the willingness to act as a member of the organization had not been diminished. They were ready to fight and overcome every obstacle with the college. The reflections were in the excerpts below.

“After this, why you come back here. Actually he is an alumnus, he graduated 25 years, then, graduated from university and had work experience at Japanese company but he decided to quit the job to come back here.”

"... in Kumamoto, many students enter master degree course and keep going to learn higher education and they continue to research work and get doctor degree and our graduates come back to our school after they get doctor degree to teach."

"In Japanese society, remain the way of thinking, life and employment. If you get employ in one company, you keep working in the company for retirement. "

"So a few teachers of Ube KOSEN transfer to University. New teachers come to the KOSEN. "

"The Japanese work culture may not be open to changing jobs, but this is 'Japanese culture'."

"After graduation, I work for Tokyo metropolitan for about two years. Then I enter university and finally I got a PhD in engineering. And when I was 31 years, I came back to Tokyo KOSEN as a teacher in engineer. "

“Researcher: *The alumni come back to teach here.*

Informant1: *Very high percentage. I think 30 percent they come back to my college. It's my opinion very high. Because why such situation, in Japan the graduate of KOSEN mainly they choose two university Nagaoka and Toyohashi universities. They accept graduates, many big numbers of graduates they accept. After they graduated from 2 universities, they can get doctor and master degree and come back to all KOSEN."*

Informant2: *"Yes, among academic staff who get a job in company, after that they come back to get a job in our college."*

Informant3: *Actually he graduated here 20 years ago and then transferred to Kumamoto University to get a master degree after completed the master course he got a job at the company and worked for 2 years.*

Researcher: Which company?

Informant3: OKI Company. Then decided his career to get doctor degree and worked here. (Kumamoto College: researcher)”

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 7 Relationship

Japanese society has been characterized as a harmonious and unity society influencing by inherited culture and traditions. Japanese have inherited culture and traditions influencing its organizational culture and organizational management patterns as well. The interdependence or “father and son management pattern” together with the encouragement of social participation in public development creation were the factors that enhanced the organization members bond with each other.

NIT focused on extracurricular activities for students accommodating in dormitories in every college. Students had grown up for up to 5 years in NIT College, from their 15-year-olds to their 20s. They become united with a strong bond and long lasting relationship.

Additionally, the factors that contribute a strong bond between the teacher and the student were the lecturers' dedication to teaching and learning as well as the counseling system.

Besides, lecturers' shared ideology, goal, and belief contributed to the firmness of the relationship between colleagues, members of the organization in every level which reflected in the conversation below.

“And students and teachers work together. Also we have a homeroom teacher. So teachers have sort of feelings seeing students growing up. It's more emotion.”

“I work for Tokyo KOSEN for 31 years, I have met a very nice, very good students. It's my pleasure in my life. When I was a university teacher, maybe I could lose such a good students. KOSEN has a big special structure between students and teachers. They have much closer relationship. It's not only a class and teachers teach. They are more involved in each other.”

“We have KOSEN friends around the country. Alumni from KOSEN will become friends immediately knowing that the other party graduated from KOSEN or whether meeting at the railway station or dormitory. Because the way of life of KOSEN people is the same.”

“5 years in KOSEN is a very special time as 5 years makes a difference for us. We became very special adults at only 20 years old.”

“There are KOSEN alumni who (have a career) provide parking lot. He met so many friends of KOSENS in his generation. ... They met and talked to each other every weekend and there became KOSEN Alumni Association... They were still in contact.”

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

Factor 8 Attitude toward problems solving

One of the most important aspects of Japanese society has been the social reconciliation. This has developed from cultural heritage and reflected traditional values of “groupism”.

If problems arose, there had been a solution to the problem by negotiating or dialoging. One of the purposes of Japanese educational management was to cultivate an attitude of value in fairness, respect, and cooperation in creating and developing quality society. These values had greatly influenced NIT lecturers’ way of life.

NIT lecturers’ personality and attitude, such as their responsibility; their devoting spirit; and the spirit of being a teacher, affected the tenderness and compassion performances among NIT lecturers and students. If some mistakes occurred - both intentionally and unintentionally - they preferred communication or dialogue to oppression or punishment.

"I can say that it is diverse. Some problems are well suited to certain hints. Some people try to use communication with children, young boys and young girls "

"We need to have the necessary qualities of being a teacher. This is a must for children. We have to take care of children who cannot adjust to their studies and have problems during their studies. When problems arise, we will use the method of talking to find a solution together more than a punishment for fear."

Researcher: *So that's why you have the attitude as one criterion when you select staff. So this is to ensure you that after they come here and work here they have a good attitude to deal with any problem here?*

Informant: *It is not easy for us to explain... I can say that the diversity of some problems needs some diverse opinions... Some try to communicate to young people, young boys and young girls."*

Academic staff & Executives, Ube and Kumamoto Colleges

25 February – 2 March 2018

In conclusion, this study found that NIT best practice was its excellent recruitment system and its lecturers' specification used to employ quality academic staff. Besides, the findings also revealed NIT's both external and internal factors influencing the achievement of its recruiting system.

The excellent recruiting system included 4 components: principles and important concepts; recruiting process; channel of recruitment and public relations; and recruiting method. Besides, each college or campus of NIT has been able to independently conduct its recruitment process, set the selection criteria, and make the decision to select their own lecturers. The lecturers' specification was set up consisting of 5 core criteria: educational level and background; reputation, interests, attitude, vision, and belief; skills and experiences; academic and research publication; and other qualification requiring by each college.

In the recruitment for promotion system, the lecturers' evaluation for promotion would be based on their qualifications and potential such as age, educational background, knowledge, abilities, and working skills. The process and criteria were similar to the new lecturer's recruiting system. The ranks of academic staff consisted of Assistant Professor, Lecturers, Associate Professor, and Professor, respectively.

In the value system, the indicators of all quality standards existed within the identity of NIT staff: belief; value; discipline; devotion; willingness; loyalty; relationship; and attitude toward problem solving. Therefore, NIT created the incentives to maintain quality human resources in the organization as long as possible. NIT offered all forms of incentives such in the development, payroll, benefits, and welfare as well as funding and scholarship to create morale for all NIT staff.

In addition, the achievement factors in NIT recruiting system revealed in both external and internal. The former consisted of NIT education system, the valuable network both inside and outside the country, the clear and transparent organizational structure and regulation, and the explicit definition of personnel's role and responsibility. The later included the staff belief, value, discipline, dedication, willingness, loyalty, good relationship, and attitude toward problem-solving. All these things promoted the effectiveness of individual management and NIT success.

Unit 5

Conclusion and Discussion

The knowledge capturing of the best practices and achievement factors in NIT's recruiting system concluded in 2 parts: 1) the best practices and achievement factors of NIT and 2) the policy recommendation for the personnel management in the institutes that provides new teaching and learning or bilateral education system in Thailand. Details are as follow.

1) The best practices in NIT's recruiting system

A result of the synthesis of NIT's personnel management revealed the best practices of NIT's recruiting system and its lecturers' specification. The findings revealed that NIT's excellent recruiting system included 4 components: principles and important concepts; recruiting process; channel of recruitment and public relations; and recruiting method. Besides, each college or campus of NIT had been able to independently conduct its recruitment process, set the selection criteria, and make the decision to select their own lecturers. NIT's lecturers' specification was set up consisting of 5 core criteria: educational level and background; reputation, interests, attitude, vision, and belief; skills and experiences; academic and research publication; and other qualification requiring by each college. Additionally, this best practice also linked to other system influencing the recruiting system: the recruitment for promotion system, the value system, and the incentive system summarizing as follows.

Recruiting system and lecturers' specification

All NIT's colleges were able to set the criteria and procedures for recruiting and selecting their own lecturers. The key components in the recruitment process were the following: principles and important concepts; channel of recruitment and PR; recruit methods; and lecturer qualifications.

Principles and important concepts of its recruitment process was the transparency and free from interference. The process was under the responsibility of each college personnel section, General Affair's Division. The Personnel Committee was responsible for the selection process.

Channel of recruitment and PR involves both paper and online jobs posting channel. Paper job posting had been done through colleges' or universities publication, Academic Society's HP, Engineering Associations, and companies. Online job posting has been done through some main websites such as Japan Research Career Information Network (JREC-IN) and NIT Headquarters' HP.

Recruit methods divided into 2 parts: documents screening and the interview. Three criteria were attitude, content, and appropriateness with 15 points each. Total was 45. The final selection had made by the president.

Lecturers' specification consisted of educational background and education level, reputation, interest, attitude, belief, skills and experiences, publications such as academic research and other specific requirements from each college.

Recruitment for Promotion System

Career advancement in teaching position of NIT depended on the appropriateness of instructors' attributes and potential. They were age, educational background, knowledge, abilities, and skills in performing various tasks. Position placement of instructors' levels was set in the following order.

1. Assistant Professor
2. Lecturer
3. Associate Professor
4. Professor

Recruiting for the promotion process was very close to the recruitment of new instructors. A candidate who would like to be promoted had to submit their documents for evaluation. Important document was the recommendation letter from the professor in each department or president. They had to hold a master or doctoral degree with explicit performance achievement. The committee members would consider 4 items: academic achievement; research achievement; contribution to the community; educational management with vary scoring by position. Recruitment process divided into 3 stages; recruitment announcement; document and qualification screening; and interviews, presentations, and trial class, then, the appropriate person would be selected for promotion.

Value system

Value system of NIT was an important factor contributing to the success in all aspects of the organization. NIT's staff valued the outstanding features of its education system, college or campus networks, alumni network, academic network, community network, and company or enterprise network in and outside the country. Explicit rules of the institute including clear structure and personnel function defined by the college. NIT's staff also valued their own quality standards and other personnel through belief, value, discipline, devotion, willingness, loyalty, relationship, attitude toward problem-solving.

Incentives System for Retention

NIT's policy had emphasized on the maintaining of quality staff until retirement. Therefore, each NIT's college aimed to promote staff motivation in various fields to create and empower their morale. They provided the incentives on development, payment, research grants, benefits, and welfares.

Incentives on development were mostly from government budget allocating to the college for the faculty development, lecturers' further study, research, training, and exchange programs. It operated both domestically and internationally. In addition, NIT intended to create the training system together with creating the employment system for all teachers.

In terms of incentives on payment, research grants; benefits; and welfares, college lecturers received a high salary according to their educational background and ability. They could also get higher salaries when they were promoted. In addition, NIT also offered extra payment from regular salaries for ones who excellently performed in every academic year.

In terms of benefits and welfare, NIT's lecturers in each college received the same benefits and welfare when compared to other state employees. The Institute had also allocated more funds and time to conduct research when compared to company or enterprise staff.

In terms of welfare, NIT had organized various projects such as savings, a special program for special festivals, and the benefits of leave with a salary.

2) Achievement Factors NIT's personnel management

The results of the synthesis of NIT's personnel management's achievement factors were divided into two parts: external and internal.

External Factors

Achievement factors of NIT's personnel management in terms of external factors were as follows.

Firstly, NIT education system focused on both theoretical and practical approaches through research method. It was the key to the teaching and learning system of NIT. This was an important part to create learning opportunities for all NIT's students.

Secondly, valuable networks both inside and outside the country included NIT's college and campus networks, NIT alumni networks, company and enterprise networks, and community networks.

Thirdly, the clear and transparent organizational structures and regulations and the explicit definition of personnel's roles and responsibilities influenced the success of NIT's personnel management.

Internal factors

Internal factors influenced by the assessment criteria of the candidate's attitudes and appropriate qualifications affected the present characteristics of NIT's staff, namely, belief; value; discipline; dedication; willingness; loyalty; good relationship; and attitude toward problems solving.

Discussion

Best practices and factors contributing to both internal and external successes of NIT were beneficial for Thai government. It could be applied as a guideline for the laws and regulations development of its teacher personnel administration system. The educational agencies, involving in the teachers' personnel administration of the institutions that conduct new teaching and learning approach, should study and review the results of the knowledge capturing in details before the implementing.

Due to the different social and cultural background between Japan and Thailand, however, it may take some times to create the specific characteristics of individuals which must be cultivated since childhood. Thus, the involvement of OBEC is

required in properly preparing people for the new education system in specific educational institutes.

This leads to a discussion of the synthesis results regarding the best practices and the factors contributing to the success of NIT's personnel management. It may build a clearer understanding of system development and laws and regulations improvement in order to solve the problems in the educational institutes that conduct new educational system in Thailand.

The findings showed that NIT's recruitment system focusing on significant standards setting in personnel management system influenced the success of NIT, one of Japan's leading human resource management institutes. It also indicated the main practices of NIT's recruitment system, namely, recruiting criteria and lecturers' specifications. NIT's educational background included its reputation, publications, and invaluable characteristics or value system, namely, interest; attitude; vision; a belief. In addition, NIT had also set up other consistent systems, namely, incentives system for retention. It consisted of the incentives in development and incentives on payment such as research grants, benefits, and welfares.

Why do educational background and interests of NIT applicants that were set up as main NIT's lecturer specification influenced the achievement of NIT's personnel management? The answer related to many previous studies on Japan identity and importance of recruitment system. Japanese society values achievement and success and expects the quality of education (Hofstede, 1981; Hofstede, 1991) while NIT has to meet the challenge of domestic and international competition in research. Thus, to successfully run NIT's new trend of education system which emphasizes quality research works, NIT needs to recruit qualified people into its system. Ph.D. is the right answer for setting up lecturers' specification on NIT lecturers' educational background. Qualified lecturers with Ph.D. could serve those values and challenge as well as serve the students success both in furthering their education and job finding. This phenomenon confirmed by the statement of Barber, M., & Mourshed, M. (2007) that teachers' quality is one of the main factors that affect learners' quality.

Furthermore, Japanese society at large is more competitive (Hofstede, 1981; Hofstede, 1991). Thus, the unity of organization is dramatically important. Setting up lecturers' interest as one of the main specifications is a must. NIT right person must first hold the same interest in NIT education system, eager to teach and research, in good aspiration toward teaching NIT students, in a collaboration and cooperation with local companies to make the contribution due to the college duty, as well as be ready, willing, and able to support the community which is a key mission of NIT College.

In addition, with the support of a strong society in Japanese characteristic and Japanese shared value in unity and future-oriented (Khlanguwan, Y., 2003), a strong NIT community will eventually be created by these qualified lecturers. Accordingly, this phenomenon will enhance organization long-term success. This was confirmed by Orawongsuphathat, C. (2013) who indicated that the key to a successful organization is the person who meets the needs of the organization. This will be a valuable and important asset to drive the organization to achieve its goals and objectives. Unqualified personnel recruitment, selection, and placement resulted in unqualified staff and organization failure eventually (Heneman & Heneman, 1994).

Besides, internal factors that influenced NIT's achievement in personnel management had been revealed during the staff discussion and interview. They were staff's belief, value, loyalty, devotion, willingness, discipline, relationship, and attitude toward problems solving. Reviews on Japanese identity could explain this phenomenon. All these factors found to serve better NIT's organization culture influencing by national culture inheriting from Japanese culture and tradition in the past. They were formed inside their mind during the upbringing period. This was confirmed by studies on Japanese cultures, social order, tradition, and society (Khlanguwan, Y., 2003; Wray, H., 1999; Hofstede, 1981; Tsutsui, 1997; Hofstede, 1991).

Also, Japanese NIT staff's belief, value, and loyalty may influence by organization culture. The thinking of most Japanese tends to be intuitive and emotional (Nakamura, 1964). So NIT set up its shared motto, core values, and mission statements for their staff to hold on. When staff shared the same value and belief, they hold the unity of their NIT society. The more they maintain the unity, the more the society united and their loyalty was built. This strong sense of loyalty finally builds a strong society and

vice versa. Consequently, strong society served their courage and challenged them to compete with all tasks and focus on long-term success.

Since Japanese society is defined as a society of unity. Staff's devotion, willingness, and discipline occurred. They work to serve the organization and the nation. They devote themselves willingly and disciplinary focusing on the benefit of the public not the benefit of an individual (Wray, H. 1999).

Japanese people praise the strength of patience and perseverance, not from cleverness or deceit. In Japanese society, full action toward everything they do is the pride of the family (Tuntiruttanasoontorn, B., 2015).

In addition, most Japanese have a willingness to work hard and to persevere toward long-range goals. If a person is treated well, he works willingly and hard (Caudill, W., 1970). The culture of Japanese organization is a kind of father and son management – paternalism (Tsutsui, 1997). The close relationship between NIT staff was seen as a very distinctive and unique feature of Japanese organization management. It reflected traditional values of “groupism”. So, their attitude toward problems solving influenced by Japanese social order, the feeling of dependency, and high regard for harmony emphasizing collaborative unity and social order (Tsutsui, 1997).

Since the establishment of KOSEN, more than fifty years have passed and KOSEN has constantly been changing to meet the society's demands. The needs for teachers has also been changing to nurture professionals required for the society, thus, the flexible personnel management is required these days.

In summary, apart from the clear process of each best practice system, another thing that cannot be denied is the appropriate allocation of the budgets which enhances NIT success. NIT allocates funds such as development funds, research project grants, scholarships for presenting research results and academic publications both in and outside the country. It also allocates salary, welfare, special compensation, and benefits to all personnel regarding their potential and needs.

Recommendations

This report revealed useful information for Thai educational agencies in dealing with the problem of personnel management of teachers and qualification of teachers in specific educational institutes. The development of personnel management needs the cooperation and support from the main educational agencies such as the Office of Basic Education Commission, the Office of the Vocational Education Commission, and the Office of the Higher Education Commission.

The knowledge gained from this study should be used and applied to develop the standard of policies, requirements, rules, and regulations to be relevant, appropriate, and fair. Therefore, the recommendation for the development divided into 3 levels: national level; ministry level, and institute level as follows.

National level

In terms of the overall national policy, governments should encourage and promote global knowledge from the global community to form the national policies in the short and long term. It should provide the budgets for importing or exchanging knowledge among overseas experts or agencies in various fields in order to accommodate the rapid changes of the global society.

National development policy should focus on human resources development in order to produce high-quality human resources that serve national development policy. Therefore, all government sectors can understand the development trends and design their own plan which serves the country development regarding the following areas.

1. Body of knowledge building area - Governments should promote and cooperate with the world community to study the development trends of the world leading countries to bring global knowledge to serve as a basis for determining the policy of the country in both short and long term.

2. Budget provision area – The government should provide the budget for importing or exchanging knowledge with experts or agencies abroad in various fields such as education, trading, industry, agriculture, and technology. Therefore, major state agencies will be able to adjust themselves to the rapid changes in the global society.

3. Human resources development area – The governments should promote and support new educational systems review, improvement, or development at all levels. Therefore, the institutes are able to produce high-quality human resources to serve the need for national development.

Ministry level

In terms of the overall ministry policy, the Ministry of Education should revise the policy, rules, and regulations relating to personnel management of teacher civil servants in the institutes that conduct both regular and specific educational systems. The policies, requirements, rules, and regulations must be standard, relevant, appropriate, and fair. The Ministry of Education must also seek cooperation among both domestic and overseas educational agencies and private sectors to serve the country's development policy in the following areas.

1. Policies, requirements, rules, and regulations area – the Ministry of Education should revise the structure, rules, and regulations relating to personnel administration of the whole main systems in government offices. The main systems are recruitment system, recruitment system for promotion, value system, and incentive systems for retention. It is to sustainably motivate all personnel and to maintain quality lecturers. The operations suggested are as follows.

1.1 The Ministry of Education should support the development of policies, rules, and regulations regarding the system of teachers' personnel administration in educational institutes, especially in the institutes that conduct new teaching and learning approach.

1) To review the policy regarding the formulation, development, and improvement of rules and regulations, laws and regulations relating to teachers' personnel administration in educational institutes that provide various educational and instructional systems.

2) To review the structure of personnel management of educational institutes that conduct various educational systems to ensure transparency, modernity and universality every year.

2.1) Restructure the authority section by dividing into two parts: academic and management.

2.2) Implement all authority in the form of a commission

2.3) Build networks among all sectors in and outside the country in order to promote and support the operation, administration, human resources, budgets, and knowledge in every level. Government sector network may involve schools, higher education institutes, organizations, or other institutes and ministries. Private sector network may involve alumni, an association of companies, private research center.

3) To review, develop and improve the quality and standards of rules and regulations including the follow-up and monitoring measurement regarding teachers' personnel management in the institutes that conduct both regular and specific systems every year. In addition, a self-assessment unit may require.

4) To review, develop, and improve the rules, regulations, and teachers' administrative procedures for the consistency throughout the system. The main sub-systems that require the review are producing system, recruitment system, development system, salary and welfare system, and retention system. This requires the involvement of the main educational organization such as the Office of the Permanent Secretary, the Office of the Basic Education Commission, the relevant educational institutes, the Office of the Higher Education Commission, and the Office of the Vocational Education Commission.

1.2 The Ministry of Education should support the development of policies, rules, regulations of the recruitment system and teachers' qualifications, especially in the institutes that conduct specific educational system. This requires the involvement of the main educational organization such as the Office of the Permanent Secretary, the Office of the Basic Education Commission, the relevant educational institutes, the Office of the Higher Education Commission, and the Office of the Vocational Education Commission. Additionally, the cooperation of other sectors such as the Ministry of Agriculture, Ministry of Science and Technology, Ministry of Industry including the private sector, such as companies or enterprises is required.

1) Set up quality standard for government teachers or instructors in each institute especially the ones that conduct specific educational system which serve the needs and satisfaction of the institutes and their personnel.

1.1) Set the educational background and academic publication as one of the key standards. The requirement for educational background is 1) bachelor and master degree with good academic performance and achievement or 2) teaching or working experiences in related fields 3) reputation and 4) highly skilled in basic, specific, and other special skills. This requires the consideration of both theoretical and practical quality. Ph.D. graduates from certified institutes in and outside the country are considered as preferable candidates. They have greater knowledge especially in research methodology to serve the improvement of teaching and learning quality.

1.2) Set the personal attributes such as interest, attitudes, vision, and belief as well as the overall appropriateness to the institutes' educational system as one of the important standards.

1.3) Set the publications such as academic research as one of the key standards. The publications may be an article published in the peer-reviewed journal domestically and internationally, published textbook, innovative, patent, books, inventions and designed products, research work presented at the conference, and other reputations.

1.4) Qualified applicants may be recruited for part-time teaching.

1.5) Foreign teachers are eligible to be recruited for the institutes that conduct specific educational system.

2) Review the process, procedures, and criteria in the recruitment system of all institutes for a clear, transparent, fair, free of interference to serve the needs of the institutes and satisfy most personnel.

3) Develop the process, procedures, and criteria for personnel selecting in accordance with the defined quality standards to create effective, transparent, fair, and universal selection standard which serve the needs of the institutes.

3.1) The process and procedures will be divided into two sections: qualification and documentation screening; and an interview, presentation and testing

3.2) Essay must be provided to represent their knowledge, ability, vision, attitude, and interests and be presented in front of the board of judges.

3.3) Criteria for selection include 1) attitudes (interest, knowledge, value, education, organizational loyalty; 2) knowledge, skills, and abilities; and 3) appropriate qualifications to be a teacher of the institutes, all criteria contain the same weight of scoring.

4) Review the structure, roles, and responsibilities of teachers in both regular and specific institutes and develop for clear details to serve the needs of the institutes. Besides, the distribution of the details in order to make mutual understanding and recognition for the unity of the work is required.

5) Determine quality standards, selectors and / or evaluators to create an effective, transparent, fair, and universal atmosphere and serve the requirements of teachers recruiting.

1.3 Ministry of Education should support the formulation of policies, rules, regulations, promotion, and payment systems including incentive systems for teachers in both regular and specific institutes.

1) Overall perspectives of performance assessment for position promotion such as the top-down, the bottom-up, the peers to peers, and the self-assessment is required. The evaluation list consists of two parts: achievement in teaching and achievement in management.

2) Establish monitoring and evaluation standards for the performance appraisal of the promoted teachers' which based on government quality standards.

3) Define standardized treatment criteria which may be done in the form of a quality assurance organization.

4) Set up the quality standards of the evaluators with the same standard, no transparency, and no interference characteristics.

5) Review, develop, and improve policies, rules, regulations regarding budget allocation for development such as project grants, research scholarships, and grants for research presenting and academic publications both in and outside the country, which serve the educational system and the needs of the institutes.

6) Review, develop, and improve policies, rules, regulations, budget allocation, welfare, special remuneration, and benefits for teachers in both regular and specific institutes every year. This must be consistent with the quality standard and potential of the required teachers in order to convince, motivate, and maintain the high quality and potential human resources which affect the institutes' teaching and learning achievement.

2. Cooperation seeking for resources mobilization area - The Ministry of Education should set up the policies to encourage and support the institutes to seek cooperation and network the country in various areas both in and outside. The budget should be provided and allocated for the mobilization of all kind resources and collaborative knowledge and networks. This will lead to the development of the teaching and learning quality, teachers' quality, and learners' quality.

Institute level

The institutes should conduct the following actions.

1. Evaluate the quality of institutes' educational system and educational management and report to the Ministry of Education in order to apply as a guideline for educational development policies and strategies setting.

2. Evaluate the quality of the teachers' personnel administration system in both regular and specific institutes and report to the Minister in order to apply in a policy and strategies formulation and development guideline. It requires the consistency of the policy and strategies and the needs of the institutes. The formulation and development may include the reviewing of institutes' administration structure for its transparency and fair system, appropriate teachers' qualifications that serve the needs of the institutes, and needs of recruiting for teachers with quality and diversity that serve the achievement in building excellence students in various fields. Additionally, the determining of salary level, compensation, benefits, as well as grants and budget allocation for development is required. Accordingly, the roles, duties, and responsibilities of the teachers must be clear.

3. Provide the acquired knowledge into practice. Technical colleges have classes in which the students work on projects which were very nice approach. At the same time, there are strong needs to enhance the level of “Monozukuri” (practical skills).

4. It is necessary to enhance English communication skills of Technical college teachers.

Recommendations for future study

Knowledge gained from this study regarding NIT best practices in recruiting system and lecturers’ specification can be used as a basis for further research and supportive information for improving and developing the personnel administration of Thai teachers.

1. The best practices should be explored - especially in recruiting, selection, and personnel placement in educational institutes or in other countries that conduct new teaching and learning approach, special education, or bilateral education – to investigate the feasibility of the application.

2. The best practices in each teacher personnel management process should be explored in other topics related to recruitment, selection, and personnel placement, such as teachers’ development, teachers’ salary, compensation and welfares, and quality teachers maintaining in the organization especially in the institutes that conduct new teaching and learning system.

3. Comparison study of recruitment, selection, and personnel placement processes should be conducted to investigate the feasibility of the application.

4. Comparison study of other related personnel management processes such as personnel development, salary and compensation, and quality teachers maintaining should be conducted to investigate the differences among other foreign countries as well as the feasibility of the application.

5. Survey study would be expected from the view point of historical context since this protocol has been developed in 60years KOSEN history. Thus, if situation changes, the system will be changed.

6. The study of personnel treatment and recruitment system to employ qualified lecturers should be established so that we can keep the high quality of education.

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Appendix

Appendix A

Semi structured interview

Semi-structured interview

- 1) Explicit knowledge
 - a) Explaining NIT structure / College structure (Documents presentation)
 - b) Explaining NIT rules, laws, regulations, policies, and strategies
 - c) Reports and Publications
2. Tacit knowledge
 - a) Explaining and discussion on recruiting system
 - i) How to, skills, experiences, cultures, belief, value, attitude, others)
 - ii) Principal concepts: vision; identity; policies etc.
 - iii) Recruiting process: recruiting structure, recruiting manners
 - iv) Channel of recruitment
 - v) Recruiting method: selecting specifications; duties; criteria; staff profile such as academic background and experiences; other responsibilities and tasks; activities as NIT staff
 - b) Explaining and discussion on achievement
 - i) Job mechanism, technic, reputation, others
 - ii) Problems and ways to solve the problems
 - iii) Impression
 - c) Other topics

Appendix B

Letters of invitation



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January 21, 2018

Mr. Phinitzak Suwannarang

The Secretary General,

The Office of the Teacher and Educational Personnel Commission (OTEPC)

Ministry of Education, Thailand

On behalf of the Japanese Thai-KOSEN Institute of Technology, we are writing to formally invite four staff from The Office of the Teacher and Educational Personnel Commission (OTEPC) as follows. They would be expected to contribute the activity as an integrated member of The Office of the Teacher and Educational Personnel Commission (OTEPC) research team, such as developing and assisting to make a study report on the structure and context of human resource management of the National Institute of Technology, Japan.

The sponsorship details are as follows.

*Supporting dates: From 24th February to 2nd March 2018 (7 days and 6 nights)

*Passage: Discount Economy Class round-trip airline ticket

(Including Domestic travel expense in Japan)

*Accommodation & meal allowance:

It will be calculated according to NIT regulation and will be paid to you in Japan.

*Remuneration: None

Yours sincerely,

1. Ms. Pranee Sivarom, Deputy Secretary General, OTEPC Ministry of Education
2. Ms. Jarungrat Kaoroprat, Expert in Personnel Management,
OTEPC Ministry of Education
3. Ms. Phiyapa Sirivedin, Human Resource Officer, OTEPC Ministry of Education
4. Ms. Sarocha Buresri, Human Resource Officer, OTEPC Ministry of Education

Tsutomu Matsumoto, PhD,

Director,

Japanese Thai KOSEN Institute of Technology,

National Institute of Technology, Japan.

Appendix C

Experts and Investigators

Experts and Investigators

Prof. Dr. Shimada Yasuyuki	Kumamoto College National Institute of Technology, Japan
Prof. Dr. Katsumi Horiguchi	Nagano College National Institute of Technology, Japan
Assoc. Prof. Dr. Chikatoshi Yamada	Okinawa National College of Technology National Institute of Technology, Japan
Assist. Prof. Dr. Weerachat Soopanyo	Former Lecturer, Faculty of Education Chulalongkorn University, Thailand
Mr. Rhian Estrada Salcedo	College Lecturer Udonthani Vocational College, Thailand

Research Project Team

Dr. Phiyapa Sirivedin	Head of Team, Human Resources Officer Office of the Teacher Civil Service and Educational Personnel Commission Ministry of Education
Professor Dr. Matsumoto Tsutomu	Co-researcher, Specially Appointed Professor National Institute of technology, Japan Ministry of Education, Culture, Sports, Science and Technology
Dr. Natcharee Rojboonyarit	Co-researcher, Human Resources Officer Office of the Teacher Civil Service and Educational Personnel Commission Ministry of Education
Dr. Wajinee Jongjit	Co-researcher, Public Health Strategic Officer Nakhon Si Thammarat Provincial Public Health Office Ministry of Public Health
Ratchaphon Amsuk	Co-researcher, Lecturer Valaya Alongkorn Rajabhat University (Under the Royal Patronage) Ministry of Education