

Job Ability Development of Japanese White Collar Workers

Kiyoshi Miyashita *

How do Japanese white-collar workers develop their professional skills and abilities? Are skills and abilities attained through education, work experience, or corporate and on-the-job training (OJT)? How effective is education, training, and experience in developing work abilities? This research examines current human resource development (HRD) methods and their effectiveness are evaluated based on a survey of 1,200 white collar workers in Japan, the UK, and the US (400 respondents from each country). Qualitative research consisting of interviews with sixteen Japanese white collar workers was conducted for further analysis. A comparison of the results revealed perspectives on the effectiveness of OJT and company education systems. The results were unique and they imply that work experience is the most effective method for work skills development, followed by OJT. In-house training and lectures are less effective than past studies have shown.

Field of Research: management education, business research

1. Introduction

How do Japanese white-collar workers develop and learn their job capabilities? To what extent are education, work experience, company training, and on-the-job training (OJT) effective in developing job capabilities? This paper identifies the most effective job abilities for white collar workers and the most effective methods of developing employee skills and abilities.

This paper examines worker development, particularly the more urgent and complex issue of white collar employee development. The proportion of Japanese graduates who work as in white collar roles such as clerical, sales, professional, and managerial positions has increased. The acquisition and development of white collar workers has not been addressed in the Japanese context and it represents the unique research theme of this paper. Although job abilities are significant, existing research and the field of HRD has not addressed the subject completely. The number of white collar workers benefiting from long-term development is decreasing because traditional, jobs-for-life employment is decreasing. In traditional, jobs-for-life employment, appraisal and development was irrelevant because employees were promoted based on seniority and were trained within the particular company. However, under current conditions, worker appraisal and evidence of job ability will become necessary. As traditional, long-term stable employment diminishes for today's white collar workers, officially documented job experience and appraisal will become more significant.

Determining the specific job elements required by white collar workers and the development of these elements is required although defining the elements and areas of expertise is complex. This paper recognizes the effectiveness of work experience and OJT as an educational and training method.

* Professor Kiyoshi Miyashita, Department of Economics, Oita University, Japan.
Email: miyashita-k@oita-u.ac.jp

Miyashita

The remainder of the paper is organized as follows. Section 2 presents a review of the existing relevant literature. The research methodology including the quantitative surveys and qualitative interviews is explained in Section 3 and a discussion of the results is presented in Section 4. Finally, Section 5 presents the conclusions.

2. Literature Review

Grugulis (2003) and Yanagida (2004) indicated that professional organizations for white collar business fields have existed in Europe and America for years. These organizations offer professional memberships to the organizations and verify qualifications. For example, National Vocational Qualifications (NVQ) are work-based awards that are now well established in the UK and through which more than 20% of workers take training courses and establish credentials.

Vocational training and higher education have collaborated to better prepare students for qualification acquisition in France. Schools and companies also cooperate with respect to vocational training and education in Germany in what has become known as the dual system. Tanaka (2010) claims that white collar jobs are also included in German vocational qualifications. Hiranuma, Sasaki, & Tanaka (2007) reported in their book that vocational education, technical training, and university graduation qualifications have been linked to public occupation training centers and US community colleges. Universities and colleges use an exchange system among various institutions. The existing research addresses the European and American systems of vocational training and white-collar qualifications; however, the studies do not examine Japanese workforce development systems.

In addition to work experience, OJT, in-house training, and self-development contribute to employee development. Japanese sociologists and scholars of the management field, Nakahara (2006) and Matsuo (2006) consider that several options, such as college education, recruitment training, internships, job rotation, graduate school, and seminars, could be effective modes of employee development. However, these previous studies did not consider the effectiveness of these methods with respect to human resource development (HRD).

Miller, Hagen, and Johnson (2002) and many theorists such as Page, Bevelander, and Pitt (2004); Carmichael and Sutherland (2005); and Segon and Booth (2012) stated that business and management degrees including MBAs (Master of Business Administration) might serve as internationally recognized qualifications for white collar workers. However, business and management degrees are limited to business-related knowledge and theory. Miyashita (2005; 2009) and Arai (2010) suggested that effective qualifications with respect to Japanese white collar jobs be limited to bookkeeping, English, and computer engineering. By limiting the qualifications, expertise could be established, and the required knowledge could be systematized. The tasks and work processes associated with these subjects do not require company specific skills and knowledge. The subjects are composed of common skills and knowledge that can be taught through training provided by general schools and programs as Becker (Becker, 1964; Izumi, 2000) indicated in the human capital theory.

Takahashi (2008) indicated that significant knowledge, skills, and abilities are included in job executing abilities such as problem-solving skills, planning and coordinating skills, interpersonal negotiation skills, the ability to adapt, flexibility, integration capabilities,

Miyashita

professional ability, professional knowledge and special skills, competency elements, willpower, and leadership ability. Broad knowledge, skills and abilities and other characteristics (KSAOs: knowledge, skills, abilities, and other characteristics) are contained in job abilities. These characteristics are easier to evaluate and develop if they are separated into specific smaller elements. However, the study discusses job skill and ability elements; however, it does not address the relationships and methods for worker development.

The five elements of administration stated by Fayol (1916) can also be applied to organizational job abilities. Fayol (1916), the founder of fundamental business administration theory, demonstrated such applications in the early 20th century. In recent years, as the basis for comprehensive common job abilities, the Ministry of Economy, Trade, and Industry (METI, 2006) of Japan has proposed basic skills for students and newly employed workers. These are organized as fundamental abilities and skills required for effective work with a diverse group of individuals in the workplace and the community. The basic skills are composed of three strengths or abilities such as “forwarding,” “thinking,” “team collaboration”; further, 12 sub-divided abilities are also included.

3. Research Methodology

3.1 Quantitative Research

Quantitative surveys and qualitative interviews were used to collect information and to analyze white collar job skills and associated human resource development. The education training methods for job skills development, the goals for manager and staff development, personnel evaluation, and business master's degrees including MBAs as general training methods are addressed in the quantitative survey. This research is unique because the results from Japan's four main white collar job fields are separately gathered and analyzed to determine differences in job functions and the requirements for employees in the respective job fields.

The survey was conducted using the network resources of Plusone Research Company Limited in December 2009. A total of 400 responses were collected from each country giving a total of 1,200 responses (return rates were 22.5% for Japan, 10.0% for the US, and 16.7% for the UK). White collar workers with over two years of service with companies that had a minimum of 30 employees were surveyed. Four job fields - human resources, accounting and finance, sales and marketing, and information systems formed the target fields for the research. One hundred responses were collected for each field along with 400 individual responses for each country.

The characteristics of the respondents, the companies, and the industries to which they belong are as follows. The average number of employees ranges from 30 employees to over 100. This includes small, medium, and large. With respect to the Japanese respondents, manufacturing employees represent over 27.4% of the respondents followed by service industry employees, which represent 15% to 16% of the respondents. Finance and insurance and wholesale and retail divisions were represented by the same percentage of respondents. With respect to the US and the UK, other industries including education, government/council, healthcare, and pharmaceuticals represent 26 to 28% of the total workforce, followed by a 14% to 17% representation by the information and communications divisions and finance and insurance. In contrast to Japan, the US and the UK results showed that only 7% to 9%

Miyashita

of respondents were employed in manufacturing industries. Manufacturing industries are in decline in the US and the UK, which may reflect industry shifts toward finance, insurance, and information technology.

Table 1: White Collar Interview Results

Depts.	Age/ Gender	No. of employees	Depart. Work Exper. ¹	Job competency ²		Versatility ³	Valued HRD ⁴	Evaluation Span ⁵	HRD Goal ⁶
				(1)	(2)				
HR 1 ⁷	20s/F	700	1 (HR)	WE	OJT	Available	Rotation	Short-term	S
HR 2 ⁸	50s/M	200	1 (HR)	WE	Training	Available	Training	Long-term	G/S
HR 3 ⁹	40s/M	100	2 (R&D/ HR)	WE	OJT	Available	OJT	Long term	G
HR 4 ¹⁰	30s/ M	1000- 4999	2 (Gen./ HR)	WE	Training	Available	NA	Short-term	S
Acct. 1 ¹¹	40s/ F	1000	1 (Acct)	WE	Self-study	Almost available	OJT & Rotation	Long-term	G
Acct. 2 ¹²	30s/M	100- 299	1 (Acct)	WE	OJT	Within industry	NA	Short-Med.	S
Acct. 3 ¹³	30s/M	20	1 (Acct)	WE	Training	Available	Training	Short-term	S
Acct. 4 ¹⁴	30s/M	4000	3 (G/Sa les/Acct)	WE	OJT	Available	Rotation.	Long-term	S
Sales 1 ¹⁵	40s/M	600	2(Prods/ Sales)	WE	OJT	Half- available	OJT/Trainin g	Long-term	S
Sales 2 ¹⁶	30s/M	3000	1 (Sales)	WE	OJT	Within industry	OJT/WE	Long-term	S
Sales 3 ¹⁷	40s/M	5000	2 (MKTG /Sales)	OJT (WE)	Training	Within industry	OJT/WE	Long-term	G/S
Sales 4 ¹⁸	30s/F	300- 999	1 (Sales)	WE	OJT	Within industry	OJT/WE	N.A.	S
IT 1 ¹⁹	30s/M	1500	1 (IT)	WE	OJT	Available	OJT/Trainin g	Short-term	G/S
IT 2 ²⁰	30s/M	800	1 (IT)	OJT	Training	Available	OJT/Trainin g	Long-term	G/S
IT 3 ²¹	30s/M	300- 999	1 (IT)	WE	OJT	Available	Qualificatio n	Long-term	—
IT 4 ²²	30s/M	1000- 4999	1 (IT)	OJT	Training	Available	OJT/Trainin g	Long-term	G/S

Source: Based on research results

Notes:

- ¹ Depart. Work Exper. : Departmental Work Experience: the departments in which the employee has worked.
- ² Job competency development: Work abilities developed (first and second place ranking). WE represents work experience.
- ³ Versatility.
- ⁴ Valued HRD: Valued human resources development methods.
- ⁵ Evaluation Span: Personnel evaluation is conducted from a long-term or short-term perspective.
- ⁶ HRD Goal: Organizational HRD is to develop generalists (G) or specialists (S).
- ⁷ HR 1 was transferred to a Japanese company from a foreign company.
- ⁸ HR 2 was sent to Keio Business School by a company and now works for an affiliated company as general manager.
- ⁹ HR 3 was a science major and working at an affiliated company.
- ¹⁰ HR 4 was a science graduate and had not aimed at HR work.
- ¹¹ Accounting 1 was female and worked at a company that provides educational opportunities only for male employees.
- ¹² Accounting 2 self-learned to obtain qualifications.
- ¹³ Accounting 3 undertook vocational computer and bookkeeping courses at an official vocational school when was unemployed.
- ¹⁴ Accounting 4 had worked as a salesperson for one company, but changed company because he wanted to work in accounting.
- ¹⁵ Sales 1 questioned the effectiveness of an MBA considering the time and cost investment.
- ¹⁶ Sales 2 doubted the effect of company education and training.
- ¹⁷ Sales 3 completed abundant company training programs and took TOEIC test.
- ¹⁸ Sales 4 learned sales by accompanying her superiors.
- ¹⁹ Information 1 noted the importance of applying training to work.
- ²⁰ Information 2 does take part in job rotation. Sales Engineers pursue individual careers.
- ²¹ Information 3 stated that qualifications could be evaluated at a young career stage.
- ²² Information 4 stated that job rotation and qualifications are positively evaluated.

Miyashita

Administrative workers represented 32% to 48% of the sample for all three nations. The percentage of administrative workers is higher among the Japanese and the UK respondents. Administrative work employs the highest number of workers in the Japanese and the UK sample and represents the second largest occupational field for the US sample. This is because a large proportion of respondents are middle aged and have been promoted to managerial positions. With respect to the Japanese respondents, professional and technical work, business/sales, and general secretarial represent the second to fourth largest job sectors (ranging from 18% to 15%). With respect to the US and UK samples, respondents who engage in professional and technical work represent 35% to 40% of the respondents, which is equal to the management sector. The field of business/sales is the third largest field for respondents, at 12% to 15%. A large proportion of the Japanese respondents work in the general secretarial field. Few respondents from the UK were employed in full-time clerical positions. More than 50 percent of employees are in management, have higher level positions, or possess professional occupations. In the US and the UK, professional positions (31% and 24%, respectively) are held by the greatest number of respondents, whereas untitled positions are held by 24% of respondents. The title of chief (26%) is heavily represented in the Japanese sample, and this category provided a substantial amount of information concerning characteristics for each country.

3.2 Qualitative Research

Following the survey, interviews were conducted with Japanese white collar workers who met the same pre-requisites as those used for the former survey. From November 2010 to January 2011, using the same network resources from the research company, four respondents from each of the four categories - human resources, accounting, sales and marketing, and information systems were interviewed. A total of 16 individuals participated in the survey, and each interview took approximately one hour to complete.

The interviews provided qualitative information concerning the basis for the evaluation. This information could not be gathered from the original survey. The attributes and results are presented in Table 1. An explanation for each of the items is provided in the notes to the table.

4. Discussion

4.1 Workforce Development

The most valued HRD method from the Japanese only results is OJT, which scored the highest at 45%. Corporate training or in-house training was the next valued method at 22% (see Table 2). Job rotation was ranked third.

Table 2: Valued HRD Method (Rate (%))

	OJT	Corporate Training	Job Rotation	Qualifications	None
HRD method (Most valued)	44.6	21.8	9.8	9.5	14.3
HRD method (Second most valued)	11.8	27.9	26.5	9.8	24.0

Source: Based on research results.

Miyashita

Table 2 reflects the results with respect to the level of value given by respondents to HRD methods. According to the results, nine out of 16 interviewees considered OJT to be the best HRD method. Six interviewees chose training; three interviewees chose job rotation, and one interviewee considered self-learning and qualifications as the most important HRD method. This result matched that of the questionnaire. Therefore, OJT was considered the most effective HRD method followed by training and job rotation.

Table 3: Effective Methods for Developing Abilities (Rate %)

Development Method	Very Effective	Effective	Not Effective	No Experience
Work Experience	48.6	42.3	5.8	3.3
OJT	26.0	53.4	11.8	8.8
Self-Learning/Development	21.8	62.1	8.8	7.3
Job Rotation	19.8	46.7	13.0	20.5
School Education	14.3	57.1	24.8	3.8
Corporate Education/Training	13.5	61.2	17.5	7.8
External Seminars	13.3	61.7	15.5	9.5
Experience Prior to Corporate Training	6.8	35.9	22.5	34.8
Pre-employment Internship	6.8	20.8	14.5	57.9
Graduate School Attended during Employment	6.8	20.8	7.0	65.4

Source: Based on research results

Table 3 shows the results of the interview questions concerning the effectiveness of experiences including education and company experience. Participants were asked to rate the effectiveness of each experience. The results reflected any experience, including college education, self-study, in-house training, and work experience, which might develop job abilities. The interviews revealed that company work experience was considered extremely valuable followed by company OJT and self-learning/development. Surprisingly, corporate education/training was valued less than job rotation and college education. The method considered the second most effective was self-learning/development and was comparable to company OJT. Other methods such as job rotation, school education, and corporate education/ training were also evaluated by more than 70% of respondents. With respect to experiences prior to joining corporate training, such as pre-employment internship and graduate school after employment, many respondents had no experience and were unable to evaluate these methods.

A total of 14 of the 16 respondents shown in Table 1 considered work experience as the best method for job skills development. All divisions, HR, accounting, and sales departments, but with the exception of information systems, also indicated that work experience is the best method for HRD. One respondent from sales considered both work experience and OJT to be the best method for of HRD. Two respondents from the information systems sector analyzed work experience and on-the-job training separately. Some of the interviewees from the information systems field who considered OJT to be the best method of HD could not differentiate between OJT and work experience. Both respondents who considered OJT to be the best method for HRD rated corporate

Miyashita

training as the second best method. These respondents might consider that work experience or OJT do not constitute elements of ability development.

A total of nine interviewees rated OJT second, six rated training second, and one rated self-learning second. Work experience is considered extremely effective and is followed by OJT and training. In the survey results, self-development was ranked lower than OJT and training was ranked lower again. However, corporate training was divided into several items such as in-house training, outside seminars, and training before joining the company. This may explain why corporate training is so highly rated; however, it was rated lower than OJT.

These results are significant. Although previous studies in the Japanese context (Izumi, 2000; Nakahara, 2006; Kimura, 2011) address the effectiveness of OJT, they did not show quantitative evidence or compare OJT with work experience.

4.2 Valued Human Resources and Span Evaluation

This research also addresses the skills most valuable to the employee – generalist or specialist. In traditional Japanese management, generalist skills are required for promotion. However, currently, specialists may be more valued (Sano, 1993; Yachi, 2007). Table 4 reflects inconclusive survey results. The yes and no responses were the most common responses; however, a generalist emphasis by employers was the next most common response and generalist appears to be supported from the survey results.

However, the interviews revealed that many respondents considered specialists to be most valued. There were a number of respondents who chose generalist and specialist. This result might vary depending on the age and career stage of the respondent. Therefore, the most valuable type, specialist or generalist, is not easy to discern.

Table 4: Valuation of Generalist or Specialist (%)

Results Division	Generalist	Generalist Valued Minimally	Either	Specialist Valued Minimally	Specialist Valued	Unknown
Total	7.5	29.0	38.0	16.0	6.0	3.5
HR/Labor	8.0	33.0	33.0	19.0	4.0	3.0
Financial/Acct.	6.0	28.0	41.0	14.0	5.0	6.0
Sales/Mktg.	10.0	22.0	41.0	17.0	7.0	3.0
Information Systems	6.0	33.0	37.0	14.0	8.0	2.0

Source: based on the research results

Note: No independent tests, statistically.

The value placed on long- or short-term evaluation in an organization from a human resources assessment perspective was examined (see Table 5). The conventional Japanese management system has emphasized long-term evaluation. Since the 1990s, the personnel evaluation by merit system has been popular; however, short-term evaluations have become more popular recently. The survey reflected that some long-term evaluation is considered effective. However, several divisions such as sales and accounting showed that short-term evaluation yielded conflicting yes and no responses.

The interview survey results reflect that the HR and accounting field supporters of short- and long-term evaluations are equally split, whereas three respondents from the sales and information divisions supported long-term evaluation. One respondent from the

Miyashita

information division supported short-term evaluation, but one respondent from sales did not provide an opinion. The result is contrary to expectations because in the HR and accounting fields, personnel evaluation from a short-term perspective has been in use. With respect to the interview responses from the accounting division, short-term evaluation as an effective HRD tool has increased in popularity. The result is difficult to generalize because the sample is small; however, the rating in the short term is likely to gradually increase.

Table 5: HR Evaluation Perspective (%)

Results Division	Long-term	Long-term valued minimally	Either	Short-term valued minimally	Short-term	Unknown
Total	8.0	30.7	28.0	17.5	12.8	3.0
HR/Labor	6.0	41.0 [*]	29.0	9.0 [/ /]	12.0	3.0
Financial/Acct.	12.0	23.0	27.0	25.0 [*]	9.0	4.0
Sales/Mktg	8.0	25.0	27.0	18.0	20.0 [*]	2.0
Information systems	6.0	34.0	29.0	18.0	10.0	3.0

Source: based on the research results

Notes: [*]: p: 0.05 [/ /]: p [0.01 significant difference]

5. Conclusion

This paper examines the HRD methods for white collar job abilities based on survey results. The ideal HR, appraisal, knowledge, and development methods were investigated and analyzed including a model for targeting HR senior staff and the short- and long-term perspective for personnel evaluation. The findings of the paper can be summarized with the following three points.

- (1) Work experience was found to be the most effective and essential method for increasing job capabilities, or job-executing abilities. OJT and self-learning are also effective in the development of job capabilities. However, the effect of work experience including job rotation is difficult to substitute with other methods.
- (2) OJT is also valuable as an HRD method. OJT enhances job capabilities second only to work experience. In-house training and self-learning are considered the next second most effective methods; however, targeted programs that consider the subject or contents are required to increase the effect of OJT.
- (3) The results show that future HRD should be generalist-oriented, and personnel appraisals should adopt a long-term perspective. However, short-term evaluation or specialist-oriented evaluation often prevails because these evaluations are based on the field or career stage of employees.

The multiple survey results and analysis show work experience and OJT as powerful methods for developing job ability and emphasize the significance of such programs in the workplace. The survey results concerning non-regular, white collar workers provide evidence that worker competence might be dependent on workplace experience. Work experience early in an individual's career is a factor that contributes to worker competence. This study shows that employment is a method of upgrading job skills and abilities and HRD as well as a method to secure human resources and to provide livelihoods for workers.

Miyashita

This research and survey highlights the importance of work experience and OJT. This research offers different findings from previous studies from the Japanese context (Nakahara, 2006; Matsuo, 2006) that emphasize off-the-job training. This research explains the shortage and the limited use of academic degrees such as MBAs and professional qualifications for white collar Japanese workers. However, additional detailed and clear analysis with respect to work experience and OJT is required. This research study is limited in scope, and we recommend additional analysis for further research. A chronological survey with an international comparison, including environmental and corporate strategy, would provide additional detailed knowledge for the research stream.

References

- Arai, G 2010, 'Hatarakuhito no shougai shokugyo nouryoku kaihatsu no kakuritu wo mzasHITE (toward establishment of workers lifetime employment development)', *Korei/Shougaisha Koyoshienkiko Elder (Elderly and Disability Employment Assistance Mechanisms Elder)*, no. 32, vol. III, no. 11, no. total 373, pp. 45-49.
- Argyris, C 1991, 'Teaching smart people how to learn', *Harvard Business Review*, vol. 69, no. 3, pp. 99-110.
- Becker, GS 1964, (Sano Yoko translation, 1976), *Human Capital*, Toyo Keizai Shinposha, Tokyo.
- Carmichael T & Sutherland M 2005, 'A holistic framework for the perceived return on investment in an MBA', *South African Journal of Business Management*, vol. 32, no. 2, pp. 57-70.
- Fayol, H 1916, (Yamamoto Yasujiro translation, 1985), *Industrial and General Management*, Diamond Company, Tokyo.
- Grugulis, I 2003, 'The contribution of national vocational qualifications to the growth of skills in the UK', *British Journal of Industrial Relations*, vol. 41, no. 3, pp. 457-475.
- Hiranuma, T, Sasaki, E & Tanaka, M 2007, *Jyukurenko yosei no kokuai hikaku (International Comparison of Skilled Workers' Training)*, Minerva Shobo, Kyoto.
- Izumi, T 2000, 'Shokugyo nouryoku no shijyo tsuyosei ni kansuru kenkyu (A research for market versatility of job ability)', *Nara Daigaku Sogo Kenkyujyo Shoho (Nara University General Research Institute Report)*, pp. 177-197.
- Keizai-Sangyo Sho Home Page 2013 (Ministry of Economy, Trade and Industry), (<http://www.meti.go.jp/policy/kisoryoku/about.htm>).
- Kimura, M 2011, 'Roudosha no Nouryoku Kaihatsu oyobi Shien-seido (Abilities' Development and Support Systems for Workers)', *Shitenoji Daigaku-Kiyo (Bulletin of Shitenoji University)*, vol. 52, pp. 27-46.
- Matsuo, M 2006, *Keiken karano gakushu – professional heno seicho process (Learning from experience - growth process to a professional)*, Dobunkan, Tokyo.
- Miller, S, Hagen R & Johnson, M 2002, 'Divergent identities? Professions, management and gender', *Public Money and Management*, vol. 22, no. 1, pp. 25-30.
- Miyashita, K 2005, 'White collar no shokumu noryoku to koteki shikaku (job possibilities of white collars and public qualifications)', *Nihon Roumu Gakki Shi (Japan Journal of Human Resource Management)*, vol. 7, no. 2, pp. 15-27.
- Miyashita, K 2009, 'White collar koteki shikaku no genjyo to kadai (current status and problems of public qualifications for white collars)', *Jinzai Ikusei Kenkyu (Japanese Journal of Human Resource Development)*, vol. 4, no. 1, pp. 63-75.
- Nakahara, A, Araki, J, Kitamura, S, Nagaoka, K & Hashimoto, S 2006, *Kigyounai jinzaikusei nyumon (introduction to in-house human resource development)*, Diamond Sha, Tokyo.

Miyashita

- Page, MJ & Pitt, LF 2004, 'Positioning the MBA product', *Journal of General Management*, vol. 30, no. 1, pp. 1-16.
- Sano, Y 1993, 'Daikigyo niokeru Jintekishigenkanripattern no henkato kawarigatai nenko tingin system (Changes of HRM pattern in Japan's large companies and stable seniority based wage systems)', *Mita Shogaku Kenkyu (Mita Business Review)*, vol. 36, no. 1, pp. 19-35.
- Segon, M & Chris, B 2012, 'Are MBAs meeting business's needs?' *World Journal of Management*, vol. 4, no. 2 September, pp. 1-13.
- Spencer, LM Jr & Spencer, SM 1993, '*Competence at work: Models for superior performance* Wiley.
- Takahashi, K 2008, 'Naibu-gaibu rodo shijyo niokeru shokugyou nouryokuhyouka no yakuwari (The role of vocational ability evaluation of internal and external labor markets)', *Nihon Rodo Kenkyu Zasshi (The Japanese Journal of Labor Studies)*, vol. 577, pp. 4-16.
- Tanaka, M & Oki, E 2007, *Hataraku hitono gakushuron (learning theory for workers)*, No. 2 Edition, Gakubun-Sha, Tokyo.
- Tanaka, Y 2010, 'Doitsuniokeru kigyounai kyoikuto "shoku" no keisei (in-house training and formation of jobs in Germany)', *Ohara Shakaimonai Kenkkyusho Zasshi (Journal of Ohara Institute for Social Research)*, vol. 620, pp. 2-14.
- Toda, J 2010, 'Shokumu keikennha doredake jyuyoni natteirunoka (How important is job experience)', *Nihon Rodo Kenkyu Zasshi (The Japanese Journal of Labor Studies)*, vol. 594, pp. 5-19.
- Yanagida, M 2004, *Igrisuni okeru "shikakuseido" no kenkyu (A study of the qualification system in the United Kingdom)*, Tagashuppan, Tokyo.