

Influence of Field Practicum on Developing Professional Competencies: An Exploratory Study on Qualifications from Specialized Training Colleges in Japan

* *Norihiro Miho*

Kyoto University of Advanced Science, Japan

Chiaki Matsuo

Kyoto Sangyo University, Japan

Moriki Terada

Kyoto University of Advanced Science, Japan,
Professor Emeritus, Nagoya University, Japan

*Corresponding author: miho.norihiro@kuas.ac.jp

ABSTRACT

In this study, we reviewed variables of professional competencies and constructed a new scale for measuring them. An exploratory factor analysis of 125 students at specialized training colleges and universities led us to define four factors: “Professional Outlook and Sense of Responsibility for Work,” “Work Management Skills,” “Technology and Job Creativity,” and “Collaboration and Communication Orientation.” We also examined the impact of various experiences, such as practical training, on these factors. Hierarchical multiple regression analysis showed that, in addition to field practicum, learning behaviors during training positively contributed to the formation of professional competencies.

Keywords: professional competencies, specialized training colleges & higher vocational education, practical training, scale structure, specialized training colleges and university students

RESEARCH BACKGROUND

INTRODUCTION

This research was conducted as part of the Grant-in-Aid for Scientific Research Basic Research (C) “Longitudinal Research on the Effectiveness of Internships Focusing on Job Connectivity (KAKENHI: 22K02728)” clarifying the impact that various experiences, mainly field practicum at specialized training colleges in Japan, have on the formation of professional qualifications. In this paper, we first summarize the definitions of the variables related to professional competencies in Japan and studies related to professional competencies in specialized training colleges and higher vocational education. On this basis, we conducted an exploratory study in the form of a quantitative survey to examine the effects of various experiences, mainly field practicum, on the formation of professional competencies.

Definitions of Variables of Professional Competencies

Professional competencies are the basic abilities required to perform a job. In Japan, research has been accumulated through the Grant-in-Aid for Scientific Research (B) “Comparative Longitudinal Research on Structural Change in the Formation of Professional Competencies of University Students - The Role of Vocational Learning and Work Experience(KAKENHI: 25285229)” (Terada, Ii, Ishimine, Shimizu, 2015; Terada, Ii, Ishimine,2016; Terada, Yamamoto, Shimizu, 2017; etc.), of which, Terada et al. (2015) distinguish between professional outlook and professional abilities (basic abilities) and summarize these concepts within the higher concept of professional competencies. This is an overview of the variables considered to constitute professional competencies and what has been examined so far.

The series of studies mentioned above led by Terada (KAKENHI: 25285229) originally focused on professional qualifications (competency or competence) among the variables in research on professional outlook. The first reference thus far was to creativity, management, associates, independence, intellectual stimulation, etc., which excludes the ideas/ideological terms among the 16 items in Super (1970), and technical/functional, general managerial, autonomy/independence, and entrepreneurial creativity, the four items from the Career Anchors in Schein (1978), while excluding the items on professional outlook, security/stability, service/dedication to a cause, pure challenge, and lifestyle. The three skills (basic skills, thinking skills, personal qualities) and the five competencies (resources, interpersonal skills, information, systems, and technology) from the US SCANS Report (1991), and the three key competencies (use tools interactively, interact in heterogeneous groups, and act autonomously) from the OECD-DeSeCo (2003) were also referenced. In addition to the discussions overseas, the six factors of basic professional skills were developed taking into consideration the discussions of various ministries and agencies, such as the basic skills for working adults (12 items in three categories: ability to advance, ability to consider, and ability to work on a team) proposed by the Ministry of Economy, Trade and Industry in 2006, the basic skills for employment (10 items in four categories: communication skills, professional awareness, basic academic skills, and business etiquette) and job card ability evaluation sheets (2015) proposed by the Ministry of Health, Labour and Welfare in 2004, and the professional development index (12 abilities in four areas: career design, ability to search for and use career information, decision-making abilities, and human relations) proposed by the Vocational Education and Career Guidance Study Group (1998), as well as the eight extracted factors (work management skills, language education, technical skills, communication skills, physical exercise, and organizational adaptability) by Muroyama (1999).

Terada (2023) added further theoretical consideration to these aspects. We then reorganized and condensed the 30 skills listed above, and proposed new variables consisting of 30 items, adding information processing skills including reading comprehension, ICT, and problem-solving, as discussed since 2004 by the OECD (2013) in the European Competency Framework, and seven other general skills, such as involving others, collaboration, self-organization, dexterity, physical strength, etc., as well as the 30 proposed competencies by the Japan Institute for Labour Policy and Training (2013). Regarding specific content, they assume the emergence of 10 groups of professional competencies, including basic skills (four competencies for document processing), planning and related skills, problem identification and solving, communication and involvement, critical thinking, technical abilities, physical abilities, responsibility/autonomy, and cooperation, with three items each for ethics and professionalism. However, this proposal is based on theoretical sorting, and no empirical study on this point has yet been conducted.

Research Related to Professional Competencies in Specialized Training Colleges and Higher Vocational Education

Next, we present an outline of previous research on professional competencies in specialized training colleges and higher vocational training. For students in Japan, specialized training colleges and higher vocational education are usually the stage that occurs just before the transition to the professional world. Therefore, developing professional competencies is one of the most critical issues at this stage. In particular, practical training experience has a significant link with the formation of professional competencies.

Although there have been multiple studies on students at specialized training colleges (Ikoma, Yoneyama, Hidaka, 2011; Miura, 2016; Shida, Oida, and Katsuhara, 2021, etc.), considering the three journals published by the Career Design Institute of Japan, the Japanese Society for the Study of Career Education, and Bulletin of the Japan Society of Industrial and Technical Education as related journals, Hidaka (2022) is the only one that mentions professional competencies. In that study, 30 items were developed with reference to the items in Shimomura, Yahata, Umezaki, and Tazawa (2009) for measurement.

We can go a little further and take as examples the three specialized fields of nursing, judo therapy, and early childhood education. Research in the field of nursing is more active than in the other two fields. For example, Ukawa and Hosoda (2020) measured the proactive behaviors of new nurses from the perspective of organizational socialization and reported the four behavioral factors of nursing skill proficiency, relationship-building, proactive learning, and feedback-seeking. Kaneko, Kawasaki, Matsuura, Williamson, Hiraoka, Suzue, Ito, Mashimo, and Kondo (2020) developed a key competency scale for nursing managers with five factors: situational awareness, metacognition, self-management, career support, and decision-making. Other studies include research on a scale to evaluate learning outcomes in adjoining fields' practice (Ikeda and Maeda, 2019) and a study of self-evaluation of professional practice that presented 16

items in four areas: nursing assessment, nursing development, assessment, and analytical research (Saeki, Kawaharada, and Hayama, 1999).

The judo therapy field is not as active as nursing, but the Japanese Society of Judo Therapy is large and active, and their 31st Research Congress was held in December last year. Its proceedings (<https://www.jsjt-congress-31.info/application/files/4816/6876/0823/31.pdf>), include reports like “A survey on the physical ability of medical college students” (Sakamoto, Hatashima, Hayashi, Azuma, Takeuchi, and Iide, 2022) and “A survey on clinical practice stress among students at judo therapist training facilities” (Watanabe, Kuboyama, Shiraishi, Ishiyama, Higuchi, Matsuda, Hattori, Kobayashi, and Ito, 2022). In the field of early childhood education, Watanabe (2017) examined the anxiety related to practical training in vocational school students, clarifying three factors: anxiety about dealing with children and childcare practices, anxiety about communication and personal issues during training, and anxiety about relationships with the staff at the training site.

Looking at other research on competencies and abilities concerning specialized training colleges, in addition to the “Survey on Learning and Life of Specialized Training Colleges” by the Benesse Educational Research & Development Institute (2017) and “Report of Empirical Research on Curriculum and Learning Outcomes in Vocational Education Management” by the Mitsubishi Research Institute (2020), for instance, Uegami (2011) conducted a qualitative survey on the relationship between specialized training colleges education and career development. The results showed that, in addition to acquiring “immediate knowledge and skills,” students learn basic abilities as a member of society, views of work and basic vocational abilities, and their own way of dealing with the challenges of their professions (p. 277). Further, Takimoto (2022) conducted research on collaborations of vocational schools with companies and other organizations for vocational training programs, development of the competencies of vocational education, changes in education through practical courses, etc.

These results reveal how research on professional competencies has been conducted in specialized training colleges and higher vocational education areas in Japan. However, the professional competencies studied in these papers are diverse and primarily focused on specific elements and matters related to them, and the theoretical organization of vocational qualities, as in Terada (2023), has not been sufficient. There is also room for further study on the kinds of experiences that contribute to the formation of these professional competencies.

Objectives of This Research

Based on the above, in this study, we measure and construct a scale of the professional competencies theoretically examined in Terada (2023). The aim is to conduct an exploratory study of the types of experiences that contribute to the formation of professional competencies, mainly through field practicum at specialized training colleges for qualifications.

METHODOLOGY

Procedure

We administered a questionnaire to third-year students at three-year specialized training colleges and fourth-year students at universities. The period of implementation was from December 2022 to January 2023. Based on the research objectives, we targeted specialized training colleges related to early childhood education, judo therapy, and nursing, as well as university nursing faculties. We only studied subjects who agreed to cooperate with the survey, and we offered a QUO card worth 500 yen as a reward. This research was conducted after passing a review of research ethics at the Kyoto University of Advanced Sciences.

Participants

In this research, one specialized training college for early childhood education, judo therapy, and nursing, and one university with a nursing department collaborated with us. Twenty-two students from early childhood education (5 male, 17 female), 67 from judo therapy (52 male, 15 female), 26 from a nursing specialized training college (5 male, 21 female), and 10 undergraduate nursing students (4 male, 6 female) participated in the survey, for a total of 125 students (66 male, 59 female) (Table 1).

Table 1 Breakdown of Surveyed Participants

	Male	Female	Sub total
3rd Year Judo Therapy	52	15	67
3rd Year Children's Education Course	5	17	22
3rd Year specialized training college for Nursing	5	21	26
4th Year Faculty of Nursing	4	6	10
Sub total	66	59	125

Measures

Professional Competencies Responses were sought for each of the 30 items proposed by Terada (2023) on a 4-point scale from (1) “Not Applicable” to (4) “Applicable.”

Field Practicum Content Nine items were prepared regarding experiences during field practicum, and responses were sought on a 4-point scale from (1) “Not Applicable” to (4) “Applicable” as to the extent of the subjects’ experiences.

Course Experiences This section asked the respondents about their experiences when taking courses offered at the specialized training college/university. We prepared 13 items, focusing on the teaching methods, characteristics, and nature of the courses, and we sought responses from (1) “Few” to (4) “A Lot” on the extent to which the respondents had taken courses with the characteristics described in the items.

Field Practicum Experiences This item asked about experiences related to acquiring work skills in field practicum. Twelve items were created based on the work skills presented as learning outcomes in Honda (2018), and responses were sought for each of the four methods from (1) “Not Done” to (4) “Done.”

Extracurricular Activities This item asked about the respondents’ extent of participation in extracurricular activities. Six items were prepared with reference to Mizokami (2018) and others, and responses were sought for each item using a 4-point scale from (1) “Not Done” to (4) “Done.”

Part-time Work Experience Other than extracurricular activities, the respondents were asked about their experience and duration of their part-time work while studying.

RESULTS

Scale Structure for Professional Competencies

We conducted exploratory factor analysis (main factor method, Promax rotation) on the 30 items of the professional competencies scale. Based on the initial eigenvalue decay and the scree plot, four factors were judged to be significant (Table 2).

Factor 1 was named “Professional Outlook and Sense of Responsibility for Work” because of the high factor pattern value for 11 items, including “I can maintain physical strength and energy until work is complete” and “I continue to work with awareness of the significance and role of the profession.”

Table 2 Results of Exploratory Factor Analysis of Professional Competencies

Item	Factor 1	Factor 2	Factor 3	Factor 4	Commonalities	Average	Standard Deviation
I can maintain physical strength and energy until work is complete	0.85	-0.02	0.05	-0.18	0.61	3.12	0.84
I can take responsibility for my work	0.72	0.03	-0.15	0.14	0.58	3.47	0.76
I have the physical strength and energy to work	0.71	0.17	-0.01	-0.10	0.57	3.21	0.73
I can carry out work within a set range of standards/time	0.63	-0.01	0.18	0.01	0.52	2.91	0.86
I try to carry work out autonomously	0.62	0.25	0.00	-0.11	0.52	3.04	0.83
I try to carry out work according to necessary guidance and instructions	0.60	-0.09	-0.04	0.41	0.67	3.34	0.77
I continue to work with awareness of the significance and role of the profession	0.60	0.14	-0.09	0.13	0.52	3.18	0.76
I attempt to communicate with customers	0.53	-0.12	0.04	0.23	0.40	3.14	0.84
I place importance on carrying out work with a spirit of teamwork	0.53	-0.04	-0.09	0.38	0.55	3.31	0.78
I am aware that the quantity and quality of products and services impact the lives and happiness of customers	0.43	-0.14	0.16	0.37	0.49	3.14	0.91
I seek collaboration for opinions and ideas	0.31	0.28	0.11	0.18	0.51	2.77	0.90
I can plan work processes, deadlines, options, etc.	-0.02	0.85	-0.05	0.01	0.68	2.69	0.92
I can eliminate the source of issues when carrying out work	0.08	0.83	0.00	-0.09	0.69	2.47	0.91
I check work results against goals	0.05	0.68	-0.10	0.15	0.57	2.74	0.92
I can quantitatively represent and statistically process work tasks, performance, etc.	-0.21	0.67	0.28	-0.04	0.51	2.25	0.98
I can give feedback on plans and arrangements regarding work results	0.23	0.66	-0.07	-0.03	0.58	2.70	0.96
I can develop (structure) the physical, technical, and human conditions related to a job	0.02	0.61	0.13	0.05	0.53	2.36	0.92
I can conduct logical analysis to solve problems	0.24	0.51	-0.02	0.10	0.53	2.61	0.89
I can clearly set work tasks and goals	0.43	0.50	-0.18	0.07	0.63	3.10	0.82
I can prepare routine work documents	-0.23	0.46	0.35	0.18	0.48	2.17	1.02
I can take care of tools and machines	0.37	-0.28	0.68	-0.08	0.55	2.44	1.00
I can operate various tools and machines	0.13	-0.11	0.62	0.08	0.44	2.17	0.89
I can use a computer and various software applications	-0.11	0.17	0.57	0.14	0.49	2.07	0.96
I can accurately understand business documents	0.33	0.29	0.40	-0.19	0.54	2.63	0.98
I can communicate in English with overseas business partners and foreign customers	-0.23	0.13	0.38	0.02	0.16	1.25	0.57
I can critically evaluate traditional work to improve the quality of products and services	-0.10	0.15	0.37	0.33	0.39	2.20	0.92
I always strive to create something new	0.08	0.26	0.36	0.04	0.37	2.31	0.91
I place importance on collaborative work with colleagues and subordinates in the same department	0.13	0.11	0.05	0.63	0.64	3.11	0.91
I place importance on working systematically with other departments and sections	0.05	0.19	0.07	0.52	0.50	2.87	0.98
I listen to the opinions of others in the course of work	0.35	-0.05	0.03	0.38	0.40	3.30	0.92
	Factor 1	Factor 2	Factor 3	Factor 4	α Coefficient	Average	Standard Deviation
Factor1 Professional Outlook and Sense of Responsibility for Work					0.910	3.15	0.59
Factor2 Work Management Skills	0.56				0.907	2.58	0.70
Factor3 Technology and Job Creativity	0.42	0.48			0.772	2.15	0.59
Factor4 Collaboration and Communication Orientation	0.53	0.55	0.37		0.723	3.11	0.74

Factor 2 was named “Work Management Skills” due to the high factor pattern value for 9 items, including “I can plan work processes, deadlines, options, etc.” and “I can give feedback on plans and arrangements regarding work results.” Factor 3 was named “Technology and Job Creativity” because of the high factor pattern value for 7 items, including “I can take care of tools and machines” and “I can operate various tools and machines.” Factor 4 was named “Collaboration and Communication Orientation” because of the high factor pattern value of three items, including “I place importance on collaborative work with colleagues and subordinates in the same department,” “I place importance on working systematically with other departments and sections,” and “I listen to the opinions of others in the course of work.” The reliability coefficients (α coefficients) of the sub-scales constructed from each factor were, in order from the first factor, 0.910, 0.907, 0.772, and 0.723.

Influence of Field Practicum on the Development of Professional Competencies

Next, we examined the influence of various experiences, primarily field practicum, on the formation of basic professional skills. An analysis was conducted using hierarchical multiple regression analysis. We assumed that the content of field practicum would play a central role in the formation of professional competencies. From this assumption, nine items of field practicum content were introduced in Step 1 (forced entry procedure). We expected that the effects of other experiences would differ depending on the aspect of professional competencies. However, due to the large number of variables, we used the stepwise method in Step 2, entering dummy variables for gender, vocational specialty (early childhood education, judo therapy, and nursing), duration of part-time work, course experience, experience studying in practical training, and extracurricular activities. For the dependent variables, we constructed four sub-scales from each factor related to basic professional skills. For missing values, we applied mean substitution.

The results of the analysis indicate that the explanatory ratios were significantly higher in Step 2 when used in both analyses. Therefore, Table 3 shows the analysis results with input up to Step 2.

In the field practicum content for “professional outlook and sense of responsibility for work,” a significant path $\beta=0.26$ ($p<.05$) was obtained from the “company/workplace visit” item of the field practicum

content, $\beta=0.28$ ($p<.01$) from “thinking about problem-solving using knowledge of the specialized field

studied in school” in the practical learning experiences, and $\beta=0.19$ ($p<.05$) from “introductory/general classes for specialized fields” of course experiences. In work management skills, a significant path of $\beta = -0.18$, $p<.05$ was observed for “etiquette class” in the field practicum content, $\beta=0.27$, $p<.01$ for “thinking about problem-solving using knowledge of the specialized field studied in school” and $\beta=0.17$, $p<.01$ for “handling and negotiating with external parties” under the field practicum experiences, and $\beta=0.27$, $p<.01$ for “classes with students sharing comments and opinions on the course content” under course experiences. For technology and job creativity, a significant path of $\beta=0.25$ ($p<.01$) was observed from “classes to research issues in specialized fields” and $\beta=0.21$ ($p<.05$) from “classes related to languages, such as English” under course experiences, $\beta=0.25$ ($p<.01$), from “thinking about problem-solving using knowledge of the specialized field studied in school” under field practicum experiences, $\beta=0.24$ ($p<.01$) from “social contribution activities (community activities, volunteering, NPOs, international activities, etc.)” under extracurricular activities, $\beta=0.37$ ($p<.01$) from the professional vocation dummy (judo therapy) under vocational specialty, and $\beta=0.22$ ($p<.05$) from the part-time job duration dummy (3+ years). For “collaboration and communication orientation,” a significant path of $\beta=0.31$, ($p<.01$) was observed for “company/workplace visit,” $\beta=-0.32$, ($p<.01$) for “work content similar to employees,” $\beta=0.24$, ($p<.05$) for “problem-solving assignments” under field practicum content, $\beta=0.30$, ($p<.01$) for “classes to research issues in specialized fields” under course experiences, $\beta=0.22$, ($p<.05$) for “planning and proposing a solution to a presented task” under field practicum experiences, $\beta=0.17$, ($p<.05$) for “group activities” under extracurricular activities, and $\beta=-0.27$, ($p<.01$) for the gender dummy variable.

Table 3 Hierarchical Regression Analysis Results

	Professional Outlook and Sense of Responsibility for Work	Work Management Skills	Technology and Job Creativity	Collaboration and Communication Orientation	
Step 1					
Company/workplace briefings	-0.08	-0.08	-0.11	0.10	
Simple tasks in the store, office, or workplace	0.07	0.06	-0.03	-0.01	
Company/workplace visit	0.26*	0.11	0.10	0.31**	
Work content similar to part-time job	0.05	0.16†	0.16†	0.01	
Etiquette class	-0.09	-0.18*	-0.09	-0.16†	
Work content similar to employees	-0.14	-0.05	-0.19	-0.32**	
Lectures from executives and company leaders	0.11	0.16†	0.17†	0.02	
Presentation of problem-solving assignments	0.12	0.03	0.17†	0.24*	
Job content related to vocational field	0.04	0.05	0.06	-0.08	
Step 2					
(FP) Thinking about problem solving using knowledge of the specialized field studied in school	0.28**	0.27**	0.25**		
(FP) Handling and negotiating with external parties		0.17*			
(FP) Planning and proposing a solution to a presented task				0.22*	
(C) Introductory/general classes for specialized fields	0.19*				
(C) Classes with students sharing comments and opinions on the course content		0.27**			
(C) Classes on research issues in specialized fields			0.25**	0.30**	
(C) Classes related to languages, such as English			0.21*		
(EA) Social contribution activities (community activities, volunteering, NPOs, international activities, etc.)			0.24**		
(EA) Group activities				0.17*	
Professional vocation dummy (judo therapy)			0.37**		
Part-time job duration dummy (3+ years)			0.22*		
Gender dummy				-0.27**	
	R ²	0.320	0.430	0.418	0.416
	Adjusted R ²	0.253	0.368	0.338	0.348

Note: **: $p<.01$, *: $p<.05$, †: $p<.10$ FP=Field Practicum, C=Coursework, EA=Extracurricular activities

DISCUSSION

In this study, we investigated a new scale structure to measure professional competencies and the kinds of experiences that contribute to their development. The newly constructed scale originally presumed 10 groups of professional qualifications (competencies), but they ultimately were aggregated into four factors. In the below discussion, we focus on the impact of various experiences, primarily field practicum, on these professional competencies.

“Professional outlook and sense of responsibility for work” is a factor that captures the sense of duty felt toward performing work and the respondent’s attitude toward work. The factors influencing these results were the degree of experience the students received during company/workplace visits, taking introductory/general courses in specialized fields, and thinking about problem-solving using knowledge of the specialized field studied in vocational training. Most students studying in specialized training colleges or

taking higher vocational education take on jobs closely related to their studies but, when coupled with the unique employment system of Japan, it is common for them to still have an insufficient understanding of the

professional world when they start. This also indicates the importance of content presented as specialized knowledge in the vocational field.

“Work management skills” constitute the competencies required to smoothly complete work. There were almost no positive effects from the field practicum content on the development of these skills. This suggests that the experiences of students thinking about problem-solving and handling issues and negotiating with other parties during job training were more influential than the type of experience provided as field practicum content. This is related to how taking active learning-type classes also had an impact on the respondents. In other words, this finding reveals the importance of students’ independent learning experiences.

“Technology and job creativity” included skills related to operating work-related machines, etc. and creating new jobs. In this regard, there was not a great deal of positive influence of the field practicum content. However, the influence of the professional vocation dummy (judo therapy) was characteristic. This indicates that belonging to a judo therapy specialized training college is significant in itself. From this, we can infer that unique factors, such as the educational content of the school and the work of judo therapists, are related. The influence of over three years of part-time work experience and social contribution activities was also seen here. The results suggest that, when creating new jobs, vocational learning experience at schools and diverse experiences and study are both meaningful.

“Collaboration and communication orientation” is related to the ability to work with others. Here, in addition to the experience of company/workplace visits, and the problem-solving-type assignments, as in the content of practical training, it appears that the experience of active learning worked positively as the practical learning experiences and course experiences within the field practicum content. In addition, we demonstrated that experiencing work content similar to employees as field practicum experience was counterproductive ($\beta=-0.32$, $p<.01$), suggesting the importance of experiences that actively make students think for themselves when they are aware of the formation of these abilities.

Organizing these factors makes it clear that various experiences, primarily field practicum, contribute to the formation of professional competencies while demonstrating the validity of the constructed scale, as it can be used to measure professional competencies at the level of the specialized training colleges and higher vocational education. In addition to the content of experience of field practicum, the results indicate the importance of the extent to which the students themselves are able to utilize their knowledge of their vocational field in their field practicum and learn to think independently. Relatedly, this also links to active learning-type course experiences. In addition, as mentioned above, even with experiences of field practicum, company/workplace visits seemed effective for Japanese students, as they had an insufficient understanding of professional norms, and this worked effectively for developing professional competencies. These findings are useful in that they provide new evidence to demonstrate the effectiveness of field practicum in specialized training colleges and higher vocational education in Japan in relation to students’ experiences and behaviors.

Finally, we will describe the limitations of this study. The sample size in this study was small, and there were only three vocational fields: early childhood education, judo therapy, and nursing. Therefore, further study is required to generalize these results. This is true of both the scale structure and the experiences affecting the development of professional competencies. We must also consider how these experiences are useful in actual professional contexts through a longitudinal survey, and we plan to conduct further research on this topic.

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REFERENCES

Benesse Educational Research & Development Institute (2017). Survey on Learning and Life of Vocational Students (In Japanese).

- Hidaka, J. (2022). Development of Career Awareness and Occupational Fixation of Vocational School Students: Focusing on Hairdressing and Beauty Schools, *Journal of career design studies*, 18, 197-198 (In Japanese).
- Honda, Y. (2018). *Is a Humanities University Education Useful for Job?* Nakanishiya Publishing (In Japanese).
- Ikeda, M. and Maeda, H. (2019). Development of the Learning Achievement Scale from On-site Training in Students of Three-year Nursing Schools: Consideration of its Reliability and Validity, *Journal of Japan Academy of Nursing Education*, 28(3), 1-12 (In Japanese).
- Ikoma, T., Yoneyama, H., and Hidaka, J. (2011). Effect of “Developmental Experiences” on the Career Trajectory of Students Entering Vocational Schools: Follow-up Survey of Participants in Vocational School Cooperative Education at K College of Hairdressing and Cosmetology, *Journal of career design studies*, 7, 21-35 (In Japanese).
- Japan Institute for Labour Policy and Training (2013). *Occupational Skills, Life Skills, and Occupational Awareness of Adults*, JILTP Survey Series No. 107 (In Japanese).
- Kaneko, S., Kawasaki, T., Matsuura, M., Williamson, A., Hiraoka, S., Suzue, T., Ito, T., Mashimo, A., and Kondo, K. (2020) Development of Key Competency Scale for Nursing Manager, *Journal of Japan Academy of Nursing Science*, 40, 484-494 (In Japanese).
- Ministry of Health, Labour and Welfare (2015). Job Card Model Evaluation Sheet and Model Curriculum Table (<https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000127397.2html>) (Accessed 2023-08-12) (In Japanese).
- Mitsubishi Research Institute (2020). *Report of Empirical Research on Curriculum and Learning Outcomes in Vocational Education Management* (https://www.mext.go.jp/content/20200909-mxt_syogai01-000009212_02.pdf) (Accessed 2023-08-13) (In Japanese).
- Miura, Y. (2016). How do we understand “Giving up other Career?”: Based on narratives Data of Student in the Professional Training College of Welfare, *Bulletin of Japan Society for the Study of Vocational and Technical Education*, 46(2), 27-34 (In Japanese).
- Mizokami, S. (2018). *White Paper 2018 on University Students: Current University Education Cannot Change Students*. Toshindo (In Japanese).
- Muroyama, H. (1999). Creating an Assessment Scale for Vocational Ability in Young People, *Studies of the Japan Institute of Labour*, 17, 105-114 (In Japanese).
- OECD DeSeCo/ Reichen, D. S. and Salganik, L. H. (2003). *Key Competencies for A Successful Life and a Well-Functioning Society*. Hogrefe & Huber, Germany.
- Saeki, K., Kawaharada, M., and Hayama, M. (1999). Development of Vocational Skills of Public Health Nurses: A Self-Assessment Survey of Practical Abilities, *Japanese Journal of Public Health*, 46(9), 779-789 (In Japanese).
- Sakamoto, T., Hatashima, N., Hayashi, Y., Azuma, C., Takeuchi, R., and Iide, K. (2022). A Survey on the Physical Activity Abilities of Medical College Students, *Japanese Society of Judo Therapy Annual Congress, Program and Abstracts*, 31, 68 (In Japanese).
- Schein, E. H. (1978). *Career Dynamics: matching individual and organizational needs*. Adison-Wesley Publishing Company. Futamura, T., and Miyoshi, K. (Trans.) (1991). *Career Dynamics*. Hakuto Shobo (In Japanese).
- Shida, H., Oida, Y., and Katsuhara, S. (2021). A Survey Study of Dropout Factors in Employment-Based Professional Training Colleges: Considering Four Fields across Five Years in 18 Colleges, *Bulletin of*

- Japan Society for the Study of Technical and Vocational Education and Training, *51*(1), 10-17 (In Japanese).
- Shimomura, H., Yahata, S., Umezaki, O., and Tazawa, M. (2009). Development of the scale for evaluating the effectiveness of career-guidance intervention for undergraduates' career development, *Journal of career design studies*, *5*, 127-139 (In Japanese).
- Super, D. E. (1970). *Work values inventory*. Boston, MA: Houghton Mifflin.
- Takimoto, C. (2022). Vocational Training and Career Education in Vocational Schools: A Study from the Perspective of Competency-Based Vocational Education, *Review of Welfare Society (Kyoto Prefectural University)*, *22*, 33-47 (In Japanese).
- Terada, M., Sang-Min, L., Ishimine, C., and Shimizu, K. (2015). International Comparative Study on the Formation of Students' Vocational Competencies: University Students and Vocational College Students in Japan, USA, South Korea and Germany, *Journal of Research on Lifelong Learning and Career Education*, *11*, 33-45 (In Japanese).
- Terada, M., Sang-Min, L., and Ishimine, C. (2016). A Longitudinal Study of Vocational Competencies for Vocational Colleges' Students: Comparison among three vocational colleges in Japan and South Korea, *Journal of Research on Lifelong Learning and Career Education*, *12*, 1-13 (In Japanese).
- Terada, M., Yamamoto, R., and Shimizu, K. (2017). A Comparative Longitudinal Study of Vocational Competencies for Four Year University Students: Japan, the USA, South Korea and Germany, *Journal of Research on Lifelong Learning and Career Education*, *13*, 23-35 (In Japanese).
- Terada, M. (2023). Developments of Concepts, Competency and Competence in Assessments of Vocational Qualities: Analyses of international and domestic descriptors and indicators as criteria of quality assessments, *The Faculty of Economics and Business Administration Journal (Kyoto University of Advanced Science)*, *5*, 183-199 (In Japanese).
- The Secretary's Commission on Achieving Necessary Skills, U.S. Department of labor (1991). *What Work Requires of Schools: A SCANS Report for America 2000*.
- Uegami, K. (2011). *Education and Career Development in Vocational Schools: Entering School, Learning, and After Graduation*. Otsuki Shoten (In Japanese).
- Ukawa, H., and Hosoda, Y. (2020). Development of a Scale of Proactive Behaviors in Organizational Socialization of New Graduate Nurses, *Journal of Japan Academy of Nursing Science*, *40*, 386-395 (In Japanese).
- Vocational Education and Career Guidance Study Group (1998). *Basic Research on Vocational Education and Career Guidance* (In Japanese).
- Watanabe, M. (2017). What are the students who study child care at the vocational school anxious about their coming practical training?, *Bulletin of Toyooka Junior College*, *14*, 349-356 (In Japanese).
- Watanabe, M., Kuboyama, K., Shiraishi, S., Ishiyama, N., Higuchi, T., Matsuda, Y., Hattori, T., Kobayashi, Y., and Ito, Y. (2022). Survey of Stress of Clinical Teaching among Students at Judo Therapy Training Facilities: Focusing on the Differences in Practice Forms by Grade, *Japanese Society of Judo Therapy Annual Congress, Program and Abstracts*, *31*, 77 (In Japanese).