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Why do teachers in Japan work long hours? : Comparison of job contents of primary school teachers in Finland

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ABSTRACT

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Recently, it has been an issue that teachers in Japan are working long hours. Most statistics show that teachers in Japan work more than 55 hours a week. While long working hours (LWH) may bring benefits, studies of LWH have revealed that LWH can deteriorate mental, physical, social well-being of workers. It is suggested that working less than 48 hours a week is desirable to lead a healthy life. On the other hand, in Finland, it is reported as an average teacher working time of only 37 hours a week. Why are Japanese teachers working such long hours? Which work contents teachers in Japan spend longer time compared to other countries have yet to be understood well. Furthermore, past studies on the work contents of teachers are limited to self-report from teachers, and only few continuous observation time-motion studies have been conducted to clarify teachers' work. Therefore, this research set out to investigate what are the characteristics of teacher work in Japan seen in work contents and their distribution referring to teacher work in Finland by continuous observation time-motion study in elementary schools. Moreover, this research examined the implication of specific work contents to LWH of teachers in Japan and showed that teachers in Japan spend long hours for marking and work as a class/grade teacher. The work hours spent for these job contents by teachers in Finland was rarely observed. Thus, this research suggested that LWH of teachers in Japan may not be explained only by the efficiency of teachers' work since there are job contents conducted only in Japanese school context. As such, this research also implies that the necessity of further research to investigate the social and cultural background and expected educational effects of educational activities which are mostly only observed in teachers in Japan to improve the situation of LWH of teachers in Japan.

Keywords: Long working hours, teachers, elementary school, time-motion study.

The originality of this thesis has been checked using the Turnitin Originality Check service.

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Foreword

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Rin Motomura

Chapter 1

Introduction

More recently, there have been growing concerns about teachers' well-being in Japan. Teachers taking a leave due to mental illness continuously increased from 1111 (0.11% of the total) to 5458 (0.60% of the total) during the period from 1992 to 2009 (The Ministry of Education, Culture, Sports, Science and Technology [MEXT], 2013). Although this number slightly decreased from 2009 to 2012, it has kept around 5000 (around 0.55% of the total) up to now (MEXT, 2018b). The increase in sick leavers due to the mental illness of teachers is remarkably more compared to other industries. The increase in mental illness in Japan was 1.23 times in a decade from 2002 to 2011, however, sick leavers due to the mental illness of teachers increased 1.96 times during the decade (MEXT, 2013).

One of the causes of the working stress of teachers is long working hours (LWH). The adverse effects of LWH on mental health have been shown by various researchers (Bannai & Tamakoshi, 2014; Virtanen et al., 2011; Yoon, Jung, Roh, Seok, & Won, 2015). LWH of Japanese teachers is especially reported seriously. Comparative research between Japan, England, Scotland, and Finland showed that Japanese teachers worked the longest at 11 hours 6 minutes (Institution for global education and culture, 2009). It was 1.8 times more than teachers in Finland who worked the least time, 6 hours 16 minutes. In addition, the OECD Teaching and Learning International Survey (Organisation for Economic Co-operation and Development [OECD], 2014b) was conducted to research on teacher work over 34 countries and economies in 2013, and it showed that Japanese teachers worked longest among the participating countries and economies (OECD, 2014a). The situation is even getting more serious. The teachers' working hours in Japan have been increasing compared to the past. A survey on teachers' work in 2006 and 2016 showed that working hours of teachers increased both on weekdays and weekends (MEXT, 2018c). But, why do Japanese teachers work such long hours? Is there job contents especially Japanese teachers spend a lot of time compared to

other countries? This research investigates how long teachers in Japan spend on each job content and how it is different compared to Finland, where teachers work much shorter hours but mark a high achievement in the international comparison of students' assessment (OECD, 2016b).

As the research method, this research applied continuous observation time-motion study to investigate teachers' work. Continuous observation time-motion study is a research method for work measurement, in which an observer continuously follows a worker and records what he/she is doing timely. This method can measure detailed work hours for activities of workers (Wirth, Kahn, & Perkoff, 1977) and is suitable to observe a person who travels several areas (Burke et al., 2000). Teachers' work is reported that it is constructed with small and minute tasks and expected to travel place to place during work (Newhook, 2012; Yasuko, 2012). As such, continuous observation time-motion study is used to investigate how long teachers spend their time on each job content in this research. So far, very few studies have measured teachers' work with continuous observation time-motion study although this method can take the characteristic of teachers' work into account (Yasuko, 2012). Many time-motion studies of teachers' working (OECD, 2014b; MEXT, 2018c) apply a self-report survey to explore teachers' work. Moreover, even though work hours used for each job content has frequently reported by many organizations in Japan (Research Institute For Advancement Of Living Standards, 2016; MEXT, 2018c), it has not been compared with other countries. Accordingly, it has been impossible to discuss if the work hours of each job content are long or not in the studies only within Japan since there is not any comparative object. OECD, 2014b is the only study that compares teachers' job contents between countries, however, it uses rough categories for job contents and it cannot point out which exact job content is worked longer hours by teachers in Japan. Therefore this research is the first research to compare work hours used by teachers for each detailed job content in Japan and another country.

As a comparative object, Finland was selected. Finland is the country that achieved high scores of student assessment in international comparative research (OECD, 2016b). Furthermore, the work hours of teachers in Finland have been reported shortest in comparative research with Japan, England, and Scotland (Institution for global education and culture, 2009) and the third shortest in The Teach-

ing and Learning International Survey (TALIS) out of 34 participants (OECD, 2014b). By reporting the work hours used for each detailed job content by teachers in Japan and Finland, this research tries to point out job contents that teachers in Japan especially spend longer hours for. In short, this research was set out to investigate how teachers spend their time on each job content and if there are specific contents that Japanese teachers do more than Finnish teachers by using continuous observation time-motion study.

Chapter 2

Literature Review

2.1 Well-being

Well-being has been discussed in many different ways by various researchers. However, the definition of well-being has been unclear up to the present time (Cooke, Melchert, & Connor, 2016; Dodge, Daly, Huyton, & Sanders, 2012; Tov, 2018). Hedonic approaches and Eudaimonic approaches are often used to measure well-being. While Hedonic approaches focus on happiness (Ryan & Deci, 2001), Eudaimonic approaches focus on the fulfillment of one's potential (Cooke et al., 2016). There are even more various approaches aside from the two approaches such as those focusing on Quality of Life or Wellness. Although there are different definitions of well-being, as similarities are seen in common at those definitions, well-being can be described as “the positive dimension of human experience and functioning” (Cooke et al., 2016, p.732).

Giving attention to well-being is very important both individually and organizationally. As the individual level, it is suggested that when people report well-being low it is associated with poor conditions of health (Johnson, Robertson, & Cooper, 2018). Well-being is also discussed in its association with individual success in life (Johnson et al., 2018). For instance, the research which examined mental well-being and social interaction showed the association between positive well-being and positive social interaction (spouses, children, relatives and friends) (H. J. Lee & Szinovacz, 2016). At the organizational level, higher well-being is linked with better business outcome including customer satisfaction and service quality, productivity, employee turnover, and sickness-absence (Johnson et al., 2018). It can be likewise observed in a school context as Spilt, Koomen, and Thijs, 2011 suggested that teacher well-being can affect on socioemotional adjustment and academic performance of students.

As described above, well-being is an important concept both individually and

organizationally. Well-being plays an important role for individuals to work healthily, and productively in organizations. What can influence well-being? Well-being is not determined by only in the work environment, but other factors such as personality and social relations are also considered as influential factors (Johnson et al., 2018). Weiss, Bates, and Luciano, 2008 showed in his research that well-being is linked to personality sharing common genes. McAuley et al., 2000 observed older adults for a year and found the social relation determines well-being. Although various factors influence well-being, work-environment is especially governable by companies and organizations, thus there have been many studies on what kind of work environment affects well-being (Elovainio et al., 2015; Hewett, Liefvooghe, Visockaite, & Roongrerngsuke, 2018; Zábrowská et al., 2014). Hence, this research discusses well-being which is caused by the working environment.

2.2 Long Working Hours (LWH)

Work time is one of the important aspects of the working environment which affects the well-being of workers. However importantly, working itself is not a cause for impairing well-being. It is reported that unemployed people have lower well-being both psychologically and physically than employed individuals (McKee-Ryan, Song, Wanberg, & Kinicki, 2005). Being a part of social construction by working is favorable to spend a meaningful and healthy life, thus unemployed people are reported its detrimental impact on their well-being (Sage, 2018). Of this sort, work plays a crucial role in keeping human well-being high. However, working can be harmful to human beings when the workload and pressure get exceedingly heavier. Exceeded working hours are called Long working hours (LWH).

The definition of LWH can be altered in three ways. Firstly, when working hours are exceeding the statutory normal hours settled by social acceptance. Secondly, when working hours are exceeding more than which can cause health and safety matters on workers. Lastly, when working hours are exceeding beyond the worker's preferences in their work time. (S. Lee, McCann, & Messenger, 2007) The definitions of LWH are differently understood and used by researchers and researches, and as such, the influence of LWH was controversial by studies (Bannai & Tamakoshi, 2014). In this study, it will discuss LWH with the concerns of the

statutory regular hours and mental and physical health issues.

The negative aspects of LWH on human well-being has been reported by various researchers. For example, LWH has injurious effects on psychological well-being being associated with increased risk of depressive state (Bannai & Tamakoshi, 2014; Virtanen et al., 2011), anxiety (Bannai & Tamakoshi, 2014; Virtanen et al., 2011), suicidal thoughts (Yoon et al., 2015) and dissatisfaction (Artazcoz, Cortès, Escribà-Agüir, Cascant, & Villegas, 2009). Further, LWH leads negative physical effects to health behavior such as sleeping quality / condition (Artazcoz et al., 2009; Bannai & Tamakoshi, 2014; Parkes, 2017), smoking habit (Artazcoz et al., 2009), alcohol consumption (Okechukwu, 2015; Virtanen et al., 2015) and even LWH impacts negatively upon coronary heart disease (Bannai & Tamakoshi, 2014; Kang, Cho, Yoo, Kim, & Hong, 2014; Kivimäki et al., 2015; Virtanen et al., 2012) and stroke (Kivimäki et al., 2015). Additionally, LWH inevitably reduces the time to spend with family. For instance, research showed that while 42% of standard working hours fathers talk to their children every day, only 20% of fathers who work more than 48 hours do. (Scase, Scales, and Smith, 1998, p. 43, cited by Kodz, Kersley, Strebler, and O'Regan, 1998) LWH shorten the time to spend with family and as the result it can lead conflict with family (Adkins & Premeaux, 2012). The negative effect of LWH is beyond the individual level. Negative effects on companies have been suggested such as less productivity (Kodz et al., 1998; S. Lee et al., 2007), more sickness absence (Kodz et al., 1998), more injure accident at work (J. Lee & Lee, 2016). LWH can also affect negatively on social equality. LWH can enhance the unbalanced share of work time between people (S. Lee et al., 2007). Moreover, LWH is considered as a factor which may lead gender inequality at work environment which expect workers to commit LWH is a disadvantage for women who tend to be a caretaker of families in Japan (Hamada, 2014; Nemoto, 2013).

Due to the adverse effects of LWH, LWH has been regulated historically and globally. The first movement to regulate working hours emerged with the attempt to reduce the working hours of children and women in the early 19th century in Europe. The purpose was to decide on work regulation of factory workers, and work was restricted in units of hours worked. The movement of working restriction was spread to adult workers, and the restriction of 10 hours a day appeared before

the First World War in regions. (S. Lee et al., 2007; Mizumachi, 2010)

At the end of World War I, an international conference of the International Labor Organization (ILO) was held in 1919, and ILO first internationally proposed 8 hours a day or 48 hours a week as the maximum working hours. It was based on the theory that more than 50 hours of work a week may cause health damage. The standard of 48 hours a week was widely accepted in various industries. Moreover, a new standard of 40 hours a week appeared in the conference of ILO in 1935 supporting the theory that LWH increases the number of unemployed people as well as threatens the health and safety of workers. In the late 20th century, more and more countries adopted the regulations of working hours shifting from 48 hours to 40 hours a week. The reports by ILO in 1967, 1984, 1995, and 2005 indicate that there were regional differences in trends of work hours regulation. Europe and Africa have been adopted 40 hours a week in regulations from an early stage. On the other hand, the shifting trend from 48 hours to 40 hours was late in Asia and Latin America. There were only a few countries in Latin America accepting work hours regulation of 40 hours in 2005. (S. Lee et al., 2007) Although there are some countries which work hours regulation is 48 hours a week, it can be seen that the main flow of the world experienced the declining shift of work hours regulation from 48 hours to 40 hours a week in the late 20th century to the present.

Japan's working hours limit has shifted to 40 hours by 1995 (S. Lee et al., 2007). In Japan, work hours regulations have emerged under the pressure of such international trends. Thus, it did not happen from the inner-community such as labor unions in Japan, and as such the transition to 40 hours per week was belated compared to European history (Mizumachi, 2010; Tanaka, 2006). In contrast, the ILO report shows that Finland had already adopted 40 hours of statutory regular working hours earlier than other countries in 1967 (S. Lee et al., 2007). Looking at the history of changes in statutory regular working hours, it can be seen that in Japan, statutory regular working hours of 40 hours are comparatively recent change than in Finland.

Although there has been a decreasing trend in working hours regulations, the effect of work hours stipulation is not always to be reflected in actual working hours. The effectiveness of the working hours regulation differs between countries, and the stipulations may not work strictly or effectively in actual working hours in

every country (Berg, Bosch, & Charest, 2014; Cabrita, Boehmer, & da Bino, 2016; S. Lee et al., 2007). Although statutory hours were decreased from 48 hours a week to 40 hours a week as an international trend, it may not change the situation of actual working hours of workers.

The OECD's labor survey has carried information on working hours on a wide range of countries, which can be understood that there has been a decreasing trend in working hours in OECD countries in the past 20 years (OECD, 2016a). However, it was pointed out that the rate of part-time job workers during the term is also increasing and by taking into account the increasing trend in part-time workers into the shift of working hours, the work hours have not been declined in full-time workers (Suzuki, 2016). For example, in Japan, Morioka, 2011 analyzed the result of the monthly labour survey which has been used as data for the OECD survey and found that when it comes to the working hours of only full-time workers, there has not been a remarkable change in working hours from 1993 to 2007. A similar result could be found in the working hours in the EU, the working hours of only full-time job workers did not change from 1999 to 2014 (Suzuki, 2016). Furthermore, research using different data in which work-time was estimated from the time used survey, showed there was no significant change in working hours during the time between 1986 to 2006 (Kuroda, 2010).

Indeed, there are still many people who work more than 40 hours a week in Japan. Although statutory standard working hours is 40 hours a week in Japan, only 50.4% of hired workers in Japan work within the statutory standard working hours. By contrast, in Finland, which statutory standard working hours is 40 hours as same as Japan, 90.3% of hired workers in Finland work within 40 hours a week (S. Lee et al., 2007).

How is the working hours of teachers? Teacher work may be understood as 'mother's profession' (Bartlett, 2004) and working hours are understood to be short in such female-dominated occupations (Cha, 2013). As OECD revealed in TALIS, lower secondary teachers averagely reported working hours less than 40 hours a week in more than two-thirds of participating countries and economies (OECD, 2014b). Only teachers in Japan and Canada reported more than 48 hours on average. As observed here, the working hours of teachers may not be a serious issue seen over the whole world. However, in certain countries, such as

the United Kingdom, New Zealand, the United States, and Japan, the working hours of teachers have been at issue. In the UK, the Teacher Workload Survey conducted in England showed that full-time classroom teachers work 54.9 hours in a week (Higton et al., 2017). Similar results can be seen in quantitative research in New Zealand in which primary school teachers estimated their working time 52.18 hours a week (Wilkinson, Ingvarson, Kleinhenz, & Beavis, 2005). Among those, the working hours of teachers in Japan even stand out. Not only TALIS result showed the longest working hours of Japanese teachers at 53.9 hours a week (OECD, 2014b), but a survey conducted by Educational Ministry also reported working hours of class teachers in primary school was 57 hours and 29 minutes a week excluding work at home (MEXT, 2018c). The extremely long working hours in which teachers worked more than 50 hours a week without counting work at home have been also reported at local levels in Japan (Kawasaki City Board of Education, 2019; Yokohama City Board of Education Secretariat, 2014) Kyoto prefecture in Japan reported extremely long working hours of primary school class teachers at 61 hours 08 minutes a week excluding work at home (Kyoto Prefectural Board of Education, 2019).

2.3 Research on Teacher Work

Most research on teacher work can be categorized into two. One is to analyze actual working situations of teachers (Higton et al., 2017; Wilkinson et al., 2005), and the other one is to report teachers' perceptions for their work (American Federation of Teachers & Badass Teachers Association [AFT], 2017; Kyoto Prefectural Board of Education, 2019; Wilkinson et al., 2005; Yokohama City Board of Education Secretariat, 2014). Especially in the countries where LWH of teachers is a serious issue, the government researches the workload of teachers and it has been used to improve the educational system (Higton et al., 2017; MEXT, 2018c; Wilkinson et al., 2005). In Japan, the surveys on teachers' working conducted by The Ministry of Education, Culture, Sports, Science and Technology in 1966, 2006 and 2016 are important data resources in the research field of teachers' workload. The surveys in 1966 and 2006 were conducted to review the salary of public-school teachers. The original purpose was to revise teacher salary, however, after the sur-

vey results were announced in 2006, the focus of the discussion shifted to reducing the teacher's workload as the survey showed serious situations of LWH of teachers (Junichi & Masashi, 2014). The surveys conducted by the Ministry of Education, Culture, Sports, Science and Technology includes both to analyze actual working situations of teachers and to report teachers' perceptions for their work. The quantity survey for teachers' working situation uses the self-report of what job contents teachers worked for every 30 minutes of the working hours in school per day. And another part of the survey questioned teachers about the perceptions of teachers for work (MEXT, 2018c). The research part which used self-reports revealed the average teacher's working hours and the time spent on each job content. Furthermore, comparing these results of 2006 and 2016, it was reported that the teacher's working hours became longer in 2016 than in 2006. In addition, it was showed by the working situation survey that there are elements that are related to overtime. For example, it has been reported that younger aged teachers and the teachers whose class has more students tend to work longer working hours.

Such self-reported labor surveys have been also conducted at the municipal level. The survey of municipalities can be divided into two categories (Junichi & Masashi, 2014). One uses the same methods as the Ministry of Education, Culture, Sports, Science and Technology (Kanagawa Prefectural Board of Education, 2018; Kyoto Prefectural Board of Education, 2019; Tokyo Metropolitan Government, 2018), and the other one uses original methods or/and categories Kawasaki City Board of Education, 2019; Yokohama City Board of Education Secretariat, 2014. The municipalities that use the same method as the Ministry of Education, Culture, Sports, Science and Technology have been possible to report the work situation of teachers in the municipality compared to the results of the Ministry of Education, Culture, Sports, Science and Technology. These surveys can capture the results of teachers' working hours and the amount of time spent on each job content at the municipality level and the result has been used for making educational policy in the municipalities.

The research to investigate teachers' perspectives has been also conducted by the Ministry of Education, Culture, Sports, Science and Technology as well as municipalities and labor associations (Kawasaki City Board of Education, 2019; Kyoto Prefectural Board of Education, 2019; Research Institute For Advancement Of

Living Standards, 2016; MEXT, 2018c; Yokohama City Board of Education Secretariat, 2014). These researches have revealed which work teachers feel stressed and burdened with and which work teachers think that it should be done by teachers or which is not. Furthermore, these surveys have shown how teachers feel towards policies to shorten working hours.

Even though self-report surveys of teachers' work has shown how long teachers use for each job contents, it has not been possible to point out if the time spent for each job content is long or not. For instance, although it has been reported that teachers spent for marking tasks 33 minutes on average in the research of the Ministry of Education, Culture, Sports, Science and Technology in Japan (MEXT, 2018c), it has not been able to be discussed if 33 minutes is a long time for marking or not as there is nothing to compare against.

It is because so far the research on teachers' work has been mostly limited to the domestic level. The research of teacher work at the international level has not been conducted extensively. One of the valuable international comparisons on teacher work was conducted by OECD is called The Teaching and Learning International Survey (TALIS). TALIS has been conducted in 2008, 2013, 2018. Since the research in 2013, it has included teachers' workload and it showed how much on average teachers in each country are spending their working time for teaching, preparation, teamwork, marking, counseling students, school management, administrative work, professional development activities, communication, extracurricular activities, and other work tasks (OECD, 2014b). This result was shocking for Japan as it showed the longest working hours of teachers in Japan, yet shorter teaching hours than average in the working hours. TALIS was a significant result to compare teachers' work between countries, however, the categories of work are not detailed and did not clarify what job contents Japanese teachers work more than other countries in the longest work hours. Moreover, the time-motion survey of TALIS asked how long teachers worked for each job content by hours, and as such, the job activities which is worked less than an hour might be not reported by teachers. There is another international comparative research on teacher work conducted in Japan, Scotland, England and Finland (Institution for global education and culture, 2009). It showed from when to when teachers stayed at school and how many times teachers work for each job content a day.

Nevertheless, it did not show how long teachers spend their working hours on each job content. In short, there has not been found research on teacher work to compare teachers' work hours for each job content in detailed categories so far at least including Japan as information.

To sum up, there have been researches to analyze teachers' actual working situations and research to report teachers' perceptions of their work in the research field of teachers' work. However, only a few research of teachers' actual working situations at the international level has been conducted, and furthermore, to our knowledge, no international comparison on teachers' work has shown how long teachers spend their working hours for each detailed job content. As such, there have been no insights for what job contents Japanese teachers spend longer hours during such long working hours compared to other countries. In the present research, it is the first research that compares how teachers spend their working hours for each detailed job content in Japan with the teachers in the other country.

Chapter 3

Research Methods

3.1 Research Questions

This research aimed at analyzing the working situation of teachers focusing on their job contents in Japan having Finland as a reference to identify what elements could be improved to diminish LWH. The following questions were investigated.

1. What are the characteristics of teacher work in Japan based on the work contents and its distribution referring to teacher work in Finland? What are the differences and similarities across the countries?
2. What are the implications of specific job contents and their distribution to teachers' LWH?

3.2 Research Methodology

To investigate those research questions, “continuous observation time-motion study” was adopted. Time-motion study is the study to explore how long the subject used its time for each activity. It has been used since the early 20th century to make the industrial process effectively (Lopetegui et al., 2014). Time-motion study can be recorded in different ways; by an external observer, by the subject itself (self-report), and by automatic devices (Lopetegui et al., 2014). In continuous observation time-motion study, a subject is recorded by an external observer. The external observer continuously follows the subject and records the activities of the subject and the time taken for the activities in real-time. In this present study, the researcher followed a class teacher throughout a day in school and recorded what job activities teachers do and the duration of the activities. The recorded activities were distributed into job categories with the time spent.

Continuous observation time-motion study to record teacher work has several attractive features: firstly, it is suitable to observe teacher's multiple job tasks accurately as this approach records teacher work a minute by minute in real-time. It is not possible with self-report, but continuous observation time-motion study can record behavior in the natural settings in detail (Barner-Barry, 1986). Secondly, the understanding of job categories is not required for teachers in this method. In the self-report method, teachers mostly have to understand job categories that are provided by researchers to answer the surveys. However, it is not certain whether respondents understand job categories as same as researchers divided the categories. This point was especially important in this research where two countries that speak different languages were observed. In a previous study comparing different countries reported a methodological issue after the research, which a word to describe a teacher job content was differently understood in different languages although it was carefully taken into account before the research (Institution for global education and culture, 2009). Continuous observation time-motion study requires only the researcher to understand the job categories to put observed activities into the categories and the language differences are not an issue in this method. Lastly, this method does not add extra work to teachers. Recording survey gives some burden on the workload of the teacher, however, this method records without increasing the workload of the teacher. It is important as we already know teachers have much workload in school days.

Although continuous observation time-motion study has been used so often in the healthcare field and is suitable to record teachers' workload as mentioned above, the research to investigate the teacher's workload has popularly involved self-reports of working hours and how teachers spent their working hours for job contents. The self-report study can be conducted in different ways; by estimation of typical working day (Bridges & Searle, 2011), by recalling the past week, or by keeping task-diary. Task-diary seems to be currently the most adopted method (Bartlett, 2002; Livingstone, 1994; Temple Newhook, 2010) because of the accuracy (Bentley & Kyvik, 2012; Robinson & Bostrom, 1994). A major advantage of the task-diary-report is that it can quantify and visualize the average work situation of the teacher (e.g. average number of hours worked in a day and the respective work content). For example, in England, New Zealand, and Japan,

large-scale work surveys were conducted being commissioned by government using the quantitative research method of self-reports in the task-diary format (Higton et al., 2017; MEXT, 2018c; Wilkinson et al., 2005), and it clarified how teachers spend their working hours for each job contents on average and it also revealed how the hours used for job contents has changed compared to the previous research. Nevertheless, there are limitations in the study of teachers' working hours in the form of a task-diary. In most of the task-diary study, teachers record their work every 15 or 30 minutes. However, in the teacher's work, such a long continuous work-task does not always occur. That is, the teacher's work is made up of multiple small tasks and when these are combined, it will be intense and unmanageable (Newhook, 2012). It is questionable to what extent the teacher can record his or her work accurately by remembering all such detailed work of them. Self-reporting may be insufficient to study how teachers work with multiple tasks at the same time.

Therefore, in this research, a continuous observation time-motion study was chosen to investigate how teachers spend their work hours for each job content.

3.3 Participants

3.3.1 Procedure

Five teachers were selected in this research from each school in Japan and Finland. To select the participants, purposive sampling was used in this research. I contacted the principals of each school and held a meeting in advance of observation dates to explain the purpose and method of the research to the principals. Principals were asked to agree on the consent of the research. The sample teachers were selected to meet the sampling criteria below by the principals adjusting to the schedule of the school. The consent agreements of research were given to the participants and agreed upon by the participants.

Sampling Criteria

The sampling criteria for selecting teachers followed four main constraints. Those criteria are listed below.

- A teacher working as a class teacher.
- A teacher with at least 3 years of teaching experience.
- A teacher who is communicable in English (Only at Finnish school).
- The school principles were asked to make the grade of the classes evenly distributed.

3.3.2 Information of participants

The information of participants are shown in Table 3.1. The information about class size and age of teachers are shown since it is reported that teachers in charge of bigger class size and younger aged teachers work longer in the previous research in Japan(MEXT, 2018c).

Table 3.1

<i>Characteristics of participants</i>					
	Gender	Age	Experience	Grade	Class size
JP 1	male	30s	11 – 15	5 th	30 – 34
JP 2	female	40s	20+	6 th	30 – 34
JP 3	male	50s	20+	3 rd	25 – 29
JP 4	male	30s	11 – 15	1 st	20 – 24
JP 5	male	20s	6 – 10	6 th	30 – 34
FI 1	female	40s	11 – 15	3 rd	20 – 24
FI 2	female	40s	11 – 15	1 st	20 – 24
FI 3	male	40s	16 – 20	6 th	20 – 24
FI 4	female	30s	11 – 15	2 nd	20 – 24
FI 5	female	20s	3 – 5	5 th	20 – 24

The teachers were selected in two schools; one in Tampere, Finland, and one in Machida City, Tokyo, Japan. Tampere is the second-largest city in Finland

with 235 239 citizens (Official Statistics of Finland [OSF], 2019). Machida city is located in the suburban area of Tokyo and has 428 742 citizens (General Affairs Department City Government Information Division of Machida City, 2018).

3.4 Data collection

3.4.1 Study period

The observation was made from July 2 - July 13, 2018, in Japan and November 12 - November 27, 2018, in Finland making sure it is the end of the first semester of the academic year's period in both schools. It is important to set the time at a similar time set in the academic year in Finland and Japan as previous research showed that there are differences in teachers' working hours due to the work which often occurs at the end of the semester(Aoki, 2009). Each teacher was observed an entire two days, thus, data collection was conducted within a time-frame of 10 days.

3.4.2 Procedure

The observations were recorded in written format in real-time. Observations started at the moment that the teachers arrived at school until their departure from the school. The written records contained the minute-by-minute description of the teacher's work activities, place of the activity, people involved. The teachers were not followed during meetings which are with parents or including personal information of students or confidential matters, and the researcher was waiting in another room during the meetings. To minimize the influence of the researcher on the work contents of the teacher, the observation was performed keeping a distance from the teacher in the classroom and staff room. When the work content that the teacher is working on was unclear, questions were made for clarification. The entire observation was written down and using recording media devices such as cameras, video recorders, and voice recorders were avoided to protect students' privacy.

3.5 Analysis

Analysis consisted of categorization of all the work contents after the observation periods. After the collected data were transcribed into Microsoft Excel, the activities of teachers were classified into 23 sub-categories and 5 main categories following the divisions of the categories (Shown in Table 3.2).

3.5.1 Categories of work contents

To divide teacher work into categories, the self-report survey of teachers' work that has been conducted previously by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT, 2018c) was referred. The categories of the Ministry of Education, Culture, Sports, Science and Technology are well-detailed and has been used frequently in the research of teacher work by different municipalities (Kanagawa Prefectural Board of Education, 2018; Kyoto Prefectural Board of Education, 2019; Tokyo Metropolitan Government, 2018). Additionally, the categories have been improved through three times of the repeatable research by the Ministry of Education, Culture, Sports, Science and Technology in 1966, 2006 and 2016, thus, the categories of Ministry of Education for teacher work was referred to make categories. However, the categories were not sufficient to be used for the data collected by continuous observation time-motion study and for the data of teacher work in Finland. Therefore, the categories of the Ministry of Education, Culture, Sports, Science and Technology was modified to solve these hitches. The modifications are listed as follows.

- The category “Morning work” was deleted. This category contained job contents which conflict with other categories as this category includes all the work done in the morning. The present research measures how long teachers spend on each job content, and it doesn't depend on when the job is done but what is done. The job contents which were originally in this category were distributed according to the contents. For example, “morning meeting of teachers” was placed to C2 Formal staff meetings, and “morning assembly in class” was situated at A4a Extra-curricular activities, student guidance (Class).

Table 3.2

<i>Job activity categories</i>	
<i>– Work directly related to the guidance of students</i>	
A1	Teaching
A2	Assisting with other classes
A3	Supplementary learning instruction
A4a	Extra-curricular activities, student guidance (Class)
A4b	Extra-curricular activities, student guidance (Grade, School)
A5	Student guidance and counselling (individual)
A6	Extra school activities
<i>– Work indirectly related to the guidance of students</i>	
B1	Course preparation, tidy up
B2	Course planning meeting
B3	Marking
B4	Grade/Class organization
<i>– School management and administrative work</i>	
C1	School management/maintenance
C2	Formal staff meetings
C3	Informal staff meetings
C4	Office work
C5	On-site professional development
<i>– Communication</i>	
D1	Communication with parents / Parent-Teacher Association
D2	Communication with someone outside of school
<i>– Miscellaneous</i>	
E1	Non-school related conversations with staff
E2	Non-school related conversations with students
E3	Traveling time, waiting time
E4	Other work tasks
F	Break

- The job activity of “tidying up after courses” was added to “Course Preparation”. There was not job content of “tidying up after classes” in the referred categories but it was observed frequently during the observation. Therefore, tidying job was added to B1 Course preparation, tidy up.
- “Extra-curricular activities, student guidance for groups” were separated into smaller categories of A4a Extra-curricular activities, student guidance (Class) and A4b Extra-curricular activities, student guidance (Grade, School) depending on the student groups. To identify the job contents more clearly it was divided into more detailed categories.
- Job categories of “students’ association” was deleted. Classes of students’ associations were carried out regularly as part of class time, and there was no necessity to make a difference from A1 Teaching and A2 Assisting with other classes from the viewpoint of teachers’ work. Guidance related to students’ association outside the class was counted as A4b Extra-curricular activities, student guidance (Grade, School).
- Job categories of “school events” was deleted. From the viewpoint of teachers’ work, school events need not be differentiated from A4b Extra-curricular activities, student guidance (Grade, School). Preparations for school events were counted as B1 Course preparation, tidy up.
- The job content of “classroom activities” was moved from the category of B4 Grade/Class organization to A4a Extra-curricular activities, student guidance (Class). B4 Grade/Class organization is the category in which teachers work indirectly related to the guidance of students, however, classroom activities are expected teachers to relate directly to the guidance of students, and as such, classroom activities were not fitting to B4 Grade/Class organization.
- All the office work that was divided into three in the categories of Ministry of Education was combined into one category of C4 Office work in this research. The three divided categories were not very frequently observed work contents

and their nature was similar to teachers' work contents, therefore, the three categories were merged.

- The categories divided into “Communication with local people” and “Communication with administrative people” are combined as one job category D2 Communication with someone outside of school because these job contents share the same nature as the teacher's work.
- “Work outside of school” was not observed at all during the observation period and the category of it was deleted.
- Conversations, which are not related to school were frequently observed in this research both in Japan and Finland. However, it does not fit into any categories of the Ministry of Education, Culture, Sports, Science and Technology. Therefore, E1 Non-school related conversations with staff and E2 Non-school related conversations with students were prepared in the research categories.
- Travelling time in school and waiting time was often observed and the time was not a little, hence, E3 Traveling time, waiting time was specially prepared in this research by being separated from E4 Other work tasks.

After the 23 categories were organized, the 23 categories were assured by three people who are working / worked as a teacher. To give fitting titles for the 23 job categories in English, the self-report survey of teacher work that was conducted by the Department for Education in the UK was referred (BMRB, 2014).

The 23 sub-categories were also categorized into 5 bigger categories. These 5 categories were referred to as the previous work (Aoki, 2009) which further analyzed the survey of teachers' work by Ministry of Education(MEXT, 2018c). The 5 categories are (1) Work directly related to the guidance of students, (2) Work indirectly related to the guidance of students, (3) School management and administrative work, (4) Communication, (5) Miscellaneous. Some of the categories used by the survey of the Ministry of Education, Culture, Sports, Science and Technology was not fitting well into the larger categories, but this study has improved it to be more systematic in that regard. For example, the category of “Morning

work” in the survey of Ministry of Education are categorized into "Work directly related to the guidance of students", even though “Morning work” includes job contents that are not directly related to the guidance of students, such as morning meetings of staffs. These errors in the job categories were adjusted in this study.

3.5.2 Procedure

The procedure taken in the analysis are;

1. The data (minute-by-minute description of the teacher’s work activities, place of the activity, people involved) was transcribed into Microsoft Excel.
2. The recorded work activities of teachers were labeled by 23 categories which were explained above.
3. The total time teachers worked at school was extracted from the time teachers arrived at school and the time teachers departed from school.
4. The work hours each teacher spent for each job category were extracted by using the labels of work activities and the automatic calculation of Microsoft Excel. The work hours for each job category of each teacher were summed up in countries and the average work hours per day of teachers in each country for each job category were analyzed on Microsoft Excel.
5. The percentage of the average work hours for each job category per day out of average work hours per day was extracted by countries.
6. The average daily working hours for each job content and the ratio of each job content to the total working hours per day were divided by school time and non-school time. School time is the time from when the observation teacher starts teaching or guidance to the group of students to the time when the observation teacher finishes the last teaching or guidance to the group of students. Individual teaching or guidance before or after school is not counted as school time.

7. The percentage of the people involved in the working hours by a teacher per day was automatically calculated and was summed up by countries and moreover, the average work hours by the kind of people involved were extracted by using the automatic calculation of Microsoft Excel.
8. The percentage of the places a teacher worked in per day was calculated and was summed up by countries. The average work hours teachers used at each kind of place were enumerated by Microsoft Excel.

Chapter 4

Results

This chapter presents the study results to answer the research questions that was presented in Section 3.1;

1. What are the characteristics of teacher work in Japan based on the work contents and its distribution referring to teacher work in Finland? What are the differences and similarities across the countries?
2. What are the implications of specific job contents and their distribution to teachers' LWH?

In order to answer the research questions, the data that was gathered from 10 days of observation of continuous observation time-motion study from each country, Japan and Finland, was analysed. This chapter divides the results into four main sections: length of working hours, distribution of time, job contents, and division of labor.

4.1 Element 1: Length of working hours

There was a remarkable difference in the total working hours between the two countries. The work hours observed on average was 11 hours 19 minutes a day in Japan and 6 hours 58 minutes a day in Finland. The comparison of the hours worked in the two countries shows that Japanese teachers worked 4 hours 21 minutes (1.62 times) longer than Finnish teachers on average a day.

4.2 Element 2: Distribution of time

How the distribution of time teachers spend for each job content in Japan and Finland? Table 4.1 presents how long and what ratio the teachers in Japan and

Finland spend their work hours for every 23 categories. In addition, Table 4.2 shows the larger 5 categories which divide the 23 categories by the type of the job contents.

Table 4.1

Job Contents.

Category	JP*	%	FI*	%
A1 Teaching	2:04	18	2:09	31
A2 Assisting with other classes	0:36	5	0:09	2
A3 Supplementary learning instruction	0:05	1	0:10	2
A4a Extra-curricular activities, student guidance (Class)	1:10	10	0:27	7
A4b Extra-curricular activities, student guidance (Grade, School)	0:26	4	0:19	5
A5 Student guidance and counselling (individual)	0:21	3	0:05	1
A6 After school activities	0:06	1	0:00	0
B1 Course preparation, tidy up	0:17	3	0:27	7
B2 Course planning meeting	0:05	1	0:04	1
B3 Marking	1:16	11	0:04	1
B4 Grade / Class organization	0:59	9	0:05	1
C1 School management / maintenance	0:24	4	0:10	2
C2 Formal staff meetings	0:16	2	0:37	9
C3 Informal staff meetings	0:40	6	0:27	7
C4 Office work	0:20	3	0:00	0
C5 On-site professional development	0:08	1	0:00	0
D1 Communication with parents / Parent-Teacher Association	0:32	5	0:18	4
D2 Communication with others	0:07	1	0:01	0
E1 Non-school-related conversations with staff	0:10	1	0:13	3
E2 Non-school-related conversations with students	0:09	1	0:04	1
E3 Traveling time, waiting time	0:32	5	0:19	5
E4 Other work tasks	0:18	3	0:26	6
F Break	0:10	2	0:13	3
Total	11:19	100	6:58	100

* The time unit is in hours and the average of ten teachers.

The highest ratio of the 23 categories both in Japan and Finland was for A1 Teaching, however, while Finnish teachers spent 31% of their work hours for A1 Teaching, Japanese teachers used 18% for it. The second-highest ratio that teachers in Japan spend was for B3 Marking (11% of the work hours) and the third-highest was for A4a Extra-curricular activities - student guidance (Class) (10% of the work hours). Teachers in Finland also spent the third-highest ratio of their work for A4a Extra-curricular activities - student guidance (Class) (7%

Table 4.2

Categories of the job contents.

	Japan*	%	Finland*	%
Work directly related to the guidance of students	4:50	43	3:21	48
Work indirectly related to the guidance of students	2:39	23	0:42	10
School management and administrative work	1:50	16	1:15	18
Communication	0:39	6	0:20	5
Miscellaneous	1:21	12	1:17	19
Total	11:19	100	6:58	100

* The time unit is in hours and the average of ten teachers.

of the work hours), however, for B3 Marking task, teachers in Finland only used 1% of their work hours. Instead, the second-highest ratio that teachers in Finland spend their working hours was for C2 Formal staff meetings at 9% of working hours, although teachers in Japan spend only 2% of their working hours for it.

The ratio of work hours spent by teachers for the larger 5 categories is shown at Table 4.2. Both in Japan and Finland, teachers spent the highest ration of the working hours for “Work directly related to the guidance of students”, which was 43% in Japan and 48% in Finland. However, when it comes to the second-highest ration teachers spent on the five categories, while teachers in Japan spent 23% of work hours for Work indirectly related to the guidance of students, teachers in Finland spent only 10% of their working hours for it. In both countries, the ratio used for “Communication” was the least at around 5% of the working hours.

Additionally, the distribution of time based on the location was observed to analyse the difference in where the teachers in Japan and Finland spend their time. Table 4.3 shows the percentage of places where teachers worked and Table 4.4 illustrates that by school time and non-school time.

In total, Table 4.3 indicates that teachers both in Japan and Finland spent more than 40% of work hours in the classroom. Teachers in Japan spent nearly 30% of work hours in the staff room, but teachers in Finland spend only 15% of work hours there. When it is divided in school time and non-school time, it was shown in Table 4.4 that teachers in Japan spend a higher ratio of working hours in classroom and less working hours in the staff room during school time

Table 4.3

Where teachers worked.

	Japan (%)	Finland (%)
Staff room	29	15
Class room	42	43
Special class room	11	16
Travel	4	4
Others	15	23

Table 4.4

Where teachers worked by school time and non-school time.

	School time		Non-school time	
	JP (%)	FI (%)	JP (%)	FI (%)
Staff room	8	10	57	27
Class room	61	49	16	28
Special class room	17	23	1	1
Travel	4	4	4	3
Others	9	14	22	42

than teachers in Finland. It reverses in non-school time. While teachers in Japan spent a higher ratio in staff room and less ratio in classroom in non-school time compared to teachers in Finland.

4.3 Element 3: Job contents

This section reports the findings on the job content by examining the job categories where teachers in Japan worked longer or shorter than the teachers in Finland. In addition, a further analysis on Marking and a detailed analysis of job contents based on school time and non-school time are reported.

4.3.1 Job categories in which teachers in Japan work longer hours

As can be seen in Table 4.1, Japanese teachers averagely worked longer than Finnish teachers on 16 categories out of 23 job categories. Especially on the following categories, teachers in Japan spent more than 30 minutes per day longer than teachers in Finland;

- A4a Extra-curricular activities - student guidance (Class) (+41 min/day)
- B3 Marking (+71 min/day)
- B4 Grade/Class organization (+56 min/day)

Further analysis on Marking

Since the differences of the result of Marking between Finland and Japan was significant, which is 1 hour 11 minutes per day longer in Japan, the further analysis was conducted to see what teachers were doing at the time of the marking by dividing the job contents of Marking into more detailed categories. Marking was further categorized into marking homework, marking classwork, marking tests, and grading students achievement for the semester. Table 4.5 shows the result of the further analysis of marking. It illustrates that more than half of the time for marking is used for marking tests in Japan. It was on average about 40 minutes a day. Grading took the second-longest time in marking for teachers in Japan, which was nearly 20 minutes a day. Although marking homework and classwork did not take so much time compared to marking tests and grading, teachers used on averagely 8 minutes and 6 minutes for marking homework and classwork respectively in Japan. On the other hand in Finland, the job activities of marking homework and grading were never observed in 10 days of observation. Classwork was observed only once during the period, but it took only 7 minutes. The longest observed was for marking tests, which was also observed only once for 10 days. In short, the job activities of marking was observed only twice in Finland during the observation period.

Table 4.5

Time spent in marking students' work.

Subcategory	Total*		Mean*	
	JP	FI	JP	FI
Marking homework	1:21	0:00	0:08	0:00
Marking classwork	1:01	0:07	0:06	0:00
Marking tests	6:46	0:40	0:40	0:04
Grading	3:00	0:00	0:18	0:00
Others	0:33	0:00	0:03	0:00
Total	12:41	0:47	1:16	0:04

* The time unit is in hours.

4.3.2 Job categories in which teachers in Japan work shorter hours

On the other hand, the seven contents that Japanese teachers spent less time than Finnish teachers were;

- A1 Teaching (−4 min/day)
- A3 Supplementary learning instruction (−4 min/day)
- B1 Course preparation/tidy up (−9 min/day)
- C2 Formal staff meetings (−20 min/day)
- E1 Non-school-related conversations with staff (−3 min/day)
- E4 Other work tasks (−8 min/day)
- F Break (−2 min/day)

When the 23 categories are divided into the 5 categories by the type of the job contents, in the table 4.2, it is shown that teachers in Japan spent longer hours in all the 5 categories. Especially there was the biggest difference in work

hours of “Work indirectly related to the guidance of students” between teachers in Japan and Finland, whereas teachers in Japan worked 1 hour 56 minutes longer than teachers in Finland for it. In addition, the differences in work hours of “Work directly related to the guidance of students” between teachers in Japan and Finland were also significant. Teachers in Japan spent 1 hour 28 minutes longer work hours than teachers in Finland for the category.

4.3.3 Detailed analysis of job contents by school time and non-school time

This subsection aims to explore the results of job contents when they are divided to school time and non-school time. The work hours and the ratio which teachers spent on each work content was analyzed by being divided in school time and non-school time. Table 4.6 shows the results of the analysis for 23 categories and Table 4.7 for the 5 categories.

It is apparent in Table 4.6 that hours worked in school time in Japan is 1 hour 46 minutes per day longer than in Finland. Moreover, hours worked in non-school time is even twice longer in Japan than in Finland at 4 hours 49 minutes in Japan and 2 hours 13 minutes in Finland.

School time

Table 4.6 presents that both in Japan and Finland, teachers spent the highest ratio for A1 Teaching. However, while teachers in Finland spent 45% of work hours for it, teachers in Japan spent only 32% of their work hours for it. The second-highest ratio teachers used for was also the same as in Japan and Finland, which was for A4a Extra-curricular activities, student guidance (Class). Teachers in Japan spent a higher ratio at 17% for it compared to 10% of school time for teachers in Finland. When it is divided into the 5 categories, Table 4.7 shows that nearly 70% of work time is used for “Work directly related to the guidance of students” during school time in Finland and Japan. The time spent on “School management and administrative work” and “Communication” are also similar in Japan and Finland in school time. However, teachers in Japan spent more work

Table 4.6

Job contents by school time and non-school time.

Category	School time				Non-school time			
	JP*	%	FI*	%	JP*	%	FI*	%
A1 Teaching	2:04	32	2:09	45	0:00	0	0:00	0
A2 Assisting with other classes	0:36	9	0:09	3	0:00	0	0:00	0
A3 Supplementary learning instruction	0:02	1	0:02	1	0:02	1	0:07	6
A4a Extra-curricular activities, student guidance (Class)	1:06	17	0:27	10	0:01	1	0:00	0
A4b Extra-curricular activities, student guidance (Grade, School)	0:26	7	0:19	7	0:00	0	0:00	0
A5 Student guidance and counselling (individual)	0:11	3	0:05	2	0:09	3	0:00	0
A6 After school activities	0:00	0	0:00	0	0:06	2	0:00	0
B1 Course preparation, tidy up	0:09	2	0:13	5	0:07	3	0:14	11
B2 Course planning meeting	0:00	0	0:04	1	0:05	2	0:00	0
B3 Marking	0:18	5	0:00	0	0:56	20	0:04	3
B4 Grade/Class organization	0:27	7	0:04	2	0:33	11	0:01	1
C1 School management/maintenance	0:03	1	0:05	2	0:21	8	0:05	4
C2 Formal staff meetings	0:06	2	0:06	2	0:10	3	0:30	23
C3 Informal staff meetings	0:06	2	0:14	5	0:33	12	0:12	9
C4 Office work	0:09	3	0:00	0	0:09	3	0:00	1
C5 On-site professional development	0:00	0	0:00	0	0:08	3	0:00	0
D1 Communication with parents/Parent-Teacher Association	0:01	0	0:01	1	0:30	11	0:17	13
D2 Communication with others	0:05	1	0:00	0	0:02	1	0:01	1
E1 Non-school-related conversations with staff	0:00	0	0:04	2	0:09	3	0:08	7
E2 Non-school-related conversations with students	0:06	2	0:03	1	0:03	1	0:00	0
E3 Traveling time, waiting time	0:18	5	0:14	5	0:13	5	0:05	4
E4 Other work tasks	0:04	1	0:09	3	0:17	6	0:17	13
F Break	0:04	1	0:07	3	0:06	2	0:05	4
Total	6:30	100	4:44	100	4:49	100	2:13	100

* The time unit is in hours and the average of ten teachers.

hours for “Work indirectly related to the guidance of students”. It was 33 minutes per day longer for teachers in Japan.

Non-school time

When it comes to work during the non-school time, how teachers used their working hours differs more between Japan and Finland. Table 4.6 shows that teachers in Japan spent 20% of their working hours before and after school time for B3 Marking, but teachers in Finland only spent 3% of the non-school time for it. Instead, teachers in Finland used a high ratio of working hours during the non-school time for C2 Formal staff meetings at 23%. It is interesting to see that teachers in Japan used 21 minutes per day longer working hours for C3 Informal staff meetings during the non-school time because the work hours teachers in Japan used for C3 Informal staff meetings were recorded less than teachers in Finland

Table 4.7

Categories of job contents by school time and non-school time.

Category	School time				Non-school time			
	JP*	%	FI*	%	JP*	%	FI*	%
Work directly related to the guidance of students	4:27	69	3:13	68	0:20	7	0:08	6
Work indirectly related to the guidance of students	0:55	14	0:22	8	1:42	35	0:20	15
School management and administrative work	0:26	7	0:26	9	1:23	29	0:49	37
Communication	0:06	2	0:02	1	0:32	11	0:18	14
Miscellaneous	0:34	9	0:39	14	0:49	17	0:37	28
Total	6:30	100	4:44	100	4:49	100	2:13	100

* The time unit is in hours and the average of ten teachers.

during school-time.

4.4 Element 4: Division of labor

This section to presents the findings to the differences on division of labor between Japan and Finland. Table 4.8 illustrates the percentage of people involved in the work contents of teachers in Japan and Finland. It indicates that teachers in Finland spend a higher ratio of work hours with students and coworkers. Instead, teachers in Japan spent more ratio of work hours alone. Table 4.9 shows when it is separated by school time and non-school time. It shows that both in Japan and Finland, teachers spend nearly 70% of work hours with students during school time. Teachers in Finland spent a higher ratio of working hours with coworkers compared to teachers in Japan both in school time and non-school time. On the other hand, teachers in Japan spent a higher ratio alone both in school time and non-school time.

Although there is a difference in the proportion, teachers both in Japan and Finland spent the highest ratio with students, the second-highest ratio alone and the third-highest ratio with coworkers in common. Furthermore, similarly, teachers in Japan and Finland spent the highest ratio alone and the second-highest with coworkers in non-school time.

Table 4.8

Person who worked with.

	Japan*	%	Finland*	%
Alone	3:32	33	1:52	27
Students	4:43	43	3:27	50
Coworkers	1:45	17	1:22	20
Parents	0:28	4	0:14	3
Others	0:18	3	0:01	0

* The time unit is in hours and the average of ten teachers.

Table 4.9

Person who worked with by school time and non-school time.

	School time				Non-school time			
	JP*	%	FI*	%	JP*	%	FI*	%
Alone	1:24	23	0:58	21	2:08	46	0:53	40
Students	4:06	69	3:12	68	0:27	10	0:14	11
Coworkers	0:17	5	0:30	11	1:28	31	0:52	39
Parents	0:01	0	0:01	0	0:27	10	0:12	10
Others	0:08	2	0:00	0	0:10	4	0:01	1

* The time unit is in hours and the average of ten teachers.

Chapter 5

Discussion

In this research, we aimed to answer what are the characteristics of teacher work in Japan based on the work contents and its distribution by referring to Finland. Furthermore, we sought to explore the implications of job contents and their distribution to the teacher's LWH. In order to answer these questions, firstly, in this chapter, two work contents which were hardly performed by Finnish teachers but for a long time by teachers in Japan are discussed as the implication of LWH of teachers in Japan. Secondly, it is discussed, by paying attention to the long school time of Japanese teacher work and the work contents that are conducted in school time, the distribution of work contents of teachers in school time is related to the long working hours of teachers in Japan. Finally, we discuss that the work time of Japanese teachers observed in this study is problematic from various aspects and that the corresponding policies for LWH of teachers in Japan are insufficient according to the results of this study.

5.1 Work hours of job contents

Literature review showed that there has been no research to compare the time teachers spend for each job contents in detailed categories between countries. Therefore, in this research, how long teachers in Japan used for each job contents and what features can be seen from the teacher work in Japan when it is compared with another country, Finland, was investigated. The analysis of the observation data showed huge differences in working hours between Japan and Finland in two main job content categories: Marking, and Grade / class organization. The following sections will discuss these differences in detail.

5.1.1 Marking

Firstly, Japanese teachers use a lot of time for marking. While Japanese teachers spent 1 hour 16 minutes per day for marking, Finnish teachers spent only 4 minutes on it. It indicates that Japanese teachers are already working more than an hour a day longer than teachers in Finland for only this category, and this may be the work content leading LWH of teachers in Japan. What kind of work teachers in Japan do for marking jobs? A closer look at the job category of Marking shows that Japanese teachers spend their time mainly marking homework, classwork and test, and grading students' achievement for the semester. In particular, marking homework and grading students' achievement have never been observed in Finland. In the following, we report that marking work is frequently done in the Japanese school system by documenting how frequently homework scoring and grading are done in schools in Japan and Finland.

Homework

In Japan, marking homework took 8 minutes per day on average, while in Finland, marking homework was not observed at all during the observation period. During the observation in the school in Japan, the job content of marking homework was observed in 8 days out of 10 days of the observation days. It implies that marking homework is a daily job content in Japan. However, it is interesting that in the observation period in Finland, marking homework was not observed even only one day. Finland has been reported as one of the countries with the least amount of homework in OECD research (Bastos, 2017). By contrast, homework is frequently done in the school context of Japan. According to previous research conducted in Japan, more than 95% of primary school teachers answered that homework is given to students every day (Benesse Institute of Education, 2016). Giving homework may be important to keep students' academic achievement high. A positive relationship of homework and the students' learning outcomes has been reported in previous research (Eren & Henderson, 2008; Valle et al., 2016). Moreover, it has been reported that there is a positive relationship between the feedback of homework and the amount of homework performed by students, and feedback of homework is considered to be useful for the motivation of the student's homework

(Núñez et al., 2015). Therefore, it may be necessary that teachers spend their time marking homework for students' learning outcomes. However, it is unclear if the positive aspect of homework is limited when homework is marked by others. For example, homework in the observation school in Finland was never marked by teachers during the observation, however, it was checked by peers in the classes. One other possibility to reduce the time consumed in this category is to assign marking homework to another support staff in school but not to the class teachers. More research may be required to investigate the necessity of marking homework by class teachers in terms of students' learning outcomes and motivations of study.

Grading

The work hours teachers used for checking the answers of tests and grading for students' achievement for the semester were even more surprising results in Japan. While only 4 minutes per day was observed for Marking tests in the observation days in Finland, it was 40 minutes per day observed in Japan averagely. Also, for grading tasks, teachers in Japan spent 18 minutes per day on average for it, while grading tasks were never observed from teachers in Finland during the observation. The reason why such big differences were reported might be due to the educational curriculum and the methods used for students' evaluation are different between Japan and Finland. In Japan, the national curriculum stipulates that schools have to grade the academic achievements of students in grade 3 and above in a three-level evaluation and record students' behavior (MEXT, 2018a). In addition, previous research showed that more than 71% of teachers answered that they make much account of tests by study units to give grades to students, while only 36% of teachers answered that they make much account of students' attitude in class for it (Benesse Institute of Education, 2007). In short, in the school system in Japan, the national curriculum requires the school to grade students' learning outcome and for tests are frequently used as a method for grading. However, in Finland, the educational curriculum and the methods used for students' evaluation are different from that of Japan. In Finland, giving numerical grades to students is not compulsory until grade 8th (Finnish National Board of Education, 2016). Instead, verbal assessment is described to share students' achievement and progress. Tests

are not used as summative assessment like teachers in Japan does but as formative assessment for teachers to improve planning lessons (Hendrickson, 2012). In the observation school in Finland was also using verbal assessment in evaluation meetings with a student and the student's parent during the observation period.

As mentioned above, job activities of Marking and grading students' achievement are rarely found in Finland but often in Japan. Marking and grading work may be a possible explanation for LWH of Japanese teachers. Previous research conducted in Japan shows that the more children in a class, the more work is spent on marking job tasks by the class teacher. In this research, the teachers in Japan have the larger size of class (shown in at Table 3.1), however, the differences of working hours by the size of class of teachers in the previous research (MEXT, 2018c) were not significant (19 minutes for less than 15 class teachers and 36 minutes for more than 25 class teachers) to explain enough the huge difference in the working hours of marking between the result in Finland and Japan in this research. The structure of education, the school culture or the national curriculum may make teachers in Japan work longer working hours than teachers in Finland for marking jobs.

5.1.2 Grade / class organization

Another noticeable difference between Finland and Japan is the job category of grade/class organization. In Finland, the observed work hours for grade/class organization was only 5 minutes per day, but in Japan, an average of 1 hour 1 minute was spent per day for grade/class organization.

There are many various works of a grade/class teacher in Japan and many of the job activities of grade/class organization were not repetitive. For example, writing comments on a communication book to a parent about individual matter of the student, preparing school trips and writing down class students' name on the certifications of students' achievement at school events were observed as job activities of grade/class organization in Japan. These job contents are given to the teacher because the teacher is responsible to the class as a class teacher. In Japan, it is pointed out that the class is not just a learning group, but a group to be felt sense of belonging and a group to share school life, thus, the role of

class in Japan is diverse (Michiko, 2016). Accordingly, that kind of job activities mentioned above are performed by a class teacher in Japan.

In this research observation, it was also observed that class teachers in Japan stay at the classroom with the class students even during off-class hours. For break time, it was recorded frequently that teachers in Finland go to the staff room to rest. In contrast, teachers in Japan tended to spend break time with students in the class room. As the result of it, while Finnish teachers spent less than 50% of school time (2 hours and 20 minutes) in class, Japanese teachers spent more than 60% of school time (3 hours and 42 minutes) in class. Accordingly, being class teacher in Japan may have more work for the diverse activities of the class other than learning instruction in the class. By contrast, class teachers in Finland seemed not as responsible for the class students during off-class hours as teachers in Japan. The diverse role as a class teacher may lead the LWH of teachers in Japan. However, what kind of roles teachers in Japan have more as a class teacher are not clarified in this research, thus, the differences in role of teachers compared to other countries need to be investigated more to see if teachers in Japan have more roles as a class teacher.

This research clarified two categories that are observed much longer hours in the Japanese context. On the other hand, these job categories were rarely observed in the Finnish context. From the results, it can be pointed out that the reason why Japanese teachers work long hours is that they frequently do work contents that are rarely done in other countries, and it cannot be explained only by the difference in the efficiency of doing work contents.

5.2 School time and its distribution

Factors related to LWH of teachers in Japan include school time and the distribution of the teacher's work contents at school time. School time of teachers in Japan is long compared to that of teachers in Finland. This study showed that school time (from when teachers start to teach to when teachers finish teaching to students as group) was longer in Japan. School time is 6 hours 30 minutes in Japan and about 4 hours 45 minutes in Finland on average. There is already a difference of 1 hour 45 minutes of working hours in school time. Differences in school time

were also reported in a previous study international comparison including Finland and Japan. Japanese school time was averagely reported 1 hour 50 minutes longer than Finnish school time (Institution for global education and culture, 2009).

However, that doesn't mean that Japanese elementary school spends 1 hour 45 minutes longer on teaching subjects. Looking at the time of subject instruction (teaching and teaching as an assistant), it is about 2 hours 40 minutes a day on average in Japan, whereas in Finland it is about 2 hours 20 minutes in this research. There are only 20 minutes of differences in teaching hours in Finland and Japan. The school time in Japan is longer in Japan than in Finland because more time spent on subject instruction as mentioned above, but there are also another factor. This may be because extra-curricular activities are conducted more in school time in Japan. In school time, extra-curricular activities in class such as morning assembly, school mealtime including preparation and tidying, and cleaning used for about 40 minutes longer than Finland. Unlike Japan, activities such as morning assembly and cleaning were not observed in the school in Finland. There was school mealtime in Finland, but it was where students take their meal from a buffet and eat individually, which took about less than 15 minutes. By contrast, students in Japan had to distribute meals in a class by carrying the meal wagon to class and from preparation to tidying up it took about 45 minutes to 50 minutes. As extra-curricular activities takes longer hours in Japanese contexts, school hours in Japan possibly became longer.

Another point that was unique to be seen in Japanese teachers in school time was that they have time slots in which they do not teach either as a main teacher nor an assistant teacher in school time. And it may be the implication of LWH of teachers in Japan. The vacant time slots happens when the students of the class are learning subjects such as music and art being taught by a specialized teacher of the subject. While students of the class are learning with another teacher, the class teacher had the vacant time in the Japanese context. Teachers in Japan often use the vacant time for marking and office work. However, in Finland, time teachers used for marking and office work during school time was none. It is because there were not any vacant time slots that teachers do not teach at all during school time in the Finnish context. From the first-class teachers in Finland teach to the last class they teach, the time slots were fully occupied for teaching for all teachers in

Finland during the observation period. There was a difference between Finland and Japan in terms of whether there were time slots in which teachers are not involved in lessons at school time. The difference may be because the work shift of teachers in Finland and Japan are different. The starting time of work and the finishing time of work are the same for every teacher in the school in Japan, which is absolutely longer than a school day of students. However, in Finland, these can differ by the teacher and by the day of the week and are not necessarily longer than that of students. It is possible in Finland that the students of the class start the first class earlier than the class teacher starts teaching in the first class by being taught by another teacher. Conversely, the class teacher in Finland may come earlier than the students of his/her class and teach students in another class of the school. Teaching in a class other than the class in charge is not observed in Japan, and the class teacher in Japan normally teaches only the students in his/her class. Therefore, during the class in which the students of the class are studying subjects such as music and art, which are normally taught by a specialized teacher, the class teacher in Japan has a vacant time slot during the school time. As described above, when compared to Finnish teachers' work, Japanese teachers' work styles are as follows: 1. All teachers surely work longer hours than their students' school time, 2. Class teachers are responsible to teach lessons for mostly only his/her class, 3. There are time slots in school time that teachers do not teach any class. How this work structure affects work hours of teachers were not investigated in this research but it was found as the features of teacher work in Japan referring to Finland and it may clarify the reason why teachers in Japan record long work hours compared to other countries.

As mentioned above, Japanese teacher work at school time is 1 hour and 45 minutes longer than Finnish teachers, but the difference in teaching time is only 20 minutes, and other times are used for extra-curricular activities. The school culture of Japan which includes extra-curricular activities may have the relation to LWH of teachers in Japan. Furthermore, it was pointed out that how teachers in Japan spend in school time has a couple of features referring to Finland and they may explain LWH of teachers in Japan.

5.3 Work Hours of Teachers in Japan and Finland

In the previous sections, we have discussed the characteristics of teacher work in Japan in terms of work contents and their distribution, and the possible relationships between LWH. Lastly, in this section, we urge again that the work hours of teachers in Japan must be handled urgently since the working hours of teachers in Japan observed in this research was problematic from various views.

In this research, the hours which teachers in Japan spent at school was averagely 11 hours 19 minutes per day, which makes about 56 hours 35 minutes per week. On the other hand, Finnish teachers spent on average 6 hours 58 minutes per day, which makes about 34 hours 50 minutes per week. This result was similar to the previous research result in which the time teachers spend at school was self-reported 11 hours 25 minutes in Japan and 7 hours 1 minute in Finland on average (Institution for global education and culture, 2009). The observed time of 11 hours 19 minutes per day (56 hours 35 minutes per week) in Japan is the average time the teacher stayed at school but not necessarily the average working time of teachers. The break time taken by teachers is also included in the reported time. When the break time (E1 Non-school-related conversations with staff and F Break) are subtracted from the time, 10 hours 59 minutes per day (54 hours 55 minutes per week) can be said it is the hours teachers worked purely. The results of the observation indicates long working hours of teachers in Japan, thus raising concerns on various aspects such as legal, well-being, and fair-payment.

5.3.1 Comparison of statutory work hours

The length of working hours observed in this research is problematical from various viewpoints. First of all, the working hours of teachers observed in Japan exceeded the statutory regular work hours. In Japan, regular work hours are 8 hours a day and 40 hours a week. However, none of the teachers in Japan observed in this research worked less than 8 hours a day for 10 days observation period. The average working hours of teachers in Japan was about 3 hours longer than the statutory regular work hours. Even worse, the working hours of teachers in Japan

observed in this research exceeds not only the statutory regular work hours of Japan but also the limitation of the overtime in the law of Japan, which allows overtime working for 45 hours a month. Although the regulations allow workers to work more than 45 hours under special circumstances, the month of working more than 45 hours of overtime cannot be more than 6 months a year in the regulation. In this research, the overtime work of nearly 15 hours per week is recorded, which is a figure that easily exceeds 45 hours of overtime work per month. The working hours of teachers in Japan observed exceeded not only the statutory regulated hours of Japan but also the limitation of overtime working hours.

On the other hand, teachers in Finland worked about only 34 hours 50 minutes a week. It seems not because the regulation of working hours in Finland is more strict than that of Japan. According to s. 4.1 of the Working Hours Act 2017 of Finland, the statutory regular work hours of Finland is set also the same as Japan, which is 8 hours a day and 40 hours a week. For the regulation of overtime, it limits the maximum amount of overtime less than 138 hours for a four-month. Although the work regulation of Finland allows workers to work overtime exceeding 40 hours a week, teachers in Finland observed in this research did not work exceeding the regular work hours of Finland. Moreover, even for the daily working hours, teachers in Finland observed in this research never worked longer hours than 8 hours a day, which is the regular work hours for a day in Finland.

The regular work hours in Japan and Finland are commonly 8 hours a day and 40 hours a week. However, while none of the teachers in Finland worked longer than 8 hours a day, all of the teachers in Japan worked more than 8 hours a day. This points out that teachers in Japan work more than the set legal hours.

5.3.2 Implications to the well-being of teachers in Japan

The working hours observed in this research is an issue from the viewpoint of the well-being of teachers. While work itself has a positive impact on well-being to some extent, various studies have shown that if work hours exceed significantly, it can negatively affect well-being. The working hours of teachers in Japan observed was around 55 hours per week in this research. This amount of working time is much enough to be associated with depressive and anxiety (Virtanen et al., 2011),

poor mental health (Artazcoz et al., 2009; Kuroda & Yamamoto, 2016), dissatisfaction (Artazcoz et al., 2009), metabolic syndrome (Kobayashi, Suzuki, Takao, & Doi, 2012), sleeping disturbances (Virtanen et al., 2009) and short sleeping time (Artazcoz et al., 2009). The working hours of teachers in Japan are too much in terms of the well-being of workers.

5.3.3 A take on the overtime payment

The length of the working hours observed in this research is problematical from the viewpoint of the payment for overtime work of teachers in Japan. This point has been pointed by various researchers (Nobumoto, 2013; Research Institute For Advancement Of Living Standards, 2016; Takayoshi, 2009). It is said that the payment for overtime work of teachers is not paid reasonably. In Japan, teachers of public schools are paid a fixed amount of the overtime working payment. In 1971, the fixed amount of payment was decided that teachers receive 4% of salary as overtime payment. The amount of the overtime working payment was calculated referring to the working survey of teachers, which showed that teachers in Japan averagely worked 8 hours per month of overtime at that time (Takayoshi, 2009). In other words, the fixed payment of overtime working for teachers was decided to expect 8 hours a month of teachers' overtime working. However, the amount of teachers' working hours in Japan in this research showed extreme working hours which can be about 60 hours of overtime working for a month. Although the situation of overtime working of teachers has differed from when the payment was decided according to the teachers' work survey, the payment for overtime work of teachers has not been changed.

The working hours of teachers in Japan is exceeding in terms of statutory regulations, well-being, and overtime payment. However, the extreme working hours of teachers in Japan in this research is not unique to other previous research on teachers' working hours but many previous research has reported the serious LWH of teachers. Although the situation of teachers' long working hours has been reported by many researchers, it has not been improved so far at least in the school observed in this study. The Ministry of Education, Culture, Sports, Science and Technology (MEXT, 2019) has encouraged teachers to reduce work

burdens by optimizing and reviewing the division of roles as work style reforms. The reform focuses on distributing the work contents that teachers are originally in charge of to other human resources, but does not review the necessity of the work contents. This study revealed that there are work contents in which teachers in Japan spend a lot of time but teachers in Finland never performed and not even by other human resources. It indicates that there may be more responsibility and work in the school system of Japan. The situation of teachers' LWH is at a level that must be urgently improved. In the work style reform promoted by the Ministry of Education, Culture, Sports, Science and Technology, how many hours of work can be expected to be reduced by distributing the work contents of teachers to other human resources? And is it possible to introduce such work distribution in a realistic manner? It may be necessary to reconsider not only the role distribution of work contents but also examine the effectiveness of such educational activities with the insights of the significance of school in Japanese society. Reviewing the necessity of work contents while ensuring a high quality of education for students might help to reduce teacher work in Japan.

5.4 Summary

In this research, we aimed to answer what are the characteristics of teacher work in Japan based on the work contents and its distribution by referring to Finland and tried to explore the implications of specific job contents to teacher's LWH. This research was able to point out the characteristics of the work contents seen in Japanese teachers, which marking and work as a class teacher take long hours and much distribution of work hours of teachers in Japan. On the other hand, these job contents were rarely observed in the work of Finnish teachers, thus, it was pointed out that LWH of Japanese teachers may not be a matter of efficiency of working, but there are job contents which are performed in only Japanese educational context. Furthermore, it was suggested that teachers in Japan have features in the work contents and shifts in school time, and it may explain LWH of teachers in Japan. Improving the situation of LWH of teachers in Japan seems to be urgent from the various view of points and to reduce LWH of teachers in Japan, reconsidering the necessity of educational activities which are already in the school

context in Japan may be efficient. This study has made it possible to show the characteristics of the work contents and their distribution of teachers in Japan by referring to Finland, which could not be possible previously with only research in Japan. To improve the situation, this research suggested the importance to review not only the work distribution with other human resources but also the necessity of work contents. Further research such as how the job contents are important and effective for educational outcomes needs to be conducted.

5.5 Limitations

Several limitations need to be noted regarding the present study. Firstly, in continuous observation time-motion study, there is a potential for a bias of Hawthorne effect in which the presence of an observer may influence participants' behavior (Ampt, Westbrook, Creswick, & Mallock, 2007; Barner-Barry, 1986; James et al., 2011). For example, it is reported that when teachers know being observed, their interaction to students were more frequently performed (Mercatoris & Craighead, 1974). Although the distance to teachers were paid attention in this research considering Hawthorne effect, it may work only as minimization of disruption but not eliminating completely. Secondly, the data-set size of this research is too small to be generalized. It is a common weakness to be seen in continuous observation time motion research (Finkler, Knickman, Hendrickson, Lipkin Jr, & Thompson, 1993; James et al., 2011), but as the study consumes time to collect data, the data-set size was limited and cannot generalize it for all teachers in Japan and Finland. Lastly, this research does not include hours worked at home and on weekend. Since this research focused on how teachers spend their working time in school, the work done at home after school or weekends were not discussed. In addition, this research does not include the family composition of participants which may effect on LWH (MEXT, 2018c).

Chapter 6

Conclusion

The aim of the present research was to clarify the characteristics of teacher work in Japan focusing on the work contents and their distribution referring to teacher work in Finland. Prior to this, previous research in Japan only found out which category of work time has increased compared to the past and the difference in work hours by teachers' characteristics and school contexts. There haven't been many discussions about which job contents are spent a longer time by Japanese teachers compared to teachers in other countries. Thus there have not been any insights about why teachers in Japan work such longer hours than teachers in other countries. In this study, the characteristics of teacher work in Japan were clarified referring to teachers in Finland, where teachers work fewer hours than most other countries. The most obvious finding to emerge from this study is that Japanese teachers use much more time for marking and grade/class organizations. Both were observable for about one hour a day in Japan, however, they were rarely observed in Finland. In addition, this research revealed that school time in Japanese is longer than Finland due to extra-curricular activities. The findings of this study imply that teachers in Japan may work LWH because they have work contents that are rarely performed in teachers in Finland. There are jobs that Finnish teachers do not do but only Japanese teachers do because of the school system and culture in Japan. In addition, several features of the work shifts of teachers in Japan in school time were pointed out. In this study, by comparing Japan with the other country, it was able to point out the characteristics of the workload seen in Japanese teachers that could not be pointed out in studies that were conducted only in Japan. Moreover, by comparing with other countries, this study result suggests the necessity of reviewing not only the distribution of work contents with other human resources but also the significance and effectiveness of current educational activities to improve the situation of LWH of teachers in Japan.

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