Chapter——12

In-Company Training in Small and Medium Enterprises

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I. The Process of Acquiring Skills by Workers

This chapter will delve briefly into the actual conditions of historical development regarding the vocational and technical training of workers in small and medium enterprises.

The major target period is from after World War I to the 1920s. Triggered by World War I, industrialization, particularly heavy industry, progressed in this period when there was a full-scale demand for the training of technical workers in heavy industry, especially in the machine and the metal industries. The diffusion of the "in-company training system" in this period among heavy industrial enterprises was one of the responses to this demand.[1]

The machine and the metal industries will be primarily analyzed in this paper, and the characteristics of vocational training and the process of skill formation in small and medium enterprises after World War I are generalized under the term "training-oriented labor market."

In the "training-oriented labor market" the workers did not acquire skills methodically and systematically in a structured vocational education and training system. Supported entirely by the enthusiasm of the individual workers themselves, skills were acquired through constant mobility in the labor market.

Such a characteristic pertaining to the course of skill formation emerged in the transformation process of the traditional "apprentice system." In this sense, a similar situation was also found in large enterprises in their transitional stage from "apprenticeship" to the establishment of an in-service training system. However, what was found

in the transitional stage of large enterprises continued to exist for a long period even after this stage in small and medium enterprises.

II. Osaka Workers after World War I

1. The Expansion of the Industrial Labor Market in Osaka City

Attention is focused on Osaka City, a representative industrial city in Japan, to examine the development of the metropolitan labor market, particularly the labor market for small and medium enterprises after World War I when industrialization was in progress. Through this examination, the manner in which workers of small and medium enterprises acquired skills is studied. The examination will be based on various surveys conducted by the Osaka City Office, which held a leading position in full-scale labor surveys in Japan at that time. (A total of 260 surveys under the title of the *Social Department Report*[2] were published between 1919 and 1942 by the Social Department, Osaka City.)

One impact of World War I was seen in the process of industrialization in Osaka City. During the period between 1911 and 1926, the number of workers at factories with more than five employees increased by about 3.6 times from 43,343 to 156,652 workers. The increase was not, of course, based upon a monotonous growth, but was developed with such changing phases as (1) a sudden expansion triggered by World War I (1914–17), (2) a sudden contraction in the post-world War I recession, and (3) a recovery from the recession. Moreover, the growth in various industries was uneven and dependent upon each phase. The characteristic of the first phase was the fact that there was a marked increase in the number of workers in the machine and the metal industries. In terms of the actual number, there was an increase of 2.5 times. The component ratio doubled from 16.5% to 32.8%, which ranked the machine and metal industries at the top of the component ratio superceding the textile industry. Although the number of workers in all industries decreased in the second phase, the same industrial component ratios were maintained. The level which had been attained during World War I was surpassed upon entering the third phase, but the characteristic here was a rapid expansion seen in the textile industry.[3]

Even though the transition was never smooth, it was certain that there was an epochal expansion of the industrial labor market in Osaka in this period. What was simultaneously important was the fact that a high proportion of the male labor force was in the expanded labor

market. As of 1911 the proportion of the male labor force comprised less than 40 % of the total industrial labor force in Japan. About two-thirds of the workers in Osaka were males. Moreover, this proportion was increased to three-quarters during the war. It was obvious that the above was related to the progress made in heavy industry during the war.

2. The Labor Supply Structure

The industrialization and the expansion of the labor market in Osaka City inevitably accompanied a change in the supply structure of workers. Summing up the Survey on *Workers' Native Places* conducted by Osaka City from 1923 to 1925, a large proportion of workers came naturally from Osaka prefecture, and additionally they came not only from various neighboring prefectures in the Kinki region but also from southern Kyūshū (such as Kagoshima and Okinawa), from northern Shikoku (such as Kagawa and Ehime) and from such prefectures as Hiroshima and Okayama in the San'yō region. The progress of industrialization in Osaka City caused the labor force to accumulate in the interior of Osaka City, and concurrently a labor supply structure which extended over all of Western Japan was being formed. At the same time, supply structures for different types of labor by industrial sectors existed. According to the above survey, there were three representative patterns.

First, a pattern seen in the textile industry, based on a massive influx of unmarried female labor recruited from distant regions such as southern Kyūshū and northern Shikoku.

Second, a pattern typically seen in the machine and metal industries, based upon the transfer of an experienced work force from the industrialized cities. The mobility from each of Hyōgo, Hiroshima, Okayama, and Aichi prefectures was conspicuous.

Third, a pattern based on bands of workers with regional ties in which workers from the countryside flowed into the cities. Cases in point were workers from Korea in the chemical industry, people from Ishikawa prefecture in food and provisions, and workers from both Nara and Wakayama prefectures in the specialized and miscellaneous industries.[4]

Pattern 1 is seen in the so-called pattern of working away from home to supplement family finances by unmarried girls, and Pattern 3 is seen in the influx into urban areas of the second and third sons of rural families. On the other hand, Pattern 2 was related to the existence of the training-oriented labor market. It is inferred that a horizontal

market which consisted of experienced workers across various industrial cities existed at least for the machine and metal industries.

The above inference is evidenced by the structure of inter-occupational mobility among workers. On the basis of the 1923 Osaka City Annual Labor Report, Table 12.1 shows various indices regarding workers' backgrounds by industry. The following characteristic patterns are also found in this regard:

First of all, dependent on the ratio of workers with factory labor experience, industries are demarcated into Type A industries (textiles, chemicals, food and provisions, miscellaneous) in which the majority or workers never had factory experience and Type B industries (machines, metals, and special) in which workers with factory experience were dominant. Dependent upon the previous careers of the inexperienced workers, the former type can be further subdivided into industries (textiles and chemicals) in which the ratio of school graduates and farmers was high and industries (food and provisions, and miscellaneous) in which there was a high proportion of workers who had had no job or who used to be engaged in domestic work. Taking into account the ratio of workers who had come from the local prefecture of Osaka as well, while textile and chemical industries were strongly affiliated with a labor supply which was rural, food and provisions industries contained a large source of labor from among the nonindustrial sectors in the interior of the cities.

In contrast to the above, in the case of Type B industries, especially the machine and metal industries, 70% of the workers had experienced factory labor. Since 92% of them had moved within the same machine industry, ultimately nearly two-thirds of the workers were employed after having had work experience in other machine and metal factories. Excluding even factories with less than 100 employees, there existed a horizontal mobility of labor among the factories in the same industry. Therefore, it is presumed that the mobility of workers of a smaller scale must have been greater.

Due to the relaxation of the labor market as a result of successive recessions in the 1920s, there was a stronger trend among the workers of large enterprises to settle down at one factory, which at the same time helped the labor market to become more internalized. The dismissal and employment rates at factories with more than 100 employees can be seen in the *Osaka City Annual Labor Reports* for the years 1923 and 1927.[5] These reports reveal a higher worker mobility rate in 1923 compared with 1927. For example, the dismissal and employment rates in Osaka for the year 1923 were 68.2% and 70.4% respectively. These figures dropped in 1927 to 42.6% and 38.5% respectively. Only in the

Table 12.1. Mobility Background of Factory Workers in Osaka by Industry (%) (Factories with more than 100 employees)

	Experience in Factory Labor		Experienced	Inexperienced Workers					Rate of young workers (under 16 years)	Rate of workers from Osaka Prefecture
	Experienced	Inexperienced	Mobility rate in the same industry	School Graduates	No job Domestic work	Agriculture	Commerce Apprentice	Miscellaneous, others		
Textile	22	78	86.8	23.8	19.8	44.6	7.0	4.8	9.7	10.5
Machine, Metal	70	30	91.8	7.3	16.2	44.3	13.6	18.6	1.3	37.1
Chemical	22	78	52.7	15.3	10.6	54.6	13.6	5.9	5.3	32.8
Food provisions	36	64	10.1	4.8	54.8	18.4	13.3	8.7	11.2	38.3
Special	54	46	Unknown	9.3	13.2	41.4	11.1	25.0	0.5	27.4
Miscellaneous	30	70	Unknown	12.0	23.4	37.2	18.5	8.9	17.8	42.3

Source: Osaka City Social Department Report, No. 22, *Kōjō rōdō koyō kankei* [Employment Pattern of Factory Labor], 1923, pp. 32–42.

machine and metal industries was the mobility rate lower with a dismissal rate of 26.6% and an employment rate of 30.4% as of 1927. Nevertheless, in comparison with an 8% dismissal rate at the Mitsubishi Kobe Shipyard and an 11% dismissal rate at Sumitomo Steel for the same year, there was quite a big gap. The gap was naturally due to the fact that the statistics on mobility by Osaka City included those pertaining to medium enterprises. In other words, although there was a sudden trend among the workers of large enterprises to settle down at a factory, quite a liberal labor market was still in existence for medium-scale factories. There is no doubt that the mobility of workers at factories with less than 100 employees, which were not included in the statistics, was much more frequent.

Furthermore, in contrast with the stagnation in the number of workers at both state-run and large private factories with more than 500 employees belonging to the machine and metal industries, there was a marked increase in the number of workers at small and medium factories. It was during this period that the dual-structure labor market was distinctly being formed.

3. The Workers: Their Career Intentions and Skill Formation

Unfortunately, in the early part of the 1920s no survey was conducted which could clarify what were the career intentions of workers who found employment at small and medium enterprises. To make an inference at least with the use of indirect data, a 1921 survey entitled *Circumstances Prior to the Establishment of the Employment Relationship* can be used. This revealed the reasons for the movement of young workers from the country to the factories in Osaka City. When the reasons are classified into push factors and pull factors, about 60% of the male workers came to the Osaka factories due to the pull factors. Of these, such reasons as "vocational training and technical training" (15.2%) together with other reasons such as "seeking employment" (12.5%) and "study" (12.1%) were pronounced.[6] Although it is dangerous to draw an immediate conclusion from the above results, it can be inferred that during this period a large number of youth tried to grasp opportunities for vocational education and the acquisition of skills by entering the urban labor market. Moreover, opportunities for secondary education, particularly those centering on vocational education for the nonagricultural working youth, were extremely maldistributed in the cities. It is assumed that a strong correlation to the "training-oriented labor market" existed through which workers improved their careers.

The *Social Department Report* No. 215 (1936) gave survey results

by enterprise size which ascertained the reasons employees selected the enterprises at which they worked. According to the report, the reasons workers selected large enterprises (with more than 201 employees) included the "solid organization of the enterprise," which related to the organizational establishment of the enterprises (43%), a "clear-cut division between work hours and holidays," which related to the clarity of work hours (32%), and "no fear of unemployment" (21%).

On the other hand, 36% of the reasons for selecting small and medium enterprises pertained to the acquisition of skills. The survey respondents expressed the view that small and medium enterprises "were appropriate for the mastering of skills" and "allow the acquisition of skills in all areas of work." In conjunction with these reasons, another reason cited was that they were "beneficial for the preparation of running an independent business" (18%).[7] Taking all these reasons into consideration, more than half of the workers who chose to work for small and medium enterprises were motivated to do so to obtain training which then led to the starting of an independent business. These reasons revealed a certain positive evaluation of small and medium enterprises as places in which to master skills. Moreover, they wished to master all-round skills covering "all areas of work" with the intention of starting an independent business.

Nonetheless, it is a mistake to evaluate this aspect out of proportion. Apart from the above-mentioned reasons, 29% of the workers surveyed gave such negative reasons for choosing small and medium enterprises as "difficult recruitment qualifications by large enterprises" and "impossible to aim for large enterprises on the basis of one's academic background and technology." Thus, it was revealed that concurrently with the formation of the dual-structure labor market, there existed a large number of workers in small and medium enterprises who had been eliminated from large enterprises.

Three points which have been ascertained in the above examination of the developmental process of the labor market in Osaka City in the 1920s are summarized below. First, in conjunction with the progress of industrialization triggered by World War I, especially in the process of the development of heavy industry, the area from which metropolitan Osaka drew its labor supply expanded to the entire region of Western Japan. In addition to a mobility pattern of "working away from home" by unmarried female labor from distant places, there was an increase in the mobility of workers between industrial cities and within the interior of cities, which was a salient pattern especially for the machine and metal industries.

Second, the fact that there was a high proportion of workers who had had previous experience in the same type of factory as well as a high mobility rate within the same industry suggested the existence of a "training-oriented labor market" comprised of workers who were always "itinerant," working in small and medium factories in order to master all-round skills so that through their experience they could aspire to open their own businesses in the future.

Third, under the circumstances of chronic recession in the 1920s, the in-service training system was implemented for senior workers in large heavy industrial enterprises, which led to the internalization of the labor market. Although these factors reduced the size of the "training-oriented labor market" as well as the number of "itinerant" workers, this did not cause their immediate disappearance. They continued to exist through the formation of the dual-structure labor market.

The next section examines the manner in which technology and management conditions of small and medium enterprises were affected by the unique way of mastering skills which existed in these enterprises.

III. The Transformation of Apprenticeship

1. Apprenticeship as Employment

Even though the custom of calling young workers at small and medium enterprises "apprentice" continued to exist, in the period after World War I apprenticeship as a technical training system for workers became, excluding some exceptional cases, a facade.

The above can be seen firstly, from the "length" of apprentice service. According to a survey conducted by Kyoto City Office in 1927,[8] the distribution of length of service by commercial and industrial "apprentices" in the city showed a wide time range of less than one year to 15 years (in industry) or to 20 years (in commerce) with a slight concentration found in the time frame of five and ten years. This was completely beyond the norm of traditional indentured contracts. The fact that as many as 60% of industrial workers and 40% of commercial workers answered that the "term" of service was "undecided or unknown" clearly reveals that the real substance of the "indentured" system no longer existed.

The same can be said about the live-in system. According to the same survey, 55% of industrial apprentices were either commuters or lived in a dormitory.

With regard to the assistance promised at the time of the expiration of one's term of service, which was another important factor support-

ing "apprenticeship," a survey conducted later in 1935 by the Vocational Section, Social Bureau, in Tokyo showed that only 5% of commercial and 2% of industrial apprentices were given this promise thereby carrying out their term of service. This was based on the understanding that when their terms expired they would be given full assistance to become independent which was known as *noren wake* [branching out].[9] Even though a pattern based on partial assistance was included in the above figures, only 17% of commercial apprentices and 10% of industrial apprentices profited. The pattern which became prevalent instead was to pay a lump sum at the completion of the term of service.

The various facts revealed above indicate that the bond of personal involvement between the master and apprentice which had formed the principle of traditional "apprenticeship" was being lost, and that apprenticeship was more strongly characterized by an employment relationship which contained a special form of wage payment. Following Sumiya Mikio and others, such "apprenticeship" in the transitional process should be called factory apprenticeship instead of artisan apprenticeship.[10]

With the use of several cases, the process of skill formation by small and medium enterprise workers under "factory apprenticeship" will be examined next.

2. The Process of Skill Formation under Factory Apprenticeship

(1) The Machine and Metal Industries

Kitazawa Shinjirō who surveyed machine factories in Tokyo and its vicinity in 1921 stated that there were two ways of training skilled workers, namely for "apprentices" and for "trainees."[11] The difference between the two derived from the age upon entering employment and the length of service. While "apprentices" were employed between the ages of 14 and 15 for a term of five years on the average, "trainees" began working at the age of 17 to 18 for about an average of two years.

The very existence of "trainees" weakened the status of apprenticeship, and Kitazawa stated that "there were not a few 'apprentices' who, after having been technically trained for one or two years, resigned from a factory without waiting for the expiration of their term of service, entered another factory, and took employment examinations with the hope of becoming a 'finisher or a latheman.'" Without waiting for the completion of their term of service, both "trainees" and "apprentices" changed factories very frequently.

As stated by Kitazawa, the transfer was based on their drive to get

out of the "term of service" for which they were paid either no wages or low wages so that they could earn "full wages." Transfer, in addition, provided an important means of acquiring skills which could not be acquired at small and medium factories where technology was limited.

Most of the machines at small and medium factories were all-round machine tools which were inferior in speed and precision.[12] To keep them functioning efficiently, workers had to rely heavily on their "intuition" and "knack" which had been nurtured through experience. Furthermore, because worker specialization was not so developed at "downtown factories," workers were expected to become "all-round mechanics" who could handle a multitude of mechanical operations and tasks before they were able to qualify as fully fledged skilled workers. To master skills, it was imperative for them to drift through factories of all sorts to gain experience.

In addition to the above, there was a tendency for all-round mechanical skills to become "secrets" which belonged to the workers as their personal assets. According to a case study of one small founding factory,[13] a "head foreman" who occupied a central position in such group tasks as "initial moves," "metal founding," and "handling skills," did not even show blueprints to workers ranked below him. He also did not include them in prior discussions regarding a task. The rest of the workers were not even informed as to what was being made. The head foreman did not even dream of offering technological guidance, and thus workers who ranked below him had to "steal" skills a little at a time from the head foreman. The above exhibits the phenomena of skills being made into secrets.

Consequently, there emerged a situation whereby the only way to acquire secret skills was to experience a multitude of tasks at various factories. In reality, the "head foremen" had a work history of so many moves during the period of training that they "had almost worked at all the foundries in Tokyo."

Thus it can be seen that the "term of service" was no longer a means to guarantee techniques possessed by a fully fledged worker. Instead, length of service and a career as an itinerant worker in the factories meant much more to perfect their skills. Nevertheless, attention should be paid to the fact that the above manner of mastering skills was not a structured form of training meeting objective social requirements. In other words, skills which tended to be "secret" were acquired solely through accidental circumstances and through the enthusiasm of the workers. As a result, because the degree of skill was expressed approximately by the length of service and itinerancy, it was not as if

itinerancy qualified the workers to be skilled from the viewpoint of social requirements. Special conditions of the "training-oriented labor market" to guarantee qualifications emerged after the regression of the function of "apprenticeship."

(2) The Glass Industry

Although the glass industry was another of the small and medium enterprises, the transformation process of apprenticeship was seen in a different sense from that found in the machine and metal industries.[14] A characteristic of the composition of this industry's labor force was a high proportion of young workers. According to a 1924 survey by the Social Department of Osaka City, 40% of the workers in this industry were younger than 20 years and about two-thirds were younger than 25 years of age. Furthermore, about 20% were Korean workers.

The youth of the workers was largely related to the fact that manual glass blowing in high temperatures was such heavy labor that work ability declined at an early stage. At the same time, securing a young low-paid labor force was essential for the sustenance of this type of business.

According to accounts given by glass factory owners, the reasons for hiring many low-paid, live-in young workers was to have unskilled subsidiary labor as well as to secure a certain number of workers required for specialized work involving a consecutive treatment process. Even though the term "apprentice" was nominally used, the educational value of "apprenticeship" was actually lost, given the purposes for which young workers were employed by this industry.

It is assumed that the technical training of traditional workers in the glass industry was carried out in the form of "artisan apprenticeship." However, when the glass industry shifted from a cottage industry to the factory system, this "artisan apprenticeship" was reduced to a shell. Additionally, a decisive blow was given by the establishment of the Factory Act.

As mentioned already, employers wished for the continuation of "apprentices," as they were economically beneficial to employers. However, most of the employers avoided the application of the apprentice clause stipulated by the Factory Act. Consequently, around 1924 when a survey was conducted by Osaka City, the general employment pattern for young workers as well as adult workers was that they were recruited without having their terms of service specified although young workers were paid lower wages.

The same report stated that in spite of a marked dependency on young workers by the glass industry, "apprenticeship" was eliminated

due to employers who were "solely interested in gaining business profits through recruiting boy operatives." It also stated that because there was a decrease in the number of young workers, "the employers found the hiring of Korean operatives convenient."

It can be said from the above that in conjunction with the reduction of traditional "artisan apprenticeship," the glass industry moved into a stage in which structured in-service training was carried out neither in name nor in reality.

Although the cases studied have been limited, they reveal that the process of acquiring skills by small- and medium-enterprise workers through the process of "apprenticeship" was reduced to barest minimum as was seen in the machine industry. In reality, the acquisition of skills was changed from apprenticeship to frequent itinerancy among the factories. On the other hand, as was seen in the glass industry, there was a shift to a form which lacked any system of in-service technical training.

IV. Small- and Medium-Enterprise Workers

1. The Educational Background of the Workers

The educational background of the industrial workers according to *Osaka City Annual Report* revealed that as of 1919 as many as 85.1% of the workers had less education than ordinary elementary school graduation, including 7.7% who had never been to school. This, however, changed, and in 1927, 25.3% of the workers had graduated from upper elementary school. In particular, 35.2% of the machine and metal industry workers graduated from upper elementary school.[15] The rise in the educational standard was naturally a phenomenon among young workers. According to *A Survey Regarding Commercial and Industrial Apprentices* (1927) by Kyoto City, 50.3% of industrial apprentices and 65.5% of commercial apprentices had more education than upper elementary school graduation.

Such a rise in the educational standard to upper elementary school graduation had a significant impact on the process of skill formation by small and medium enterprise workers. First, the age at the time of entering the workplace became older. There was an increasing number of workers entering work at the age of 16 after graduating from upper elementary school instead of a pattern in which most workers entered work at the age of 13 or 14 after graduating from ordinary elementary school.[16]

Second, it was inevitable for the general educational function ful-

filled by "apprenticeship" to decline. It has been said that Japanese apprenticeship had a general educational function which in addition to giving vocational education and training provided guidance in proper "etiquette" and "culture," both necessary skills for entry into the adult world. However, there was increasingly less need for those skills with the spread of school education and the rise of the educational standard. It was also inevitable that the quasifamilial relationship between young workers and their employers, where the latter acted as guarantor and educator, should abate.

Third, the rise in the educational level led to a stronger demand by workers to be given secondary level vocational educational opportunities. Several young workers at small and medium enterprises hoped to attend "technical special schools" and "commercial special schools," and there were quite a few who were attending these schools. According to the aforementioned survey conducted by Kyoto City, 18.0% of industrial apprentices and 6.4% of commercial apprentices were attending vocational continuation schools.[17] In addition, there were others who studied on their own through correspondence courses. There is no statistical data which shows the attitudes of the employers in response to such demands for study. While large enterprises during this period began the process of providing an in-service educational system, most of the small and medium enterprises were only at the level where at best they would allow their workers to take night courses at outside educational institutions, and even this opportunity was limited.[18]

The fourth point pertains to a regional gap in employment opportunities and a discrepancy in educational opportunities, as stated in the previous section, that were two of the reasons for the young workers entering the labor market in Osaka City. Apart from agricultural educational opportunities, vocational education and training opportunities, especially those for industrial education at the secondary educational level, were extremely maldistributed in big cities. Furthermore, the job sites themselves at small and medium enterprises were regarded as places for vocational and technical training.

The next section discusses some concrete cases to ascertain what educational opportunities were available for the workers of small and medium enterprises.

2. Workers and Technical Continuation Schools

Most of the educational opportunities accessible to small and medium enterprise workers who wished to pursue studies at the same time were at technical continuation schools. Although other varieties of technical

school existed in major industrial cities such as Tokyo and Osaka, these were on the whole very limited.

The 1920 revision of the Vocational School Act which aimed at the diffusion of vocational continuation schools was almost a failure regarding technical continuation schools. From the peak year of 1908, the 252 schools with 15,362 students continued to decline from 1910 through the 1920s. Furthermore, vocational continuation schools were so insignificant that they comprised not even one percent of the total. Based on these quantitative levels, the role played by technical continuation schools as worker training institutions cannot be rated particularly high.

The quality was also generally of a low standard. Many technical continuation schools annexed to elementary schools were rarely furnished with the facilities and equipment necessary for technical educational institutions. Moreover, such aspects as budgets and teaching staff showed marked poverty.[19]

Under these general circumstances, technical continuation schools which exhibited noteworthy substance did exist but these were very small in number. These schools were rarely found at small and medium enterprises because most of them were either in-service worker training institutions established by large enterprises or public technical continuation schools which were given personnel and material support by various enterprises and thereby entrusted to them.[20] However, technical continuation schools annexed to technical schools which had relatively favorable conditions for the installation of practical facilities in such major cities as Tokyo, Osaka, and Kobe did exhibit some consideration for the enrollment of small- and medium-enterprise workers.[21]

In the case of Osaka, since the founding of prefectural worker training schools in 1907 (which in 1916 became the prefectural Nishi Noda Worker Training School and the prefectural Imamiya Worker Training School), there had been a tradition emphasizing worker training, and thus the city was relatively enthusiastic about the spread and expansion of technical continuation education. At the time of the 1920 revision of the Regulations for Vocational Continuation Schools, Osaka City, which had studied the continuation school system in Munich, drafted a plan to establish three high schools, four middle schools, and 53 regular schools. On the basis of the plan which aimed at the establishment of a variety of courses such as machine, joinery, metalwork, ceramics, printing, knitwork, architecture, bakery, electric work, hook work, western clothing, and weaving, emphasis was placed on the production fields existent among small and medium enterprises.[22]

The Osaka Prefectural Nishi Noda Worker Training School had additional installations. These were the Osaka Prefectural Nishi Noda Higher Continuation School and the Middle School for the Osaka Technical Special School. They were both founded by the Osaka Industrial Federation. The former offered a four-month curriculum consisting of 11 courses. The latter provided a two-year curriculum for students who had graduated from upper elementary schools, and there were three courses consisting of the machine course, the electricity course, and the applied chemistry course, for a total enrollment of 800 students. Such a continuation school which had been annexed to a technical school was well equipped with practical facilities and thus it qualified as a worker training institution.[23]

There were other noteworthy cases in which affiliation with small and medium enterprises was emphasized. The Osaka City-Run Tsushima Technical Special School and the Osaka City-Run Vocational School Special Continuation Course established a regulation that they would organize a special class should they be entrusted with the education of more than twenty students by people in the industry. There was also an educational tie-up between the Osaka City-Run Ajihara Commercial and Technical Special School and such small and medium enterprises in the vicinity as those in celluloid manufacture, brush manufacture, and metalwork.[24]

Although limited, it should not be forgotten that technical continuation schools which aspired to give vocational education and technical training to small and medium enterprise workers did exist. However, these schools could not be part of the mainstream of technical continuation education. The level of education provided by the vast majority of technical continuation schools was of a standard found in ordinary elementary schools, and their quality either as educational institutions of the secondary level or as technical training institutions was not substantial.

It should be added, however, that there were several young workers who wished to pursue studies while being employed by small and medium enterprises. Although relatively small in number, the fact that there were workers who actually attended technical continuation schools and various schools is important. This type of young worker was particularly marked in the machine industry. According to the report written by Kitazawa Shinjirō, the finishers and the lathemen in the machine industry not only had a high educational level as shown by being addressed as "the intellectuals among workers," but also were filled with a desire for learning. Moreover, it was stated that "the proportion of these workers who attended seminars, lectures, or night

courses was quite high," and that "there were 'very' many workers who were enrolled at particular schools in order to master special technology."[25]

The above suggests another aspect of the "training-oriented labor market" in this period. In the disintegration process of "apprenticeship" as a technical training system, there existed, as shown in the previous section, a process of mastering skills based on experiences obtained through frequent moves. Conversely, there was an increasingly greater demand for vocational and technical education among the workers. Therefore, the systematization of a newly socialized education and training system to act as a substitute for "apprenticing" was thrust on to the scene as a new historical problem.

Notes

1. Hyōdō Ken, *Nippon ni okeru rōshi kankei no tenkai* [The Development of the Labor Management Relationship in Japan], University of Tokyo Press (1971), Chapter 3.

2. Ujihara Shōjirō, "Daiichiji taisengo no rōdō chōsa to 'Yoka Seikatsu no Kenkyū' " [Labor Surveys after World War I and 'Studies of Leisure Life'], *Seikatsu koten sōsho*, vol. 8, *Yoka seikatsu no kenkyū* [Studies of Leisure Life], pp. 3–59.

3. Refer to *Osaka-shi Tōkeisho* [Osaka City Statistics] for respective years.

4. Osaka City Social Department Report, no. 22. *Kōjō rōdō koyō kankei* [Employment Relationship of Factory Labor] (1923), p. 31.

5. *Osaka City Annual Labor Reports* for the years 1923 and 1927.

6. Osaka City Social Department Report, no. 21. *Koyō kankei setsuritsuzen no jijō* [Circumstances Prior to the Establishment of the Employment Relationship], 1921, pp. 49–50.

7. Osaka City Social Department Report, no. 215, *Kibō no daishō yori mitaru honshi shōkōgyō rōdō jijō* [Commercial and Industrial Labor Circumstances in This City Viewed by Scale] (1937), pp. 91–97.

8. Kyoto City Office, Social Section, ed., *Shōkō totei ni kansuru chōsa 1.2.* [A Survey Regarding Commercial and Industrial Apprentices 1. 2.] (1927).

9. Tokyo City Office, *Sumikomi shotenin, shonenkō chōsa* [Surveys on Live-in Shop Boys and Boy Operatives] (1937), pp. 57–58.

10. Sumiya Mikio, ed., *Nippon shokugyō kunren hattenshi* [A Developmental History of Japanese Vocational Training], Nippon Rōdō Kyōkai, 1970, 1971: vol. 1. p. 158; vol. 2. p. 213, pp. 217–22, pp. 224–28.

11. Kitazawa Shinjirō, *Tokyo ni okeru kikaikōgyō no jukurenkō toshiteno shiagekō narabini senbankō no chingin chōsa hōkoku* [A Wage Survey Report of Finishers and Lathemen as Skilled Workers in the Machine Industry in Tokyo], Ōhara Shakai Mondai Kenkyūjo (1924).

12. Kiuchi Yoshiharu, "Kikai kōgyō ni okeru shōkibo kigyō no jissō" [Actual Conditions of Small-Scale Enterprises in the Machine Industry], *Shakai seisaku jihō* [The Journal of Social Policies], no. 188 (1936), pp. 142–44.

13. Fujii Jirō, *Kinrō o chūshin toshite mitaru shokōgyō keiei no jinteki kōsei ni kansuru chōsa* [A Survey Regarding the Manpower Composition of Small Industrial Management Viewed Primary around Labor] (1942).

14. Osaka City Social Department, Survey Section, *Garasu seizō no rōdō to seikatsu* [Labor and Living of Glass Manufacturers] (1925).

15. *Osaka City Annual Labor Report*, 1919 ed. and 1927 ed.
16. This was not welcomed by employers. Most wished to recruit workers who had graduated from ordinary elementary schools. Kyoto City Office Social Section, *Shōkō totei*, vol. 1, p. 37, vol. 2, p. 32.
17. Ibid., vol. 1, statistics section, p. 4 and vol. 2, statistics section, p. 4.
18. Ibid., vol. 1, Main Text, p. 36.
19. National Education Institute, *Nippon kindai kyōiku 100 nen shi 10, sangyō kyōiku (2)* [A 100-Year History of Modern Japanese Education 10, Industrial Education (2)], pp. 105–6.
20. Ibid., pp. 106–7, and Sumiya, *Nippon shokugyō*, vol. 2, p. 237.
21. National Education Institute, *Nippon Kindai Kyōiku*, pp. 99–103.
22. Kyōchōkai, *Totei seido to jitsugyō kyōiku* [Apprenticeship and Vocational Education], 1936, p. 102.
23. Ibid., pp. 290–91.
24. Ibid., pp. 321–22.
25. Kitazawa, *Tokyo ni okeru kikaikōgyō*, p. 29.