
Kyoto University **Economic Review**

MEMOIRS OF
THE DEPARTMENT OF ECONOMICS
IN
THE IMPERIAL UNIVERSITY OF KYOTO

VOLUME XIII
1938

PUBLISHED BY THE DEPARTMENT
OF ECONOMICS IN
THE IMPERIAL UNIVERSITY OF KYOTO

THE OBJECTS OF EDUCATIONAL WORK CARRIED ON AS AN INDUSTRIAL PROGRAMME

By ICHIRO OTSUKA

1. INTRODUCTION

In most leading industrial countries, the education of labourers is now widely carried on by labour unions, corporations for promoting the public interest and special social welfare associations. But what I propose to deal with in the present article is another kind of education which is carried on in Japan and other leading capitalistic countries by industrialists within their factories either for the benefit of workers in their employ or, sometimes, for the benefit of the children of these workers.

Summing up the results of its inquiry—dated August, 1932—into educational equipment at factories employing more than 100 workers and mines employing over 300 miners, the Labour Section of the Social Bureau of the Home Office of our Country notes that the owners of many factories and mines in all districts, realising the necessity of promoting the intellectual and spiritual welfare of their workers, are carrying on educational work of various kinds within their establishments. In some cases, schools or special courses are established for the education of the workers, while in other cases meetings designed for the cultivation of their character are occasionally held. There are also cases where technical knowledge is imparted to them by special courses of lectures or by other means. According to this official report, at the time of inquiry, 75.6 per cent. of the Government factories investigated and 57.5 per cent. of the spinning mills were found to be giving continuation education to their

workers by school-like means, while technical education was being given by similar means at 87.8 per cent. of the Government factories, at 15.7 per cent. of the filatures and at 14.8 per cent. of the machinery and tool factories. It must be mentioned, however, that there are still few factories in Japan where educational facilities are provided for the benefit of the children of the workers, though this kind of educational work is fairly well developed in Japanese mines. Educational equipment on non-school lines has also made good development in this country. The origin of educational work within Japanese factories is by no means recent. The investigation made by the Commerce and Industry Bureau of the Department of Agriculture and Commerce regarding factories in Osaka in 1901 showed that, even at that time, many factories were already carrying on educational work on school lines. This educational activity within Japanese factories was stimulated by the Factory Law, which was enforced in 1916, and by the rapid progress of social education in the post-war years.

I am not in a position to give statistics to indicate the progress in recent years of educational work of this kind in Britain, America, Germany and France, but judging from the various materials available, it is obvious that the work of educating factory hands has been receiving the earnest attention of industrial entrepreneurs in those countries from early days and that it is actually making steady progress.

As already mentioned, the educational work within factories now figures as one noteworthy social phenomenon in the leading capitalistic countries. It constitutes also one important factor in factory management. When it is remembered that this work is carried on by factory owners on their own account, it is easy to imagine that these factory owners have the furtherance of some definite objects in view in undertaking it. In the present article, I shall study what are the objects that they intend to achieve by their educational means. If we ask individual factory owners about their objects, the answers we elicit from them will be so

diversified that we shall not find any objects common to them all. But it is conceivable that some common factors lie behind the educational enterprises undertaken by different factory owners and that, when objectively viewed, these factors condition the objects of these enterprises. An analytical study based on the actual circumstances surrounding capitalistic factory management leads us to conclude that there are three fundamental factors which operate to mould the objects of this educational work, and these factors are (1) to conform to the laws, (2) to advance business interests, and (3) to fulfil national and social moral obligations. Let me elucidate these objects in the following chapters.

2. CONFORMITY TO THE LAWS

This is found where the educational work launched by factory owners is prompted, in the first instance, by the desire to fulfil certain legal obligations imposed on them. In all countries, the education of factory workers is, generally speaking, left to the option of their employers; it is not obligatory on them. But there are exceptional cases where it is imposed on them as a matter of legal obligation. The most notable of the kinds of labour education which employers are legally called upon to undertake is the education of apprentices. In the initial stages of the intense capitalistic industrial order, many proletarian youths, who were denied the opportunity of systematic training or the stability of livelihood, such as was assured them under the apprenticeship system in the preceding trade-guild days, used to move, in an environment characterised by insecurity and lack of discipline, from one factory to another in pursuit of better labour conditions. This situation was rendered worse by uncontrolled capitalism, which demanded juvenile labour simply because of its cheapness. Poor juvenile workers were thus condemned to a wretched life as tragic victims of the age. As capitalism attained a higher development, however, men of special technical skill came to enjoy higher positions

and to receive better treatment, and this gradually developed among juvenile workers a tendency to seek systematic training instead of going from factory to factory in search of better labour conditions. On the other hand, factory owners began to evince greater interest in training juvenile workers into efficient labourers. These changed social conditions brought into being in many countries a new form of apprenticeship, different from the one which operated in the former trade guilds days. This new apprenticeship system, born in an intense capitalistic society, is, in substance, a sort of labour contract based on obligatory relations, but it possesses some characteristics which differentiate it from an ordinary labour contract. For instance, the obligations—the educational obligation especially—which this system imposes on factory owners are not merely based on obligatory relations, but their fulfilment is ordered or supervised by the State in a direct manner.

Take the case of the apprenticeship system in Japan, for instance. Its enforcement is supervised by factory inspectors appointed by the Government in accordance with the provisions of the Ordinance for the enforcement of the Factory Law. In other words, under the Japanese apprenticeship system, factory owners assume the legal obligation to give technical education to their apprentices and to exercise supervision over their character-building. On the other hand, the apprentices must work at the factories which are under the control of their employers at wages which are usually lower than those ruling in the labour market. The apprenticeship system in force in the State of Wisconsin in the United States is being operated under a certain state law, and its operation is supervised by the State Apprentice Committee, which consists of official superintendents and a number of employers. Again, in Germany, the Trade Regulations and the Commercial Code carry stipulations which make the education of apprentices obligatory on their employers. Thus, it will be seen that, under the apprenticeship system in the present highly-developed capitalistic age, factory

owners who employ a special kind of labourers called apprentices have to undertake the education of their employees in fulfilment of the obligation which the law imposes on them. It therefore follows that the factory owners must needs have the fulfilment of this legal obligation in view in carrying on the education of their workers, no matter what other ends they may intend to serve by it.

In this way, the apprenticeship system is of special significance in the study of the aims and purposes of factory labour education, but so far the system has not witnessed wide adoption in any country. There are even signs that it is falling into disfavour. Various causes may be assigned for this, and, for one thing, there is reason to believe that the cycles of business prosperity and depression are partly responsible for the vicissitudes of the apprenticeship system, for it is noticeable that in Japan the system has been showing signs of revival, though only slightly, in recent years.

The present state of the apprenticeship system in Japan.

The number of the factories in Japan, at which apprentices were employed in accordance with the regulations sanctioned by the local Governors concerned, stood at 17 in 1934, while the number of apprentices totalled 911.

Years	Number of factories employing apprentices	Number of apprentices
1917	10	1,409
1918	15	1,296
1919	18	3,255
1920	19	3,118
1921	20	3,310
1922	19	2,743
1923	23	1,960
1924	18	1,481
1925	15	1,229
1926	15	975
1927	16	809
1928	13	641
1929	12	680
1930	12	610
1931	14	498
1932	10	516
1933	9	596
1934	17	911

Besides this education of factory workers under the apprenticeship system, there is another form of the education of factory employees which is carried on under legal compulsion, and this form of education is, in its essentials, carried out in pursuance of the educational policy of the State. In Germany, for instance, it is legally laid down (Article 120 of the Trade Regulations) that factory owners who employ workers younger than 18 shall help and encourage them to attend continuation schools and shall also promote the sound development of their character and health. In Japan, in the days when factories were allowed to employ children who had not finished compulsory education, the owners of the factories employing such juvenile workers were required to devise plans to ensure their continued attendance at school, and they were required to carry out such plans with the sanction of the local Governors concerned. The onus was thus laid upon them either to provide educational equipment within their factories for the benefit of their juvenile workers or to make arrangements for them to attend primary schools either in the daytime or at night. Individual factory owners, who carry on this educational work in their factories, may have objects of their own in doing so, but if the matter is viewed objectively, it is obvious that the will of factory owners to conform to the laws operates as the common fundamental reason for their educational undertakings.

3. THE OBJECT TO PROMOTE BUSINESS INTERESTS

As already mentioned, educational work within factories is undertaken, as a general rule, by factory owners of their own free will, not under any legal compulsion, except in certain special cases. It is, therefore, conceivable that factory owners who undertake this work are persuaded that it serves to promote their business interests in some way or other. What are, then, the economic objectives which they

have in view? In my opinion, these objectives may be summarised under the following four heads: (1) to increase productive capacity, (2) to prevent factory accidents, (3) to foster among the workers the right mental attitude towards the factory management, and (4) to stabilise the livelihood of the workers.

(1) To increase the productive capacity of the factory. The decline of the old apprenticeship system, which prospered in the handicraft days, with the advent of industrial revolution, is attributable fundamentally to the fact that the new age deprived the system of its economic value in its relation to the restriction of the number of competitive manufactures and the supply of subsidiary labour power. Its decline by no means implies that with the advent of the new age of mechanical production, the need for the training or education of labourers engaged in production ceased to exist. It cannot, of course, be denied that the changes which occurred both in the art of production and in the industrial organisation brought about changes in the kinds of knowledge and skill which are required in workers. In the handicraft age and in the early capitalistic days, workers who had received special training in craftsmanship were indispensable not only in promoting business interests but from the point of view of social economy. Even in these days, workers so trained are indispensable in the production of certain special articles that call for precision and manual dexterity in their manufacture. But in the present-day factories in which production is generally organised on a scientific basis, handicraft skill is no longer a decisive factor. This does not, however, mean that modern factories have no need of well-trained labourers of good quality. On the contrary, intelligence and skill are more urgently required in workers now than ever before. To put it more concretely, for the present-day factory production to be sufficiently profitable, it is necessary for the workers who are directly concerned in the production of goods to have a strong sense of responsibility and possess the virtues of prudence and exactitude in operating their

machines, in handling raw materials and in treating chemicals. In their factory life, they must also be amenable to discipline. Indeed, in no age in the history of industry has there been a greater need for intelligent and skilful workers than in the present days. Needless to say, this is primarily due to the fact that the technical organisation of production has become more scientific, but there is another and more important economic reason for it. It is inevitable that, in a world of highly developed capitalism, different nations should have different standards of living. If it is to compete successfully in the international economic world, a country in which labourers are comparatively well paid must endeavour to produce goods of better quality more economically than does a country with a less developed national economy. For this reason, a higher level of intelligence and skill is required in labourers in a country in which a high standard of living obtains, that is, in a particularly highly developed capitalistic country. It is not in technical matters only that these qualities are needed. Labourers must have a good understanding of the economic significance of their productive labour. In other words, labourers must have a clear conception of what the cost of labour means in the enterprise and also of the economic importance of the time factor and the consumption of raw materials. One striking point of difference between factory labourers and handicraft workers is that the former are linked with the enterprise on the economic side of the plant. Intelligence and skill are thus needed in all labourers, but they are especially required in foremen, whose duty it is to lead and superintend properly the labourers under them, thereby helping the executive in the successful management of the enterprise in the face of market fluctuations. The success of the factory management depends largely on the competence of foremen.

The cultivation of the qualities which the owners of modern factories now believe their employees must possess requires the basis of a good education. Yet, it was not until

long after the era of intense capitalism was ushered in that attention began to be directed to the need of educational attainments in labourers as an essential factor in the economic management of industrial enterprises. It was towards the end of the last century that the interest of factory owners in various countries was, for the first time, aroused in this phase of the problem. As this awakening increased, elementary schools came to direct attention to the development in school children of such qualities as are deemed necessary in workers. Since, however, individual enterprises or factories have characteristics of their own in technical, economic and human relations, elementary education cannot reasonably be expected to turn out potential labourers who can satisfy the multifarious requirements of different industrial enterprises. For this reason, many owners of industrial factories began to undertake on their own account the education of their workers with a view to equipping them with such qualifications as meet the requirements peculiar to their own factories. Their activity in this regard is particularly marked in the matter of training foremen.

(2) To prevent factory accidents. In any comment on the merits or demerits of the modern factory from the point of view of human welfare, an alarmingly long casualty list among the factory workers is mentioned, first and foremost, on the side of demerits. The following table shows the casualties which occurred in 1929 among the Japanese factory workers (the workers at private factories to which the Factory Law is applied and Government factories):—

	Private factories to which Factory Law is applied	Government factories	Total
Killed	521	34	555
Badly injured	13,955	1,555	15,510
Slightly injured	42,663	3,389	46,052
Total	57,139	4,978	62,117

The number of casualties varies somewhat according to years, of course, but the fact remains that there are heavy casualties every year. It is hardly necessary to say that

factory accidents cause much distress to the victims and their families; they also involve the factories concerned in heavy losses directly or indirectly.

The state of fatigue caused by long working hours, malnutrition and other defects due to unfavourable family circumstances, no doubt, constitute one principal cause of these factory accidents. Nor can it be denied that a defective physical environment or inadequate factory equipment is often responsible for accidents. In any case, it is not proper to attribute factory casualties to any one particular cause. As personal circumstances peculiar to individual workers constitute one potential cause of accidents, it becomes necessary for the factory owner to employ such workers as are not likely to be involved in accidents. Among the personal factors responsible for accidents are inattention, through ignorance, to matters which require special care, the lack of skill in the execution of the work allotted to them and a defective habit of mind. It may here be pointed out that workers whose productive efficiency is high are not necessarily free from such personal defects as are calculated to cause accidents. Such being the case, factory owners find it to their economic interest to undertake on their own account educational work intended to reform defects in the traits and mentality of their employees by way of preventing factory accidents, instead of confining themselves to giving precautionary warnings or calling special attention to matters which need careful handling. As a matter of fact, it is noticeable that increasing attention is being directed by factory owners to the question of educating their employees with a view to preventing factory accidents.

(3) To improve the mental attitude of labourers towards the factory management. Needless to say, the pursuit of profit is the ultimate object of the factory management. In an undertaking of this kind, therefore, all component elements, from the directors down to common labourers, must understand the economic object of the enterprise and take an

active interest in the attainment of this object. If the labourers generally—and the foremen especially—act contrary to the plans or policy of the directorate or go about their work only perfunctorily, or, worse still, if labour unrest develops among the factory workers, it will be impossible for the factory to reap the desired economic results of the undertaking. In order to stimulate among the factory workers a tendency to co-operate actively with the leaders of the enterprise, the factory owners must, of course, treat their employees well, both materially and spiritually. On the other hand, the employees must adopt the right attitude towards the enterprise. Whether or not the labourers have a sympathetic understanding of the economic organisation of the enterprise in which they are employed, or whether or not they are obsessed by certain ideologies in their outlook on world affairs or social economy, has a great deal to do with their mental attitude towards the factory management. Hence the necessity of training and educating the minds of workers so that they may adopt the correct attitude towards the factory management. This is particularly necessary in the days when the general trend of social thought is anti-capitalistic and there is a tendency for class strife to grow.

(4) To stabilise the livelihood of factory workers. The losses sustained by the enterprise in a variety of ways owing to the high turnover rate of factory workers are by no means negligible. Moreover, for the successful operation of an industrial enterprise, it is necessary for the factory to be able to secure at short notice the requisite labour power as cheaply as possible. There are, however, many things to be done in order to reduce the turnover rate of factory workers and to secure the requisite labour power with ease. For instance, it is necessary for the factory owner to see to it that the livelihood of his workers is stabilised, that the children of his labourers as well as his young employees are afforded the opportunity to receive education, and that his workers attain skill in the performance of their work

and understand its significance so that they become contented with it.

The stability of the livelihood of workers depends primarily on their incomes in wages, yet it can be greatly promoted through the proper adjustment of their household economy. The factory owner can, therefore, advance his own business interests, though in an indirect way, by helping his workers to improve their household finance through the elimination or reduction of such items of household expenditure as are of little importance for the furtherance of human happiness. The livelihood of workers can also be consolidated, if the owner of a factory, which is located, for instance, in a district with few educational facilities, provides within his factory equipment either for the education of the children of his employees or for giving the wives and daughters of his employees lessons in suitable handicrafts.

It is also obvious that if a factory which has a large number of young men and women in its employ undertakes educational work for the benefit of its workers so as to furnish them with technical attainments and to advance their intellectual and moral culture, it will serve to reduce the turnover rate and enable him to secure the necessary labour power.

Thus, we can see cases where educational work within factories is directed towards stabilising the livelihood of workers as one means of promoting business interests.

4. TO FULFIL NATIONAL AND SOCIAL MORAL OBLIGATIONS

First as to the fulfilment of moral obligations to the State. Setting aside the case of other nations, the Japanese people have placed upon them the heavy moral obligation that they should be educated. In the Imperial Rescript on Education, all Japanese subjects are instructed to develop their intellect and virtues by pursuing knowledge and learning trades, so that they may become qualified to sup-

port the Throne, which is coeval with heaven and earth. Individual Japanese have the moral duty, decreed by the Emperor, to try to equip themselves with adequate attainments. There are, however, many people who, chiefly for economic reasons, have not had the opportunity to receive sufficient education. Among the factory workers, for instance, there are a large number who have not even completed the legally stipulated compulsory education, and as will be seen from the following table, over 50 per cent. of the factory workers have had no education beyond what is compulsory. Some keen students of this problem have aptly pointed out that if no attention is paid to the education, intellectual and moral, of those who have become factory workers immediately after completing the course of compulsory education, their physical and mental development will be seriously interfered with, so that they cannot properly discharge their moral obligations to the State.

Results of an inquiry into the scholastic attainments of Japanese factory workers

	1930	1927	1924
Total number of workers	1,299,013	1,378,866	1,371,995
Those who have had no school education	45,055	63,927	77,640
Those who have not finished ordinary primary school education (compulsory education)	77,394	140,716	197,412
Those who have finished ordinary primary school education or have equivalent scholastic attainments	751,152	801,742	731,743
Those who have finished higher primary school education or have still better scholastic attainments	425,412	372,481	311,200
Percentage			
Total number of workers	100.0	100.0	100.0
Those who have had no school education	3.5	4.6	5.9
Those who have not finished ordinary primary school education (compulsory education)	6.0	10.2	15.0
Those who have finished ordinary primary school education or have equivalent scholastic attainments	57.8	58.2	55.5
Those who have finished higher primary school education or have still better scholastic attainments	32.7	27.0	23.6

In view of the above-mentioned low level of educational attainment among Japanese factory workers, factory owners can not only help their workers to fulfil their moral obligations to the State but can also discharge the moral obligations which they owe to the State themselves by carrying on educational work in their respective factories to promote the healthy development of the intellect, morals and physique of their employees. Many factory owners in Japan are now running supplementary schools or young men's schools for the benefit of labourers in their employ. Whereas they are, no doubt, partly motivated by the desire to advance their own business interests in undertaking this educational work, it must at the same time be admitted that they seek by this means to fulfil their moral obligations to the State.

The object of the young men's school. The young men's school aims at training the minds and bodies of young men and women and cultivating virtues in them, besides striving to advance their knowledge and ability so that their qualities as good citizens may be improved.

Even where consideration for national morality does not play any part in the educational work carried on within factories with the object of advancing the intellectual, moral and physical development of labourers, regard for social morality on the part of those who undertake it is clearly discernible. The present-day organisation of industrial production is destined to affect the life of factory workers even more extensively than do the activities of various organs, political, religious and educational. When factory owners realise the heavy social obligation devolving on them in this way, they will naturally be moved to take in hand educational work for the benefit of their workers. In such a case, their attention must necessarily be directed, first and foremost, to the giving of education to the workers who have not had any school education or the giving of further education to those who have had inadequate school education. It cannot, however, be denied that the course of this educational work within factories will be greatly influenced by the economic requirements of the business enterprises concerned.

5. CONCLUSION

In the foregoing chapters, I have analysed, from the objective point of view, the possible objects of the work carried on within capitalistic factories for the education of factory workers. The form, method, style, scope and other details of the educational work at individual factories depend on which of these objects or what combination of these objects the factory owners concerned have in view in undertaking it. For this reason, educational work of this kind develops diversified and individual characteristics.