

ADULT LEARNING IN JAPANESE HIGHER EDUCATION:
A Consideration of Economic Aspects

by

MASAKAZU YANO

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ADULT LEARNING IN JAPANESE HIGHER EDUCATION:*

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MASAKAZU YANO**

I. INTRODUCTION

The purpose of this paper is to describe the present condition of adult learning in Japan's universities and industries, and to make clear the role that Japan's special economic structure plays in determining that condition.

In recent years, Japan has experienced an increase in social demand for adult learning, and has seen new emphasis placed on the need to revise the traditional university educational system, which until now has been centered around young people. In response to this demand, the government has made various proposals and policy decisions aimed at constructing a new educational system, and universities have begun to actively recruit adult students. However, despite these efforts, adult students enrolled in university programs remain few in number, and adult learning as a concept has had little impact on the overall university educational system.

One reason for this may be found in the conservative nature of universities with respect to social change, but this is not the only explanation. A more important consideration is the wealth of non-university educational opportunities, and the availability of on-the-job training programs. In order to understand, therefore, the current state and future possibilities of adult learning in a university setting, we must first give consideration to the relationship which exists between university and non-university adult learning opportunities, and evaluate that relationship in terms of the economic function of education.

With these considerations in mind, it seems appropriate to begin by introducing the present state of adult learning in universities, along with related governmental policies. Subsequently, the nature of non-university adult learning opportunities will be summarized, based upon the results of various surveys. It should be pointed out, however, that these surveys have been sporadic in nature, and therefore leave many gaps in our knowledge,

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** Associate Professor, R.I.H.E.

particularly with regard to adult learning that takes place in the workplace. In order to supplement this incomplete knowledge, four distinct economic frameworks will be formulated which are directly applicable to adult learning. By relying upon these frameworks, a clearer picture of the special characteristics informing adult education in Japan should emerge. Finally, several policy implications will be presented at the conclusion of the paper, based upon the above points of discussion.

II. ADULT LEARNING IN JAPANESE HIGHER EDUCATION

Post-war higher education in Japan grew rapidly, but reached a peak in 1976; since that time it has remained stable. Looking at this growth in terms of admission ratio (the ratio of higher education entrants to the total 18 year-old population) we see a sharp rise from 10% in 1960 to 39% in 1976. In contrast to this, the 1980's have thus far evidenced a levelling off at around 37%.

Because governmental policy during the 60's and 70's focused on meeting the increasing demand for higher education among high school graduates, little thought was given to the problem of adult learning. Of course, there were various institutions which played an important role in providing working people with further education, in the form of evening courses, correspondence education, and workers' education programs. However, it must be admitted that these programs went into decline as Japan's economy and standard of living improved. Evening courses began to be used as an alternative educational institution by those who were not qualified to enter regular daytime classes; there were even some universities that discontinued evening courses altogether.

Against the current background of economic decline and a stagnant admission ratio, however, a new priority has emerged in governmental policy which seeks to reform higher education, making it more responsive to present needs. That priority, simply stated, is the development of universities which are open not only to young people just out of high school, but to all members of society. A re-evaluation and restructuring of adult education has begun, including evening courses and correspondence education. In addition, new programs have been established at some national universities, including "day and night" schooling system, extension programs, and learning centers. Not only this, but plans have been laid by the government to open the University of the Air in 1985, which will act as the central institution for those who wish to pursue "life-long learning".

It is clear that we have entered a transitional stage, and that universities are shifting their focus from youth-centered programs and quantitative expansion to flexible and diverse systems which can accommodate adult students as well. It is anticipated that future higher

educational policy will continue to emphasize the development of universities which make life-long learning possible. Although the changes mentioned above are at this time only partial in nature, it might still be useful to give a brief description of recent developments.¹⁾ (Please refer to the charts included in the appendix I.)

i. Adult Enrollment in Universities

There were 3,949 adults enrolled in Japanese universities in 1981. ("Adults" are defined as people who entered the work force upon graduating from high school or comparable institutions, and who therefore come back to higher educational programs after a hiatus.) This number represents less than 1% of the total university enrollment (413,000). There were 7,380 adults enrolled in junior colleges, which represents approximately 4% of total enrollment in those institutions. These numbers indicate that at present nearly all university students enter college immediately after graduating from high school, however, it should also be noted that the number of universities that have introduced special entrance selection systems for adults has been on the rise.

ii. Evening Course Programs

90% of all adult students are enrolled in evening courses. The total number of enrollees for these courses in 1981, including those who entered directly from high school, was 28,000. This represents a decline from previous levels (33,000 in 1970). Working students represented 1/3 of the total evening course enrollees in universities, and 3/5 of the total in junior colleges.

iii. University Correspondence Education

The number of students enrolled in university correspondence courses rose from 77,000 in 1970 to 90,000 in 1981. If housewives are excluded from the count, nearly all enrollees were employed. In contrast to this, the number of students enrolled in junior college correspondence courses evidenced a slight decline, from 20,000 in 1970 to 18,000 in 1981. It should also be pointed out that the number of graduates from correspondence courses in general declined by approximately 10% over this same period.

iv. University of the Air

The University of the Air represents a first attempt to establish, through effective use of broadcasting, a new system of education based on the ideal of life-long learning. A law has already been passed by the Diet permitting the establishment of the University of the Air Corporation with plans to establish the University itself in 1983, and to begin

student enrollment in 1985. Planned initial enrollment is set at 7,000 students.

v. University Extension Programs and University Learning Centers

University extension programs are designed to disseminate the results of university research to rural communities and to the public at large. The universities involved have set up these programs by their own initiative; in 1980, 245 of Japan's 451 universities operated such programs, sponsoring 1,277 lectures which were attended by approximately 150,000 people. All of the numbers cited above are on the rise. In addition, the Ministry of Education, Science and Culture has, since 1976, drawn up a special budget for this program, and has established learning centers in three different universities.

vi. Other Developments

In addition to the above there has been the experimental establishment of "day and night" schooling systems which currently operate in three universities. These systems make no clear distinction between day and night courses, but rather are aimed at the ideal of a flexible curriculum which freely accommodates the schedules of enrolled students.

Another development worth mentioning is the establishment of the Toyota Technological Institute, a private university which gives priority to students who have had working experience. This, along with the establishment of various graduate programs geared towards adults, and recent efforts to open up university facilities (including libraries and athletic facilities) to the general public, constitutes a general trend toward more flexibility on the part of universities vis à vis society and the working world.

As indicated above, several new experiments are currently being conducted in the field of adult learning in Japan, but the impact of adult learning on higher education as a whole remains small. Both in terms of financial responsibility and curriculum development, direct influence of the part of adult students has yet to be actualized. We must therefore look to the future for the fulfillment of adult learning goals, and it relies upon the effort of government and universities to contrive suitable means to this end.

III. THEORETICAL CONSIDERATIONS AND SURVEYS OF ADULT LEARNING IN THE LABOR MARKET

The term "adult learning" encompasses many kinds of education which meet a variety of needs. Some turn to adult education in order to enhance income or find better jobs, while others pursue learning for its own sake, seeking cultural enrichment. These differ-

ences are reflected by the differences in the people themselves, including such factors as employment status, sex and age. In point of fact, the world of adult learning in Japan is an extremely active one, and is not restricted to university environments; indeed, one finds that the main arena for adult education today is found in non-university organizations.

It is not possible within the limits of the present paper to deal with all of the diverse forms of adult learning which may currently be found in Japan. Our focus will therefore be restricted to the people who is employed full-time, and who is enrolled in non-university adult education programs. The reason for this focus lies in the fact that without considering non-university adult learning programs, no valid estimates concerning the future expectations and feasibility of university adult learning programs can be made. However, it must be noted that non-university adult education is not restricted to formally organized classes, but also operates on an informal level, and that the actual condition of education on this level is not always clearly defined. In order to make a proper analysis, therefore, four different analytical frameworks will be discussed, each of which provides a different perspective from which to view the present condition of adult learning.

Framework I: Four Economic Functions of Education

Let us begin by categorizing the economic functions of education. As previously stated, education serves many needs, but if we restrict our inquiry to those needs which are directly related to the labor market, the following four categories can be formulated.²⁾

1. **Basic Education** — education which provides fundamental work training, thereby guaranteeing that society is provided with necessary human resources.
2. **Performance** — education aimed at enhancing the economic performance of the work force.
3. **Dynamic Adaptation** — education aimed at developing flexibility in response to dynamic changes that occur within the economic structure, including changes in the structures of production and labor.
4. **Equality** — education aimed at providing equal employment opportunities for the unemployed, for low-income workers, women, the elderly, etc.

Diverse educational systems have been organized, and must continue to be organized, with the intention of effectively realizing the functions listed above. All systems to some extent serve all four functions, but emphasis is different from system to system. Thus school education is mainly concerned with basic education, while education taking place within industry places more emphasis on performance. Other systems, such as public work-training facilities, private miscellaneous schools (specialist schools) and mass communication all vary in content and therefore in functional emphasis.

If we divide diverse educational systems into the three categories of school, industry

and other, and further classify these three in terms of the four functions listed above, a chart such as the following may be constructed (Figure 1). This chart does not necessarily give an accurate picture of the current state of education, but is rather intended to demonstrate how the four economic functions may be used and what they mean. If the effects of these functions can be measured, it then becomes possible to characterize the education that takes place within each social sector.

Fig. 1

Function \ Institution	School	Industry	Others
	Basic Education	++	+
Performance	+	++	+
Dynamic Adaptation	-	+	+
Equality	-	-	+

Note : ++ strong relationship
 + a little relationship
 - weak or no relationship

The economic impact of education taking place in schools is actually less than what the connections indicated by the chart imply, while that of education in the industrial sector can safely be assumed to be more.

In point of fact, the industrial sector in Japan has very few expectations with regard to knowledge which is acquired in school. When hiring newly-graduated students, most companies look at such personality traits as vitality and cooperativeness, and assume that they themselves must provide the necessary education relating directly to the work in question. Viewed from this commercial standpoint, school does not fulfill any of the four economic functions so much as it acts as a screening process for human resources (an activity which might be termed a fifth function).

What, then, is the state of adult education in the industrial sector? Let us look at the results of a small number of surveys which address this problem. These surveys are most often directed toward specific companies or individuals, and ask questions concerning program implementation, such as: "Is there a formal educational program operated by your company?" or "Have you ever been enrolled in a company educational program? If so, what was the subject matter?"

The results of such surveys indicate that a wide variety of educational programs are

available within companies, serving everyone from new employees to management, and that these programs are attended by large numbers of people. Figures show that approximately 80% of all companies operate some kind of educational program, and that between 20 and 30 percent of the adults surveyed participate in one such training session a year. Results from some of these surveys are given in the appendix II,³⁾ but it is enough at this point to observe the following four salient characteristics.

(a) The larger the company, the more active the education-training programs become, and the more diverse and rich the program content. In small companies education programs remain undeveloped, evidencing a large gap in terms of educational opportunity. According to surveys on educational expenditure, companies employing 5,000 people or more spend approximately five times more per person than small enterprises employing less than 100 people.

(b) A significant differential may be found in results of individual surveys, which indicate that employees who possess higher-level educations have a higher rate of participation in adult education programs.

(c) Surveys dealing with educational needs indicate that there is a wide gap between what is wanted by the students and what is actually taught. This gap, and the educational management that produces it, form one basis for the argument that provision for life-long learning is necessary.

(d) Despite the above, however, the number of workers who feel that they would like to make use of university facilities in order to achieve their educational goals is small. The overwhelming majority would prefer to get their training within the company, or if that is not possible, then in private specialist schools or public technical and vocational training centers. In other words, going back to our original categories, they seek their education not in school, but in the sectors labelled "industry" and "other" (See Table 4).

Framework II : Post-school Investments Model

One approach to measuring the amount of investment made by the industrial sector in education and training is the indirect method known as human capital theory. This theory postulates that investment costs and benefits are reflected in the earnings of the workers.

Analyzing the data on Japan's age-earning profiles on the basis of J. Mincer's post-school investments model,⁴⁾ the four following characteristics come to light.⁵⁾

(a) The rate of economic return to education has declined with the quantitative expansion of higher education, and is currently holding at about 6%.

(b) Although the rate of return to education is low, wages rise with age, so that the

slope of age-earning profile is very large in comparison with countries like the United States. This can be interpreted to mean that the investment made in training is large.

(c) The number of years spent within the same company has more influence on earnings than the years of experience gained outside the company. In other words, it is difficult to accumulate training investment when there is a large amount of inter-company movement among employees.

(d) The post-school investments model hypothesis is rather daring in conception, but the results obtained by this analytical method reflect very well the special characteristics of the employment system in Japan. The fact that the industrial sector does not place a high value on school education, and the fact that young employees who enter a company with relatively low wages are trained within the company, are two points that also are revealed in income data.

Framework III: Integration of Organization

Education is more than a mere collection of economic functions, and the education that takes place within the industrial sector is not an exception to this. In order to include the non-economic functions of education in our analysis, the following two classification axes must be introduced.

1. For whose benefit is the education intended? By means of this axis we can differentiate between education which benefits the individual as opposed to education which benefits the company.
2. What is the education for? By means of this axis we can differentiate between “instrumental” education and “expressive” education.

Using these two axes, the following chart can be devised, which divides the function of education within industry into four categories (Figure 2). Instrumental education which

Fig. 2

For what For whom	Instrumental	Expressive
Company	Specific Training	Common Value Commitment, Solidarity
Individual	General Training	Self-actualization, Leisure

benefits the company is categorized as "specific training," which is useful only to the company. Individual instrumental education then means "general training", which can be used by the individual in contexts as well as the specific company within which the training occurs. Individual expressive education is education pursued for the pleasure of it, and may therefore be classified as a leisure activity. The last category, expressive education which benefits the company, is neither a means of achieving specific goals, nor a means of self-actualization. Rather, it serves the function of instilling common values and group feeling in employees, which in turn enhances the organizational solidarity of the company.

Looking at the present state of adult learning in the industrial sector with this framework in mind, it soon becomes evident that all four categories come into play. Economic rationale may argue that no company provides educational programs solely for the sake of entertaining its employees, and this indeed may be the case. However, these four categories are not to be thought of as independent and mutually exclusive entities; rather, they are inter-penetrative, and the importance and strength of the education they represent may be found at the point where they interact to produce an overall structure.

Looking at the results of surveys pertaining to educational goals, we find that management is not just interested in enhancing employees' abilities or knowledge. Another important consideration is the strengthening of moral values, and the improvement of human relations.

Further, we see in Japan a tendency on the part of companies to view education which is clearly categorized as general training to be the responsibility of the company rather than the individual. Employees who are sent to business school, either in Japan or overseas, usually have their expenses paid by the company. This phenomenon may also be said to have its origins in a unified conception of the Figure 2 categories.

From the managerial standpoint, it is considered natural and proper to work at harmonizing individual and company goals, and to maintain a balance between individual and company values. This relates directly to the often cited fact that collectivism is stronger than individualism in Japan's industrial sector. This yet again points up the fact that the four categories are indivisible. To put it into other words, this framework constitutes a normative model which views education as a means of achieving unity within the company organization. One reason why adult learning programs are so active within Japan's industrial sector may be found in the fact that this overall function of education has penetrated deeply into the heart of business organization.

Framework IV: Economics of Recurrent Education

The last framework that needs discussion is the possibility for recurrent education in Japan. Although we have seen that adult education is rich in content and scope within the industrial sector, there are still some doubts with regard to the capacity of this education to adapt to the dynamic changes which occur in the economic structure. In other words, we wish to determine whether or not these educational programs adequately fulfill the “Dynamic Adaptation” function discussed in connection with Figure 1.

“Recurrent education” is a label which refers to an educational system which fulfills the dynamic function. Before we insist upon the necessity of such a system, however, we must consider what it represents in terms of cost and benefit. Viewed from this standpoint, it becomes clear that recurrent education is not necessarily economically efficient. This is because as an employee grows older, opportunity costs (foregone earnings) for education increase, while the period of time before retirement, which represents the time within which the benefits of the education will be enjoyed, decreases. It follows, therefore, that unless the recurrent education results in a dramatic rise in income, it has no economic merit for the individual.

In Japan, graduate programs have been newly established in a number of universities, including the Toyota Technical Institute, Tsukuba University, Keio University and others, which represent a system of recurrent education, with programs lasting two years or more. However, the majority of enrollees in these programs are sent by their companies, who generally guarantee the enrollee’s salary, and pay for the cost of the program. Upon completion of the program, there is no guarantee that graduates will receive higher salaries.

It is reasonable to assume that whenever recurrent education is undertaken it is done either because costs have for some reason been reduced, or because there is some particular and outstanding benefit to be derived. Viewed from the simple judgmental standard of cost versus benefit, cases where the possibility of actualizing recurrent education in Japan is relatively high may be broken down as follows.

- (a) Cases when financial assistance is provided to offset costs, including the cost represented by foregone earnings. The system of company support for dispatching employees to schools both in Japan and overseas is one example of this.
- (b) Cases in unemployment (cases when foregone earning equal zero). However, this function of recurrent education is better classified as the equality function rather than the dynamic adaptation function.
- (c) Cases when recurrent education is part-time in nature. Both night courses and the University of the Air come under this category. However, since attending classes of this nature sacrifices the employee’s leisure time, it cannot be said to be free of opportunity

cost.

(d) Cases when the benefit to be derived from recurrent education is extremely great. There are very few instances of this in Japan. However, there are cases when economic benefit is sacrificed for the sake of other values. Instances, for example, of people quitting their jobs altogether and returning to college in order to receive professional training in law or academic disciplines are not uncommon. One important reason why economic benefits are limited is that companies tend to train personnel who already belong to the organization rather than recruit new employees.

IV. CONCLUDING REMARKS

(i) Efficient Division of Training Responsibility

Adult learning in universities is an important policy topic within the field of higher education, stemming from the fact that interaction between universities and society, especially between universities and industry is limited. In order to make clear the reasons for this, the state of adult education in the industrial sector was discussed from four different points of view. What emerged from that discussion was the fact that the industrial sector places little value on university education, and that programs designed to train human resources within the company are extremely active. These intra-company programs are not only aimed at enhancing economic performance, but extend to such concerns as adaptation to dynamic changes in Japan's economic structure. Not only this, but also these programs are viewed as a means of strengthening the feeling of solidarity within the company organization.

However, it must not be concluded from the above that university education is not functioning efficiently. We must recognize the importance of the role universities play in providing students with basic knowledge, and instilling in them a healthy ability to work. This basic role played by universities guarantees a set standard of quality in new employees, and companies do not expect more in terms of specialized education.

It follows from this that the general lack of economic effect evidenced by universities should not be considered a failure on the part of the schools themselves. Indeed, it is more accurate to say that the present system of education-training represents an efficient division of educational responsibility between university and industry.

(ii) Policy Implications

Despite the above conclusion, it seems unlikely that the present system of education-

training will continue to function without change in the future. At the present time universities are experiencing no difficulties in maintaining enrollment levels; this is because, although the admission ratio has levelled off, the 18 year-old population continues to rise, and will do so for the next ten years. However, when the 18 year-old population begins to decline ten years later from now, the private universities (which account for 80% of total student enrollment) will be forced to stimulate new demand for education among other age groups. At that time, universities are unlikely to restrict themselves to the educational functions they served in the past, but will make positive efforts to meet the educational needs of society as a whole.

Turning to the industrial sector, it is clear that certain failings exist within the education-training system which has until now been in operation. As has already been pointed out, there is a large gap in educational opportunities between large and small companies, and between those who have a high level of education and those who do not. In addition, though it may be that those who are employed in large companies and are therefore assured life-long employment are able to adapt to changes in the economic structure, it must also be said that such a system in times of economic decline and rising mean population age can only mean higher labor costs. The life-long employment system and seniority system which have characterized Japan's industry in the past are showing signs of strain. Given these conditions, it seems probable that companies will have to begin the process of externalizing educational programs which until now have been an intrinsic part of internal company organization. It also seems likely that educationally disadvantaged groups, including low-income workers, women and the elderly, will in the future be even more alienated from educational opportunity.

At the present time, the education-training system which is supposed to provide equal employment opportunities is wholly inadequate. This economic function of education has for the most part been taken over by training institutions other than universities and industry. In the future, needs for equal opportunity is likely to increase in terms of amount, and it seems likely that this needs will not be met by the industrial sector.

Taking the present situation into consideration, the following three points seem likely to become important issues in Japanese society with regard to life-long learning policies.

The first issue is the establishment of an educational system which actively places emphasis on equal opportunity. In order for this to be accomplished, it will probably be necessary to make investments designed to cover foregone earnings (opportunity costs) on an equal basis, even if this means sacrificing efficiency.

Second, with consideration given to the life-long educational needs of college gradu-

ates, it is necessary to establish a specialized educational system at the graduate level which accommodates part-time students. Present graduate programs for adults are full-time in nature, and are almost exclusively utilized by employees of large companies. It is necessary to develop graduate education which is part-time in conception, thus representing reduced opportunity costs.

Third, in order for universities to stimulate new educational demand, they must develop curricula which are attractive to adult students, and modify teaching methods. The present educational offerings found in universities cannot be said to be economically advantageous to adult students. In the past, universities have been slow to develop practical education, but this will have to change, and new education-training programs with a high degree of practical applicability will have to be devised.

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Appendix I. Adult Learning in Higher Education

(Source of Data: Ministry of Education, Science and Culture)

Table 1. Adult Enrollment in Universities (1981)

	total number of universities	universities accepting adult students (numbers in parentheses indicate special admissions)	number of new adult enrollees (numbers in parentheses indicate special admissions)
National	93	44	266
Municipal	34	11	30
Private	324	106 (17)	3,653 (647)
TOTAL	451	161 (17)	3,949 (647)

Note: These numbers include students enrolled in night courses. So-called *rōnin*, people who failed to enter college the first year after high school and are studying in order to take college entrance exams again, are not included.

Table 2. Night Course Enrollment (1981)

	number of schools	universities		junior colleges		
		number of new enrollees	total enrollment	number of schools	number of new enrollees	total enrollment
National	12	1,660	8,396	20 (20)	2,932	9,126
Municipal	5	662	3,462	10 (6)	1,017	3,183
Private	48	25,982	106,630	80 (17)	6,710	15,102
TOTAL	65	28,304	118,488	110 (43)	10,659	27,411

- Notes: 1. Numbers in parentheses indicate schools which only operate at night; these schools are included in the total count.
2. Enrollment numbers are for students in university departments, or regular courses in junior colleges.
3. Number of schools and number of students in the national university category include the engineering department of Chiba University, the economics department of Fukushima University, and the law department of Ehime University, which have courses primarily at night.

Table 3. Percentage of Total Night Course Enrollment According to School Type (1981)

	universities	junior colleges
National	1.9%	57.8%
Municipal	6.1	11.5
Private	8.2	4.1
TOTAL	6.8	6.0

Table 4. Enrollment in Universities and Junior Colleges Which have Correspondence Education Programs

Time Period		number of schools	prescribed new enrollment	actual new enrollment	total enrollment
Universities	1965	9	38,500	10,094	59,074
	1970	11	44,200	9,401	77,391
	1975	11	44,200	10,429	88,659
	1980	12	49,600	7,691	90,228
	1981	12	49,900	6,940	89,894
Junior Colleges	1965	5	6,100	2,321	10,763
	1970	7	7,400	3,713	20,011
	1975	7	8,500	4,594	17,652
	1980	9	9,400	3,928	19,645
	1981	9	9,400	5,087	18,396
TOTAL	1965	14	44,600	12,415	69,837
	1970	18	51,600	13,114	97,402
	1975	18	52,700	15,023	106,311
	1980	21	59,000	11,619	109,873
	1981	21	61,700	12,027	108,290

- Notes: 1. "New enrollments" are those entering college between April 1 and May 1 of each year.
2. "Total enrollment" indicates the total number of students as of May 1 of each year.
3. "New enrollment" and "total enrollment" indicate students in formal courses of study.

Appendix II. Adult Learning within Industry
(Source of Data: Ministry of Labor)

**Table 1. Presence or Absence of Education-training Programs
by Scale of Company**

	Number of Companies Surveyed	Educational Program Implemented						Not Im- plemented	
		sub- total	new employees	employees hired in mid- career	middle- range employees	foremen, super- visors	manage- ment		
TOTAL	1,929	80.4%	75.5%	52.7%	64.9%	50.6%	55.7%	19.6%	
Scale	people 30- 99	421	48.7	41.6	27.6	36.6	19.7	22.8	51.3
	100- 299	399	74.9	68.2	44.1	53.9	39.3	42.4	25.1
	300- 499	220	87.7	81.8	50.5	65.0	53.6	54.5	12.3
	500- 999	264	91.3	87.5	62.5	74.2	59.1	67.0	8.7
	1,000-4,999	394	96.7	95.7	71.1	84.3	74.1	78.9	3.3
	more than 5,000 people	231	100.0	95.7	73.2	90.9	73.6	87.0	0.0

**Table 2. Workers Enrolled in Educational Programs
by Scale**

(percentage)

	Percentage of workers enrolled in education- training programs	during non- working hours		
		during working hours	during non- working hours	
TOTAL	31.7 (100.0)	(91.6)	(8.4)	
Scale of company	more than 1,000 people	38.4 (100.0)	(93.8)	(6.2)
	500-999	25.0 (100.0)	(87.1)	(12.9)
	300-499	24.8 (100.0)	(88.7)	(11.3)
	100-299	17.8 (100.0)	(81.3)	(18.7)
	30- 99	23.9 (100.0)	(95.4)	(4.6)

Table 3. Workers' Desire for Education-training

(Percentage)

		workers surveyed	percentage of workers wishing to receive education	always wish to	sometimes wish to	percentage of workers not wishing to receive education
Total		100.0	86.4	40.9	45.5	13.6
Educational background	junior high school graduate	100.0	75.8	35.9	39.9	24.2
	high school graduate	100.0	85.7	37.4	48.3	14.3
	junior college graduate	100.0	90.2	39.0	51.2	9.8
	college and university graduate	100.0	92.2	50.8	41.4	7.8

Table 4. Educational Ideals of Workers
According to Groups of Occupation

(Percentage)

		Total	Groups of Occupation								
			profes- sional	man- ager	cler- ical	sales- men	mining, quarry- ing, man- ufactur- ing	transpor- tation commu- nication	crafts- men	service worker	other
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Educational Ideals (Facilities and Methods)	in-company training	32.2	23.5	27.3	30.1	37.0	48.3	48.7	38.5	41.5	49.3
	public employ- ment training schools	11.4	9.6	7.0	8.9	10.1	25.0	38.5	21.3	11.0	12.5
	universities, junior college	4.7	10.4	4.9	4.8	2.2	1.7	1.0	1.7	—	2.1
	exchange student	6.7	10.7	8.3	7.0	9.1	—	1.0	1.1	7.3	3.4
	misc. schools specialist schools	15.7	13.7	9.1	21.6	12.6	11.6	6.2	13.4	17.1	10.4
	other private training facilities	19.9	23.8	33.7	17.5	16.4	8.3	18.5	14.4	13.4	18.8
	radio televi- sion course correspond- ence courses	4.9	2.6	5.5	5.9	6.3	1.7	2.1	4.9	7.3	2.1
	individual or groups study	3.2	3.0	2.8	3.5	5.8	1.7	1.0	3.2	1.2	1.4
	other	1.3	2.7	1.4	0.7	0.5	1.7	1.0	1.5	1.2	—