

# Strengths and Weaknesses of Human Resource Development in Japanese Higher Educational Institutions: A Study on Foreign Students in Japanese Universities (1)

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## I. Introduction

Higher education and its contribution to economic development<sup>1</sup>, specifically to individuals, society and economy, remain as a controversial phenomenon in the field of development economics. This is because the economic gains and social benefits of higher education substantially depend on the quality of university education. As found by Hill, et al (2005: 1), although individual earnings are strongly related to educational attainment, the benefits to an individual vary with the quality of the institution attended. By contrast, poor quality of university education may also impact negatively on the growth of labour productivity and the efficient use of limited resources in the development process of the country. This will occur when the country transfers responsibilities to

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1 Literature on this subject forms two major groups: one group confirms a strong correlation between human resource and economic growth, while the other found the relationship between these two variables negative or insignificant. Researchers who support the first argument have identified two major economic and social benefits from human resource. They are defined as 'public' and 'private' benefits (Bloom et al 2006: 15), monetary and non-monetary benefits (Hill et al, 2005) and social and economic benefits.

university graduates, trusting their knowledge based only on the titles of the academic degrees earned. In general, the society often anticipates that university graduates to have sufficient knowledge and capability to fulfil people's socioeconomic expectations. This is because educational outcomes that encompasses knowledge, skills and attitudes are assured to be linked to national goals for education, and a positive participation in the society (UNICEF, 2000).

Therefore, the quality of education is a most important factor, contributing to the augmentation of any level of economic values and social benefits for individuals, society and the economy. It should also be noted that the 'quality' of higher education must not merely depend on the level of knowledge, the title of the degree and the name of the academic institution, but mainly on the 'usability' of such knowledge (human qualities, i.e. discipline, understanding, attitudes, cooperation, unity, commitments etc.) for the development process of the country. If a country can produce high quality human capital in their higher educational institutions, there is no doubt that higher education would be able to provide considerable economic value to the individuals and the economy where educated individuals work and live, and the society in general, as noted by Hill et al (2005: 1).

Despite these arguments, higher education has been widely accepted as a major contributing factor for the enhancement of economic growth in developing countries over the last half century. This is because economic growth is considered to be the most relevant and powerful strategy in finding a lasting solution to relieve the incidence of poverty, inequality and unemployment in developing countries. Accepting this fact as a base, international organizations and major donor countries have exclusively focused attention on the development of education in general, and higher education in particular, as a key strategy to reduce the above noted three major crucial socioeconomic problems occurring in

developing countries in the world. Japan is not an exception in this respect.

Japan, as a major donor country in the present world, has placed prominent emphasis on the development of education as an important factor in supporting ‘self-help efforts’ in recipient countries, to achieve sustainable development by the people themselves. The concept of self-help refers to the acceptance of responsibility or ownership, by developing countries themselves, for the future of their countries, and entails the expenditure of efforts by the citizens of these countries to further develop their countries (ODA White Paper, 2007: 38). In this respect, Japan’s annual ODA budget has allocated a huge amount of financial and material assistance, under ‘technical cooperation’, to enhance education in developing countries, to help their nation-building efforts<sup>2</sup>. There is no doubt that these educational and training programmes offered by different types of private and public educational institutions in Japan, largely influenced its own remarkable economic recovery, fueled largely by the accumulation of human resources, especially through education, in its modern history.

Using these experiences as a base, Japan commenced its assistance in the early 1960s for the improvement of education as a major area of human resource development in developing countries. It encompasses not only accepting foreign students under government funds, but also the development of higher education facilities such as colleges; support in

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2 In addition, there are a number of government, semi-government and private institutions like the Ministry of Higher Education (Monbusho in Japanese), the Association for Overseas Technical Scholarship (AOTS), Japan Foundation, Organization for Industrial, Spiritual and Cultural Advancement-International (OISCA), Japan Vocational Ability Development Association (JAVADA) etc. that provide a large number of educational and training programmes for the augmentation of human resources in developing countries, over the last few decades.

improving operating and management capabilities; the augmentation of education and training capabilities, the enhancement of coordination with business and local communities, and support in developing regional networks among higher education institutions that extend beyond national borders (ODA White Paper, 2007: 82)<sup>3</sup>.

However, Japan's enormous contribution to the improvement of education, and its role in the nation-building efforts of Asian countries, remains as an unexplained factor of the remarkable development progress of those countries. Even today, there are few studies done in Japan, and host countries, to find out the strengths and weaknesses of such foreign training, and to evaluate the actual contribution of those foreign scholars to their own economy. But, Japan is continuing its strong emphasis on the allocation of its ODA budget for the improvement of education, or so-called human resources, in Asia and other developing countries in the future. Therefore, it is important to examine how the Japanese government and its various institutions have assisted human resource development, and how it has helped the socioeconomic development of Asia.

The results of this study, it is sincerely hoped, will contribute to improve the policies of education, research and training of the public and private sector institutes in Japan, helping to meet the demand for human resource in developing countries. At the same time, it will also contribute to the improvement of various ongoing policies and programmes promoting the internationalization of Japanese university education. Thus, the results of this study are anticipated to contribute towards establishing Japan as an education centre in Asia in the future to some extent. Keeping all these contributions as a base, this study aims to explore the

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3 See ODA White Paper (2007), especially page 81-101 for detailed information on Japan's specific approaches for human resource development in developing countries in the recent past.

strengths and weaknesses of foreign students studying in both private and government universities in Japan. In this respect, it will also attempt to provide information in brief on the trend of increasing foreign students in Japanese universities since 1975. This is expected to provide the basic knowledge to help understand the main aim of the study, based on a sample survey of foreign students studying in Japanese universities.

## **II. Methodology of the Study**

The data used to achieve the above objectives were collected from two types of sources viz. primary sources (questionnaire and hearing survey) and secondary sources (literature survey). The questionnaire survey was conducted in five universities during the period between March and October 2010. Four universities were in Kyushu Island<sup>4</sup> and two of the five universities were private universities. A structured questionnaire was administered in order to collect data relating to the strengths and weaknesses, as well as general information on Japanese universities, according to foreign students studying in Japanese universities, through distributing a questionnaire and obtaining personal interviews from 389 foreign students from 48 countries. However, 92 percent of these survey students were from Asian countries. In addition, the authors also employed a number of hearing surveys with university authorities as well as foreign students studying in the above universities. The details of the sample size and the specific features employed in this survey are indicated in Table 1.

It should be noted that except for Saga University and Kumamoto Gakuen University, the results of the survey will not demonstrate each university's strengths and weaknesses due to the insignificant sample size.

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4 Japan has five main islands named Honshu, Hokkaido, Kyushu, Shikoku and Okinawa in order of size. Fukuoka is the main city of Kyushu island.

Table 1: The Sample Size and its Basic Features of the Survey

Name of the University	Actual Number of Foreign Students	Coverage of the Survey	Percentage of Coverage	Type of the Programme (%)			Type of the University
				Undergraduate	Postgraduate	Short Term Programme	
Saga University	302	319	72.5	16.0	63.0	21.0	G
Kyushu University	1995	81	4.1	7.6	74.7	17.7	G
Kumamoto University	345	36	10.4	9.1	63.6	27.3	G
Kumamoto Gakuen University	56**	30	53.6	44.8	55.2	--	P
Niigata International University*	272	23	8.5	--	100.0	--	P
Total	2970	389	13.1	14.9	67.0	18.1	--

Note: \*Graduate school only; G=Government; P=Private; \*\*Except exchange students

Hence, the study attempts to analyze the study data to determine the general situation of the higher education programs offered by Japanese universities according to the views of foreign students from nearly 50 countries. However, the results for Saga University may have confirmed the real situation of research and education according to foreign students, because the sample size of this part of the survey covered nearly three fourths of the total number of foreign students studying in this university. The other specific characteristic of the study is that it was limited to foreign students who have already studied for more than one year in their respective university. This was done to ensure the accuracy of the data as far as possible.

The other notable aspect of the survey data is that about two-thirds of the cases covered by the sample survey were postgraduate students. This means the survey results will hinge largely on the positive and negative factors relating to postgraduate programmes offered by the government and private universities, rather than undergraduate studies and short-term language and exchange programmes.

### **III. Foreign Students in Japan: An Overview of Retrospect and Prospects**

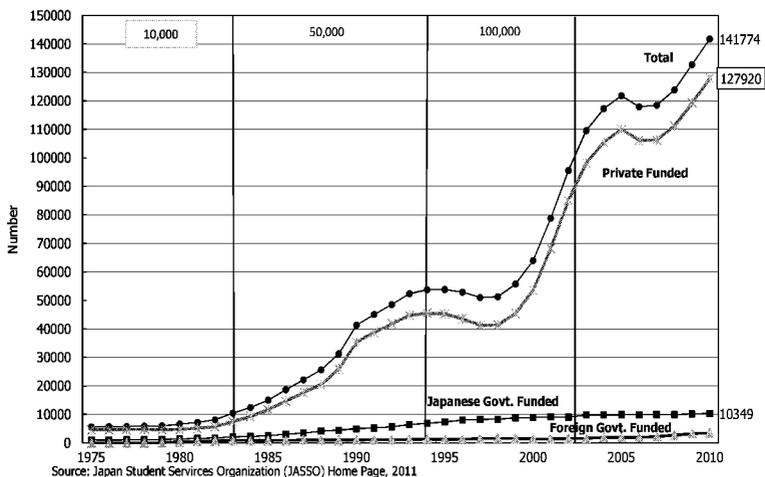
As noted in the foregoing analysis, Japanese development assistance has strongly emphasised on human resource development in developing countries as a main strategy to overcome development difficulties of those countries. This was because Japan itself has realized during its hundred year long industrial development process that the success of any development effort depends on the level and quality of human resources of the country. Using this experience as a base, Japan has commenced to offer various academic programmes to people in developing countries, in line with its own postwar economic success. Figure 1 demonstrates<sup>5</sup> the overall trend of foreign students accepted by Japanese educational institutions under different sources of funding during the period 1975-2008.

Figure 1 illustrates three major waves of the acceptance of foreign students into Japanese higher educational institutions during the period 1975-2008: the first, period 1975-1982; second, 1983-1998; third, 1999-2008. The number of foreign students in the first period was around 10,000, but it surged to more than 50,000 and 100,000 in the second and third periods respectively. It could be noted that these trends are closely related to the development level of the Japanese economy and the policy change towards education in particular, and an increase in international influence in general. It is a well known fact that Japan was very concerned about its own development in the first period, giving very little attention to international requirements. However, Japan's emergence as a developed country and the rapid globalization of most of its economic activities in the second period influenced Japan to play a more active role in the area

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5 See Appendix Table 1 for more information on foreign students in Japan by source of funds.

Figure 1: Trend of Foreign Students in Japan by Source of Funds



of human resource development, in line with other advanced countries in the Western world<sup>6</sup>. In addition, Prime Minister Yasuhiro Nakasone's plan in 1983 to increase foreign students from 50,000 by 1990 to 100,000 by the beginning of the 21<sup>st</sup> century was also a strong factor, resulting in this rapid increase of foreign students in the second and third periods. The goals of 50,000 and 100,000 foreign students were finally achieved in 1993 and 2003 respectively. There are about 141,774 international students studying in Japan as of May 1, 2010.

It should also be noted that although the number of foreign students studying in Japan doubled over a ten-year period (1993–2003), the

6 “Twenty years ago, then-prime minister Yasuhiro Nakasone set forth his Plan to Accept 100,000 Foreign Students. This was in 1983, when Japan had only about 10,000 foreign students. Nakasone's bold plan was to bring the number to 50,000 by 1990 and to 100,000 by the beginning of the 21<sup>st</sup> century. At the time the plan was formulated, Japan had gained considerable international influence due to its growth as a large economic power. The government held the view that Japan should play a more active role in the area of international exchange, in line with developed countries” (The Jakarta Post, December 3, 2008).

number of government funded students showed an insignificant increase compared to private funded students. During this period, private funded students increased by 119 percent from 44,783 in 1993 to 98,135 in 2003. In contrast, government funded students increased only about 52 percent in the same period. Overall, Japanese government funded students increased by nearly 10 times, or about 25 percent per year on average during the period 1975-2010. In other words, 87 percent of foreign students in Japan are private financed students while Japanese government-sponsored or the so-called Monbusho Students remain at around 11 percent on an average over this whole period. Although the number of Monbusho students increased to 10,349 during this period, its share declined from 19 percent in 1975 to 7 percent in 2010.

The data in Table 2 depict the trend of international students by nationality studying in various Japanese academic institutions under both Monbusho and private finance in 2006 and 2007. One significant feature of this rapid increase of privately financed students is that nearly 80 percent of them came from China, Taiwan and Korea. The geographical location as close neighbours, easy access to part-time jobs and the use of Chinese Characters (*Kanji* in Japanese) in the language of Japanese educational institutions in particular, are major factors behind this large inflow of students from these three countries. Overall, more than 90 percent of international students studying in Japan came from Asian countries. The other distinctive feature of foreign students studying in Japan is that about two thirds are majoring in humanities and social sciences while the remaining share is occupied in other fields, especially science and engineering.

Table 2: Number of International Students by Nationality

Country/region	Number of Students		% of total		Country/region	Number of students		% of total	
	2006	2010	2006	2010		2006	2010	2006	2010
China	74,292	86,817	63.0	60.8	Germany	393	554	0.3	0.4
South Korea	15,974	20,202	13.5	14.2	UK	333	452	0.3	0.3
Taiwan	4,211	5,297	3.6	3.7	Russia	334	358	0.3	0.3
Vietnam	2,119	3,597	1.8	2.5	Australia	354	318	0.3	0.2
Malaysia	2,156	2,465	1.8	1.7	Brazil	342	324	0.3	0.2
Thailand	1,734	2,429	1.5	1.7	Canada	286	358	0.2	0.3
U.S.A.	1,790	2,348	1.5	1.7	Cambodia	278	333	0.2	0.2
Indonesia	1,553	2,190	1.3	1.5	Egypt	251	300	0.2	0.2
Bangladesh	1,456	1,540	1.2	1.1	Laos	266	275	0.2	0.2
Nepal	998	1,829	0.8	1.3	Iran	236	235	0.2	0.2
Sri Lanka	1,143	777	1.0	0.5	Turkey	171	---	0.1	---
Mongolia	1,006	1,282	0.9	0.9	Uzbekistan	139	208	0.1	0.1
Myanmar	736	1,093	0.6	0.8	Saudi Arabia	23	300	0.02	0.2
Philippines	542	524	0.5	0.4	Sweden	137	---	0.1	---
India	525	546	0.4	0.4	Others	3,732	4,550	3.2	4,550
France	417	705	0.4	0.5	Total	117,927	141,774	100	100.0

Source: Japan Student Services Organization (JASSO) Home Page

#### **IV. Human Resource Development in Japanese Universities: Background of the Foreign Students in Survey Universities**

The general background of the foreign students who responded to the questionnaire survey from the five universities showed diversified characteristics of their field of studies, working experience, financial supports, civil status, ethnicity, age etc. This information aimed to provide basic knowledge to understand the disparity of opinions due to their different academic programmes in Japanese universities. The summary of the data is presented in Table 3.

The data in Table 3 reveal that about one half of the students in the surveyed universities were male students less than 25 years old. It is also important to note that about 28 percent of them were married and living with their families, and were aged between 26-30 years. This is because two-thirds of the students in the surveyed universities were enrolled in postgraduate courses after completing their undergraduate studies and, in some cases after working in their home countries for a while. This shows that postgraduate studies are more popular among international students than undergraduate studies. This has been recognized as a result of the language difficulties in both the entrance examinations and in the following of lectures that are conducted mainly in Japanese language for undergraduate courses. Unlike undergraduate studies, all the surveyed universities allow foreign students to continue their postgraduate studies in English or Japanese media. This flexibility of language was the main reason for the increase of postgraduate students in these universities.

The other distinctive aspect of the survey is that about 40 percent of the students had work experience either in the government or private sector before they enrolled in the Japanese universities. It is also noteworthy that more than one half of the students are receiving either Monbusho scholarships (Japanese government scholarship) or private

**Table 3:** The General Background of the Foreign Students in Studied Universities

Background Information	Percentage of Total Respondents <sup>(a)</sup>
<b>Sex:</b>	
Male	50.9
Female	47.6
<b>Age:</b>	
Less than 25	50.1
26-30	28.5
30-35	15.2
Over 36	6.2
<b>Civil Status:</b>	
Married	27.8
<i>Children</i>	22.9
Single	71.0
<b>Nationality:</b>	
Asia (East Asia) *	92.1 (60.5)
Africa	2.1
North America	1.3
Europe	3.7
Other	0.8
<b>Type of the Study Programme:</b>	
Social Science <sup>(b)</sup>	52.4
Natural Science <sup>(c)</sup>	42.3
<b>Financial Support:</b>	
Scholarship Holder	55.2
<i>Monbusho Scholarship</i>	26.0
Private Financed	44.8
<b>Work Experience:</b>	
Yes	39.8
<i>Government sector</i>	18.8
<i>Private sector</i>	11.6
<i>Other not specified</i>	8.0
No	60.2

Note: (a) Some data may not equal to 100, because missing numbers were not included; (b) Including economics and management subjects; (c) including engineering and other science subjects \*East Asia: China, Hong Kong, Taiwan and South Korea

scholarships. It is also a commonly known fact that more than 90 percent of foreign students not only in the surveyed universities, but also in all other higher educational institutions in Japan, originate from various countries in the Asian region. This means, human resource development in Japanese higher educational institutions overwhelmingly benefits Asian countries, rather than other developed and developing regions. The close proximity to the Asian region is one of the main reasons contributing to an increase of Asian students studying in Japanese universities.

## **V. The Major Academic Gains of Japanese Higher Education: Results of the Survey**

It is a widely accepted phenomenon that expenditure on education and research is similar to investment in other physical capital which aims to raise the productivity of labour and contribute to economic growth<sup>7</sup>. However, investment itself may not bring an increase of labour productivity if the people do not gain the necessary knowledge and ability required by the society for its various development activities. Hence, the financial expenditure of the Japanese government, private sector organizations and foreign governments, or students themselves, can be considered as investments that aim to contribute to the nation building efforts of developing nations through the increase of labour productivity. The major gains achieved by foreign students studying in the surveyed universities are presented in Table 4.

In general, the data in Table 4 discloses that students studying in both undergraduate and postgraduate courses have achieved enormous gains while studying in Japanese universities. In particular, their theoretical

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<sup>7</sup> See Boyce et al (2006) for detail information on human development and its enormous contribution to socioeconomic development of the world economy.

Table 4: Major Academic Gains from the Study Programmes (% of the total respondents)

Major Gains	Level of Gains			
	Highly Improved	Improved	No Change	Worsened
Theoretical knowledge	23.2	65.5	10.2	1.1
Practical knowledge	26.2	57.7	15.5	0.6
Research work/ability	28.9	51.1	19.7	0.3
Presentation ability	29.7	55.6	13.9	0.8
Teaching ability	10.7	50.3	38.2	0.8
Confidence of the field of study	22.8	56.0	19.9	1.3
Quality of the work	21.7	51.3	26.7	0.3
Commitment to work	29.2	47.5	23.1	0.3
Relationship with Japan	33.0	53.5	13.0	0.5
Other not specified	11.0	48.8	39.0	1.2

and practical knowledge, research ability, confidence in their field of study and their relationship with Japan have improved by more than 80 percent, while other gains remain at around 70 percent. However, teaching ability remained at the lowest level (61 percent) compared to other gains. This is true because unlike Western universities, postgraduate students in Japan are not getting Teaching Assistance in practice, though it is available nominally to help students financially. The students in the graduate schools of the surveyed universities stated that they are getting teaching assistance (TA) and research assistance (RA) allowances without actually giving any teaching or research assistance to their academic adviser, or to the graduate school they enrolled.

It is also interesting to note that the students' relationship with Japan had highly improved, though it was not directly related to their academic and research gains. In this respect, the survey found that the regional communities of the survey universities are helping foreign students in various ways (financial assistance, material donations, home stay, language help, socially etc.) while organizing international exchange

programmes at the regional level. The most important aspect found in this context is that this relationship had not terminated even after graduation. The continuation of this relationship has contributed to the mutual benefit of the two groups, and especially to the enhancement of rapid internationalization of regional societies in Japan. However, all these gains are achieved at different levels, according to the type of study programme followed by students in the five survey universities. The results of the survey on main gains according to the type of courses are demonstrated in Table 5.

**Major Academic Gains according to Type of Study Programme:**

The achievements vary according to different study programmes followed by the students. Overall, the majority of students in both undergraduate and graduate courses have stressed that they had achieved substantial improvements in all nine gains specified in Table 5. In particular, theoretical and practical knowledge, presentation ability and their relationship with Japan were identified as the most favourable achievements, which accounted for nearly 80 percent of their achievement level in undergraduate courses. It is also important to note that ‘presentation ability’ remains at the highest level compared to all other gains in both study programmes. The dominant factor contributing to this gain was obtained from the hearing survey, and was seen as a result of the compulsory ‘seminar’ class system of the programmes. It is true in general that most of the seminar classes required students to read a book or do some experiment work relating to their majoring field, and present their results in the class. These invariably helped students not only to learn various academic matters relating to the subject, but also to improve their presentation ability as well as confidence in the subject.

However, nearly 40 percent of the undergraduate students stressed that their knowledge, specifically their research ability, quality of the study programmes, confidence to work and commitment to work

Table 5: Level of Academic Gains according to Type of Study Programme (percentage of the total respondents)

Type of Academic Gains	Postgraduates											
	Undergraduate Courses				Master Courses				PhD Courses			
	Highly Improved	Improved	No Change	Worsen	Highly Improved	Improved	No Change	Worsen	Highly Improved	Improved	No Change	Worsen
Theoretical knowledge	17.9	62.5	19.6	0.0	28.4	63.0	8.6	0.0	23.9	66.3	5.4	4.4
Practical knowledge	23.2	57.1	19.6	0.0	24.1	56.8	18.5	0.6	38.5	54.9	6.6	0.0
Research work/ability	16.1	39.3	42.9	1.8	27.2	59.9	13.0	0.0	51.1	43.5	5.4	0.0
Presentation ability	16.1	60.7	23.2	0.0	32.7	51.2	14.2	1.9	36.3	57.1	6.6	0.0
Teaching ability	5.5	41.8	52.7	0.0	10.0	55.6	33.8	0.6	16.7	44.4	36.7	2.2
Confidence of the field of study	12.7	43.6	41.8	1.8	18.6	64.0	15.5	1.9	38.5	50.5	9.9	1.1
Quality of the work	18.5	42.6	38.9	0.0	20.6	53.1	26.3	0.0	27.8	60.0	11.1	1.1
Commitment to work	25.5	38.2	36.4	0.0	31.1	46.0	23.0	0.0	35.2	53.8	9.9	1.1
Relationship with Japan	31.5	50.0	18.5	0.0	34.4	48.1	16.3	0.0	35.2	56.0	8.8	0.0
Other not specified	0.0	33.3	61.1	5.6	19.4	32.3	48.4	0.0	16.7	75.0	8.3	0.0

remained unchanged during their study period. The main reason behind this poor achievement level, particularly the poor quality of undergraduate courses, was found to be due to the unavailability of a general evaluation system applicable to all students and staff of the institution. Many students noted that it is very easy to pass most of the subjects taught in the university and they can even get good credits without attending lectures. It was also surprising that some students said that they can pass all subjects if they have a good relationship with their teachers. The hearing survey also found that the subjects followed in the university did not perfectly cover all necessary topics of the syllabus due to the limited number of lectures. This means that students' knowledge is limited, and they do not have sufficient knowledge on the subject. Although this can be solved by introducing 'assignments' and 'tutorial classes', these are not popular, and also not generalized in most of the undergraduate courses in Japan.

It could also be noted that the above situation is changed in the Master's and PhD programmes. According to the survey results, more than 80 percent of the respondents have noted that they have improved their theoretical and practical knowledge, research and presentation abilities, confidence in the subject and relationship with Japan when studying in Master's Courses at the respective universities. Although the other gains such as quality of work and commitment to studies also remained at around 70 percent (except teaching ability), around one-fourth of the respondents emphasized that their knowledge, quality and confidence in work, and their practical knowledge had not changed due to studying in Japan. However, it is important to note that about 90 percent of the students said that all nine gains (except teaching ability) indicated in Table 5 had improved substantially when studying in PhD courses. The teaching ability of the students remained at the lowest level, compared to other gains, in all the undergraduate and postgraduate programmes.

**Major Academic Gains Studying in Saga University:** The study attempted to explore the situation of the above gains in Saga University because the survey included nearly 75 percent of the total foreign students studying in this university at present. The results of the survey (Table 6) found that except for theoretical & practical knowledge, presentation ability and relationship with Japan, in undergraduate courses, the level of all gains remained, at a lower level compared to the general situation discussed in the foregoing analysis due to the same reason (Table 5). In particular, nearly 50 percent of students in undergraduate studies noted that their research ability, commitment to work and quality of studies had not changed due to studying in Saga University. The following factors have been recognized as major reasons for these disadvantages: nonexistence of a generalized examination system; excessive power of the individual academic staff members over the evaluation of students' work; optional nature of graduation thesis; and the absence of a detailed syllabus for each subject acceptable to an international level.

Nevertheless, it should be noted that nearly 70 percent of students in the Master's programme emphasized that their theoretical & practical knowledge, research & presentation ability, confidence in their study and relationship with Japan had improved substantially due to studying in these programmes. Although these gains were at a satisfactory level compared to the average level of the five universities, teaching ability, quality of the programme and commitment to work remained at a lower level (around 65 percent). However, it is important to note that the latter gains prevailed at a very satisfactory level comparable to the average level of the survey universities. The main reasons for the different levels of achievement in these three academic courses found by the hearing survey are as follows: first, students in the undergraduate courses are busy with their part-time work rather than studies because of financial difficulties; second, the university does not have strict regulations to

**Table 6:** Saga University: Level of Gains according to Type of Study Programme (percentage of the total respondents)

Type of Gains	Postgraduates											
	Undergraduate Courses				Master Courses				PhD Courses			
	Highly Improved	Improved	No Change	Worsen	Highly Improved	Improved	No Change	Worsen	Highly Improved	Improved	No Change	Worsen
Theoretical knowledge	17.6	55.9	26.5	0.0	21.4	63.1	15.5	0.0	26.4	62.3	7.5	3.8
Practical knowledge	14.7	55.9	29.4	0.0	14.3	57.1	27.4	1.2	48.1	48.1	3.8	0.0
Research work/ability	20.6	26.5	50.0	2.9	20.2	60.7	19.0	0.0	50.9	43.4	5.7	0.0
Presentation ability	5.9	67.6	26.5	0.0	28.6	50.0	20.2	1.2	36.5	55.8	7.7	0.0
Teaching ability	2.9	44.1	52.9	0.0	8.4	56.6	34.9	0.0	19.2	44.2	34.6	1.9
Confidence of the field of study	14.7	47.1	38.2	0.0	12.0	65.1	21.7	1.2	38.5	53.8	7.7	0.0
Quality of the work	9.1	39.4	51.5	0.0	16.9	48.2	34.9	0.0	25.5	66.7	7.8	0.0
Commitment to work	14.7	38.2	47.1	0.0	22.6	42.9	34.5	0.0	34.6	59.6	5.8	0.0
Relationship with Japan	27.3	48.5	24.2	0.0	30.5	43.9	25.6	0.0	28.8	61.5	9.6	0.0
Other not specified	0.0	25.0	75.0	0.0	18.2	22.7	59.1	0.0	0.0	83.3	16.7	0.0

check undergraduate students' attendance in lectures; third, the unavailability of a generalized examination system; and fourth, the language difficulty. However, this situation is different in the postgraduate programmes, particularly the PhD programmes. The following factors have strongly contributed to the high level of gains in these two postgraduate programmes: first, the students in PhD programmes expect to achieve a research position in the future after returning to their home country; second, classes in both Master's and PhD programmes are conducted with a small number of students; third, the close and strict supervision of students' work by their academic supervisors; fourth, prevalence of a favourable academic and research environment in the graduate schools; the availability of postgraduate courses in English and Japanese media in most faculties; and the majority of students had graduated in their home countries, and even had work experience.

In addition to the above factors, the hearing survey also revealed that the a favourable environment in Saga prefecture, specifically low cost of living and various assistance from the regional society have contributed at some level to improve the above noted gains among foreign students studying in Saga university. The majority of students said that Saga University is located at a very convenient place with easy access to domestic and international transport, which helped them to continue their studies without much difficulty.

**Major Academic Achievements of PhD Students:** The survey attempted to examine the level of five major academic achievements, namely publications, presentations, academic surveys, patent rights, membership of academic associations and awards accomplished by PhD students after commencing their doctoral studies in Japan. The result of the survey is summarized in the Table 7. In general, the overall attainment of these five achievements are highly insignificant in the surveyed five universities. More than 80 percent of the students among 92

**Table 7:** Major Academic Achievements of PhD Programmes (percentage)

Type of Achievements	Domestic (Japan)				International			
	No. of Students		% of Students		No. of Students		% of Students	
	All 5 Uni.	Saga Uni.	All 5 Uni.	Saga Uni.	All 5 Uni.	Saga Uni.	All 5 Uni.	Saga Uni.
Papers in Refereed Journals								
1-2 Papers	8	1	8.7	1.9	14	7	15.2	13.2
3-5	3	2	3.2	5.7	10	8	10.9	15.1
More than 5	2	2	2.2	1.9	3	3	3.3	5.7
Not Publish	79	48	85.9	90.5	65	35	70.6	66.0
Papers in Non- Ref. Journals								
1-2 Papers	3	1	3.3	1.9	3	2	3.3	3.8
3-5	2	2	2.2	3.8	1	0	1.1	0.0
More than 5	2	2	3.2	3.8	1	0	1.1	0.0
Not Publish	85	48	92.3	90.6	87	51	94.5	96.2
Books (sole)								
1-2 books	1	1	1.1	1.9	0	0	0	0.0
More than 3	1	1	1.1	1.9	0	0	0	0.0
Not Publish	90	51	97.8	96.2	92	53	100.0	100.0
Books (joint)								
1-2 books	1	1	1.1	1.9	0	0	0.0	0.0
More than 3	0	0	0.0	0.0	0	0	0.0	0.0
Not Publish	91	52	98.9	98.1	92	53	100.0	100.0
Text Books								
1-2 books	1	1	1.1	1.9	0	0	0.0	0.0
More than 3	0	0	0.0	0.0	0	0	0.0	0.0
Not Publish	91	52	98.9	98.1	92	53	100.0	100.0
Presentations (sympo/Confe)								
1-2 Presentations	19	9	20.7	16.9	18	8	19.6	15.1
3-5	10	4	10.8	7.6	6	2	6.5	3.8
More than 5	9	5	9.9	9.5	7	3	7.7	5.7
No Presentations	54	35	58.6	66.0	61	40	66.2	75.5
Major Field Surveys (1-3)*								
1-3 Surveys	4	3	4.3	5.7	8	5	8.7	9.5
No Field Surveys	88	50	95.7	94.3	84	48	91.3	90.5
Membership of Acade. Asso.								
1-2	20	11	21.7	20.8	15	7	16.3	13.2
More than 3	3	2	3.3	3.8	2	0	2.2	0.0
No Membership	69	40	75.0	75.4	75	46	81.5	86.8
Number of Patents (1-3)								
1-3 Patents	1	1	1.1	1.9	2	1	2.2	1.9
No Patents	91	52	98.9	98.1	90	52	97.8	98.1
Number of Awards								
1-2	7	4	7.6	7.6	7	5	7.6	9.4
3-5	4	3	4.4	5.7	1	0	1.1	0.0
No Awards	81	46	88.0	86.8	84	48	91.3	90.6

Note: Sample size of the PhD students in five universities=92; Saga University=53  
Sympo/Confe=Symposium and Conference; Acade. Asso.=Academic Associations; \*including experiments

correspondents had not gained any of these academic performances to any satisfactory level. For example, students who have publications in refereed and non-refereed domestic journals accounted only for 13 and 7 students among the 92 students, respectively. Although 27 students (29.4 percent) said that they were able to publish 1-5 papers in refereed international journals, it was not sufficient, given the sample size of the survey. However it is important to note that presentations in both domestic and international symposiums and academic associations are substantially high compared to other achievements. About 41 and 34 percent of the students informed that they had presented about 1-5 papers, based on their research outcomes, at domestic and international academic conferences respectively during their study period in Japan. It is also important to note that more than 75 percent of the surveyed students in doctoral courses in these five universities have mentioned that they do not have even a membership of any domestic or international academic association. Although it is not possible to expect publication of books, awards and patents during their PhD studies, the lack of publication of papers in refereed and non-refereed domestic and international journals, as well as presentations in academic associations, can be considered as one of the major weaknesses of doctoral programmes in the surveyed universities. It is also important to note that more than 90 percent of students noted that they did not conduct field surveys (including experiments) for their final dissertations.

Although publication of papers and presentations of research outcomes in academic associations remain as major requirements of PhD studies in Saga University, more than 90 percent of students were not able to publish any paper in refereed or non-refereed domestic or international journal (except international refereed journals). However, it is important to note that 34 percent of the students said that they have published papers in international journals. The other noteworthy

outcomes of the survey is that about 34 and 25 percent of students in doctoral courses in Saga university noted that they have presented their research outcomes in domestic and international academic conferences. But more than three-fourths of the students do not have a membership of any domestic or international academic association.

The main reasons found in the hearing survey for the inadequacy of publications, presentations and field work have been recognized as a result of the unavailability of course work, lack of freedom to choose the theme of the thesis, the absence of a generalized evaluation system and insufficient advice from the academic adviser. Many students noted that they have not had the opportunity to learn fundamental knowledge such as methodology, theories etc., which are needed to carry out their major research work at their universities. In addition, many students noted that they are not getting sufficient advice from their academic supervisors to implement their research work. Some students were not able to get an appointment to meet their advisers even once a week. A large number of students placed under one professor's guidance may have been a major reason for these weaknesses. This had intensified due to the unavailability of a generalized evaluation system comparable to international standards. All of these problems caused students to learn by themselves, and having to find an appropriate methodology to conduct their surveys without much guidance.

(See next volume)