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A Comparative Analysis of the Teaching and Learning Processes of Undergraduate Students in Korea and Japan – Based on the Cases of Seoul National University and Hokkaido University

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Abstract — The purpose of this study was to investigate the teaching and learning processes experienced by university students in Korea and Japan, and compare and analyze the higher education systems of the two countries. For this purpose, surveys were conducted in Seoul National University (SNU) and Hokkaido University (HU) based on questionnaires developed by the Korea Educational Development Institute and the Institutional Research Consortium of the universities, respectively. Approximately 800 students from each university participated. Each of the surveys contained questions in six categories known to affect academic achievement: the level of class participation, extracurricular activities, active learning, cooperative learning, interaction with professors and academic competencies. After the surveys were concluded, the common questions in the two surveys were identified and the results of these questions were compared and analyzed.

We found that students from HU had relatively higher levels of interaction with the faculty members, collaborative learning experiences and study hours, but students in SNU scored relatively higher with regard to their attitude in class, and satisfaction with university support, and also had an overall higher score in terms of the average of the learning outcomes. The results of this study will contribute to the analysis of the status of students' learning processes in the universities in South Korea and Japan, and provide insights into areas that require improvement. They will also help develop concrete measures to improve the quality of higher education in both countries.

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I. Introduction

Whilst the university enrollment rate in South Korea was only 5.5% in 1960, it has rapidly increased since and currently, approximately 70% of the school-age population of 18-21 years old is attending university. Due to this high rate of university enrollment, the number of universities in South Korea has increased, and the opportunity to access higher education has become more common. However, compared to the high rate of university enrollment, the quality of education at South Korean universities is not rated highly (Kuh 2001). If a global assessment criteria for universities is applied, the quality of higher education and research performance (measured by *e.g.* the number of dissertations or patents) is highly inadequate compared to the rate of quantitative expansion.

To improve the quality of university education, the Korean government chose to strengthen the role of university evaluations and encouraged the publication of

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the results of the evaluations. As a result, the quality of university education at each university is required to be evaluated by a government-recognized accreditation agency, and the results are used as a basis for determining the level of government financial support provided to each university. In the past, the government included indicators such as the employment rate of graduates and faculty research performance in its evaluation of the quality of university educational programs. However, the government has recently become more interested in the quality of higher education, and consequently has come more aware of the need to assess the direct outcomes of university education, *i.e.* conduct an evaluation based on learning outcomes.

A question then arise as to how learning outcomes can be measured. As learning outcomes themselves are difficult to measure, it is important to understand the learning process that leads to such outcomes. In other words, information must be collected on the learning processes of undergraduate students, so that the outcomes can be analyzed based on the process. For this purpose, since 2010, KEDI has conducted studies to analyze the effectiveness of the learning process of students attending four-year courses at Korean universities. The ultimate purpose of this study was to develop a survey tool that would help identify the characteristics of the learning process of Korean university students.

This required the collection and analysis of the results from various angles to understand the present situation in Korean universities. To this end, KEDI developed an assessment tool in 2010, and focused on improving the validity and reliability of the assessment tool during 2011. Every year, approximately 20, 000 university students in Korea participate in the survey through KEDI's learning process analysis tools. The results of the survey provide useful insight into the characteristics and current state of the learning process of university students in Korea.

The two universities on which this study is based, Seoul National University (SNU) and Hokkaido University (HU), have been cooperating in the field of reforming university education on the basis that both universities are research-oriented universities. As such, this study aimed to investigate the higher education process of the two universities and compare the characteristics of the students at both universities, in order to develop educational programs and policies to improve the quality of higher education.

Hokkaido University is one of typical research-oriented universities in Japan. There are 12 departments, and the number of undergraduate students is approximately 10,000 people. HU has also introduced a survey tool to analyze the students' learning process from 2009. This tool was developed by four Japanese universities (Doshisha University, Osaka Prefecture University, Konan University and HU). Four universities established the Universities Institutional Research Consortium in 2012. Since 2012, the survey tool (questionnaire for undergraduate students and online data management system) is provided to Japanese universities (47 universities as of August 2016) by the Universities Institutional Research Consortium. HU carried out a survey for the undergraduate students each year (*e. g.* Tokui et al. 2015). Common questions from Korean and Japanese surveys were extracted and the results of each question were analyzed.

This study is aimed at investigating the current status of higher education in two universities, and understanding the differences in the two universities' students' learning processes and accomplishments. The results of this study will help identify the differences between the two universities and provide insight into how differences in cultural and academic backgrounds may impact educational outcomes. The results will be utilized to identify areas that require further development in each university and help develop strategies to address areas that require improvement.

II. Theoretical background

1. The Concept of the Teaching and Learning Process

Basically, this study aims to investigate, compare, and examine characteristics of the teaching and learning process experienced by university students in Korean and Japan, thereby suggesting how to improve them. The concept of the teaching and learning process plays an important role in developing the survey instrument and analyzing results from the survey. In the following, The concept of the teaching and learning process is presented.

Discussion about the teaching and learning process begins with college impact study. College impact study, which is one of the main strands of higher education research, is about how college affects students' development-namely college outcomes. College impact study is guided by a couple of scholarly inquiries, some of which include questions of between-college effects and within-college effects. The question of between-college effects concerns whether differential characteristics of the particular institution contribute to student development or college outcomes. And the question of within-college effects is essentially asking what kinds of factors explain effects of different experiences in the same institution. That is, the examination of within-college effects basically focuses on identifying different sub-environments or experiences within an institution (Pascarella & Terenzini 2005; 9). The concept of the teaching and learning process stems from the examination of within-college effects.

In pursuit of identifying determinants of college outcomes, especially sub-environments or experiences of teaching and learning draw great attention from researchers in the field of higher education. A considerable number of scholars have contributed to literature on this inquiry, including Astin (1993), Chickering and Gamson (1987), and Pascarella and Terenzini (2005).

For example, Chickering and Gamson (1987) identified good practices of teaching and learning on the basis of comprehensive review of empirical and theoretically research on college impact. The seven principles of good practices suggested by Chickering and Gamson (1987) include 1) contact between students and faculty; 2) developing reciprocity and cooperation among students; 3) active learning; 4) having prompt feedback; 5) time spent on task; 6) high expectations; and 7) respects diverse talents and ways of learning. The seven principles of good practices suggested by Chickering and Gamson (1987) has provided a conceptual framework for a number of survey instruments assessing college students' learning including NASEL (National Assessment of Student Engagement in Learning), which was employed in this study.

Astin is another major contributor to the literature on college impact study as well. He identified a number of remarkable sub-environments or experiences of teaching and learning as determinants of college outcomes, using empirical data on more than 30 years of surveys (Astin 1993). In particular, Astin (1984) suggested involvement theory. The involvement theory posits that a student learns by participating in learning actively. Astin's involvement means psychological and physical energy that a student invests in his or her learning (Astin 1984). Astin explains the significance of involvement in learning, using IEO (inputs-environment-outcomes) model in which inputs refer to a student's characteristics at the time of college entry and environment refers to all the experiences during college attendance, and outcomes refer to a student's characteristics at the time of college graduation.

Drawing upon academic accomplishments by previous scholars including Astin (1993), Chickering and Gamson (1987), Pascarella and Terenzini (2005) and Kuh (2001) proposed the concept of student engagement. Student engagement represents both the time and energy students invest in educationally purposeful activities and the effort institutions devote to using effective educational practices (Kuh 2001). Student engagement made a remarkable stride in the college impact literature in that it emphasizes the importance of the extent to which students engaged in educationally purposeful activities of teaching and learning. In addition, the concept of student engagement tries to address the significance of colleges'

effort to provide supportive educational environment, which makes Kuh's academic accomplishment distinctive to others.

The concept of the teaching and learning process is conceptually grounded on between-college effects in college impact study in general and Kuh's student engagement in specific. The teaching and learning process, the key concept leading the development of survey instrument of NASEL, attempts to capture students' psychological and physical engagement in educational activities, their experiences in teaching practices, and educational sub-environments that a college offers to students for quality better college outcomes. In particular, the teaching and learning process attempts to convey the importance of good experiences in teaching as well as engagement in learning (Kim & Lee 2016).

As such, the teaching and learning process is worthy of scholarly exploration. However, it is investigated in linkage with learning outcomes and usually interpreted in relationship with input factors of student and college. The process of teaching and learning discussed in this study is better understood in the context of the system of higher education, which comprises of the subsystem of input-process-outcome (Kim & Lee 2016).

2. Developing NASEL (National Assessment of Student Engagement in Learning)

NASEL (National Assessment of Student Engagement in Learning) consists of over 200 questions that captures a student's background characteristics(e.g., gender, parental education level, academic background at high school, etc.), various factors of the teaching and learning process, and factors of outcomes (e. g. self-reported gains in cognitive and affective skills, institutional commitment, etc.) Specifically, survey items related to the teaching and learning process can be categorized into two groups-experiences of curricular activities and extra-curricular activities. Curricular activities includes preparation for class, active participation in classroom activities, and using high-order thinking, collaborative learning, active learning, and student-faculty interaction. Extra-curricular activities include participation in club activities, volunteer work, work-related experiences such as internship or field-studies, and global learning experiences.

NASEL (National Assessment of Student Engagement in Learning), an instrument of assessing student learning used in this study, has been developed by a series of research by Korean Educational Development Institute (KEDI). A brief review of how to develop NASEL is as follows.

At the initial stage, survey items were developed. First draft of survey items was based on three major student surveys including NSSE (National Survey of Student Engagement), CIRP Freshman Survey, and CEQ (Course Experience Questionnaire. At the second stage, the first draft of survey was examined and complemented through a series of expert meetings. A research team in KEDI, experts on college impact research, and experts working for teaching and learning centers at Korean universities participated in the series of expert meetings. Based on these expert meetings, a research team in removed the survey items inappropriate in the context of Korean higher education and added new survey items reflecting higher education policies and practices in Korea. At the final stage of developing NASEL, a research team in KEDI conducted two-staged validation; first, a small scale paper and pencil test was conducted to 12 students, checking validity of the survey instrument; secondly, a large scale pilot survey was conducted to 28, 095 students attending 40 four-year universities. Data gained from this pilot survey were analyzed for examining validity and reliability of the survey. Please refer to Yu et al. (2013) for result of examining validity and reliability of the study.

3. Developing JCIRP (Japanese Cooperative Institutional Research Program)

In Japan, Yamada (2012) introduced Cooperative Institutional Research Program (CIRP) established by Higher Education Research Institute (HERI) of UCLA to

Japanese university from 2004. Her research group translated and arranged for Japanese situation and named it as Japanese CIRP (JCIRP).

The student survey in Hokkaido University was started in 2009 with three other universities. Four universities (Doshisha univ., Hokkaido univ., Osaka prefecture univ. and Konan univ.) collaborated in student survey for three years (2009-2011) with a budget of Ministry of Education. This group used JCIRP and a Common European Framework of Reference for Languages (CEFR) for the survey. From 2012 four other universities (Ochanomizu univ., univ. of the Ryukyus, Tamagawa univ. and Kwansei Gakuin Univ.) joined this research group and continued until 2016 academic year. We used the results from this student survey program in this paper.

III. Methods

1. Development of survey

The survey consists of a total of 118 questions across areas of learning activities, extracurricular activities, classroom experience, interaction with faculties, learning outcomes, facilities and service satisfaction. Survey tool was developed based on theoretical analysis and analysis of relevant research for learning. The presentative international examples are Indiana University Higher Education Research Institute which developed nationwide survey of student engagement conducted by NSSE (National Survey of Student Engagement), and the British high finance committee is performed NSSE (National Survey of Student Engagement). And also the Australian graduates Committee, GCC (Graduate Careers Council) organized learning experience and investigation through CEQ (Course Experience Questionnaire).

Each perspective or emphasis of the survey questionnaire of SNU and HU is slightly different. But it is common in that for the purpose of gathering informations about student learning experiences in the process of university education. The learning process includes a university research tool in Korea questionnaire about the various experiences and other activities that affect the learning indirectly related items in addition to the direct learning activities. For example, it should include questions about the part-time employment, out of campus, etc. and other various learning activities. Class activities can be divided into 5 things such as lesson preparation, class participation, evaluation and tests and level of challenges. Activities include reading and study groups may be typical examples of voluntary extracurricular activities. Also as well as questions about the learning process or the learning experience, it included the learning outcomes and satisfaction. The learning process and experience can show meaningful results when linked with learning outcomes. Therefore, comprehensive thinking, self-management skills, global capabilities, physicians were questions about growing self-awareness, such as communication skills, in addition to satisfaction surveys were also included in the class satisfaction, facilities and service satisfaction.

Based on the research of NSSE in US, the more students participate in active or cooperative learning, the university campus environment supportive, active interaction between the professor and students and richer educational experience, the more students have a higher challenge levels for academic and learning outcomes. This implies that overall student participation is higher in the teaching-learning process could make better learning outcomes. Therefore, this research was also focused on the configure of these points.

2. Questionnaire for analysis

A survey among the same items and items carried out at two universities were reconfigured to questions related to academic achievement. The questions were divided into six areas utilizing items are shown (table 1).

SNU has conducted a survey through an online survey system operated by the KEDI. In order to encourage participation in the survey, students were guided to the online advertisement such as mass mailings,

Table 1. Questionnaires of this survey

areas	sub-areas	criteria	
1. Class participation levels	1) Preparation of class	・punctuality of the deadline assignment	1
	2) Class participation	・Class attitude: snoozing, not concentration, absent, tardy	4
		・Collaborative Learning: Group assignments, presentations, discussions	3
2. Active learning	1) active learning experiences	・searching the academic papers or materials ・feedback on the work and tasks performed	2
	2) Study time	・study for prep & review ・study not related with the class	2
	3) discussion	・discussion with your friends in differences for values	1
3. learning activities out of classroom		・participation in club activity ・volunteer work as a part of class ・Internship and field trip ・part time job out of campus	4
4. Interaction with professors		・discussion of the class content ・discussion of Enrollment ・discussion of Career counseling	3
5. Changes in academic competence		・major related knowledge and skill ・class related with content knowledge and skill ・writing and speaking ・critical and analytical thinking ・problem solving ・teamwork and collaboration ・Information processing competency ・IT utilizing competency ・time Management ・English and Foreign language proficiency ・global competency	12
6. Satisfaction with university support		・health and welfare and Psychological counseling ・tutoring and basic learning education support ・employment and career development support ・scholarships	4
total			36

school website. The survey was conducted from May 30th, 2016 to June 24th, a total of 1, 116 SNU undergraduate students have participated in this survey.

HU has also conducted a survey through an online survey system operated by the educational information system in own university. The survey was carried out after summer vacation. This time coincides with the beginning of the second semester in Japan. The latest result of survey 2015 is used in this paper. This survey was conducted from October 16 to November 24, 2015 for freshmen and third-year students. For about 2,600 target HU students of freshmen and third-year students each, the recovery was about 27% and 12% respectively.

3. Analysis of results

1) Measure of the questionnaires

Select the results of previously used items common to both schools from survey questions conducted by Hokkaido University and Seoul National University were analyzed. By default, the most of the items was measured by 4 point scales as follows (table 2).

For the statistical analysis of results, SPSS 22.0 was utilized. The frequency analysis was calculated and descriptive statistics values in average and standard deviation. Each item was marked only valid exception of cases missing cases, a standard deviation in the variance with the average were presented.

2) Participant information

In HU only two groups such as freshmen (1st year

Table 2. A measure of the questionnaires

	areas	
categories	SNU	HU
1	Almost Never	まったくしなかった
2	never	あまりにしなかった
3	frequent	ときどきした
4	Very often	ひんぱんにした

Table 3. Informations about participants

	SNU							HU						
		total		freshmen		junior			**total**		freshmen		junior	
	areas	freq (N)	perc (%)	freq (N)	perc (%)	freq (N)	perc (%)	**areas**	freq (N)	perc (%)	freq (N)	perc (%)	freq (N)	perc (%)
age (～above ～below)	**～19**	33	6.7	33	13.6			**～19**	861	83.1	672	93.5	189	59.6
	20～24	421	85.2	196	80.7	225	89.6	**20～24**	169	16.3	45	6.3	124	39.1
	25～29	37	7.5	11	4.5	26	10.4	**25～29**	4	.4	1	.1	3	.9
	30～	3	.6	3	1.2			**30～**	2	.2	1	.1	1	.3
	total	494	100.0	243	100.0	251	100.0	**total**	1036	100.0	719	100.0	317	100.0
sex (% of female)	**－**	.47		.51		.42		**－**	.32		.32		.34	
type of housing	Family & elatives	220	44.5	110	45.3	110	43.8	Family & relatives	311	30.0	219	30.5	92	29.0
	Live alone	148	30.0	44	18.1	104	41.4	Live alone	582	56.2	388	54.0	194	61.2
	Dorm or live together	112	22.7	85	35.0	27	10.8	Dorm or live together	121	11.7	94	13.1	27	8.5
	etc	14	2.8	4	1.6	10	4.0	etc	21	2.0	17	2.4	4	1.3
	total	494	100.0	243	100.0	251	100.0	total	1035	100.0	718	100.0	317	100.0
To commute to school (～hours)	**～0.5**	189	38.7	104	43.7	85	34.0	**～0.5**	752	72.7	526	73.4	226	71.3
	0.5～1	127	26.0	44	18.5	83	33.2	**0.5～1**	207	20.0	142	19.8	65	20.5
	1～2	118	24.2	63	26.5	55	22.0	**1～1.5**	66	6.4	42	5.9	24	7.6
								1.5～2	8	.8	6	.8	2	.6
	2～	54	11.1	27	11.3	27	10.8	**2～**	1	.1	1	.1		
	total	488	100.0	238	100.0	250	100.0	**total**	1034	100.0	717	100.0	317	100.0

students) and juniors (3rd year students) had participated in this survey (table 3). So for comparison, data on the basis of enrollment semesters was selected and divided two groups in 1-2 semesters to categorize in the freshmen and to 5-6 semesters in junior in SNU. The result of each question was presented in whole, freshmen and juniors of two universities respectively.

IV. Results

1. Class Participation

Class preparation and attitude included items such as attitudes in class, perceptions, absences, meeting assignment deadlines.

1) Preparation for class

To ascertain the level of diligence students showed towards their classes, students were asked whether they

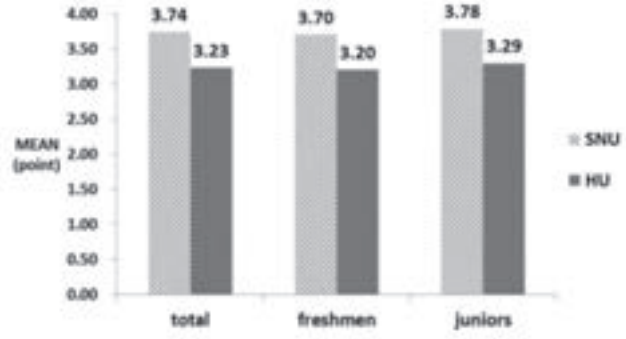

Fig. 1 Extent to which assignment deadlines are met

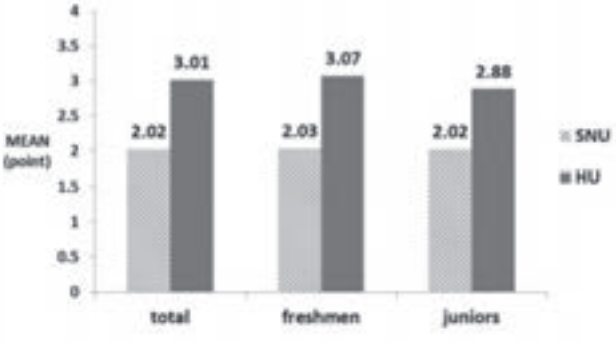

Fig. 3 Instances of being unable to concentrate in class

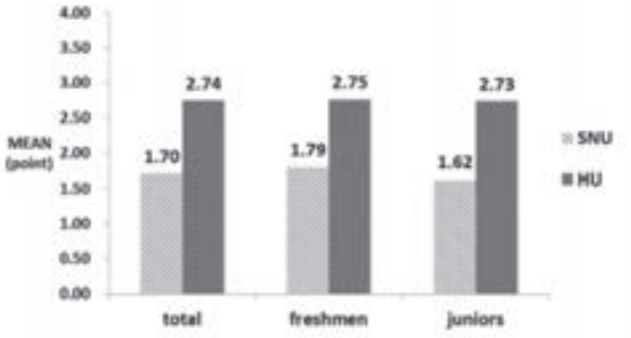

Fig. 2 Instances of sleeping in class

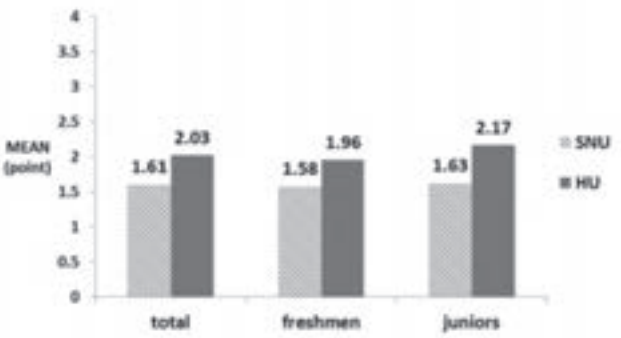

Fig. 4 Instances of absences

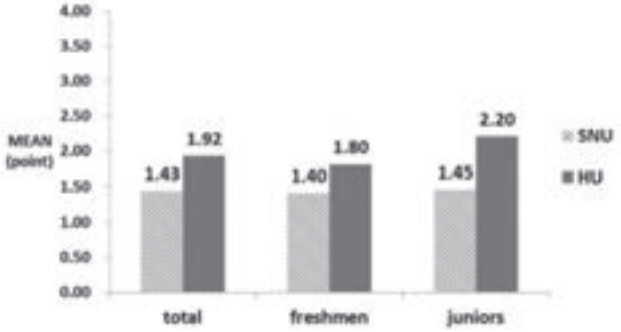

Fig. 5 Instances of tardiness

met deadlines for their assignments. Results showed that both freshmen and juniors from SNU were more diligent in meeting deadlines in handing in their assignments (Fig. 1).

2) Attitude in class

To gain an understanding of the students' attitudes in their classes, students were asked whether they have ever fallen asleep in class or have had difficulties concentrating in their classes. Results showed that such instances happened relatively less for freshmen and juniors from SNU, compared to students from HU (Fig. 2, 3).

Students were also asked whether they have ever been late to or absent from class. Results showed that both freshmen and juniors from HU had more instances of both tardiness and absences compared to students from SNU (Fig. 4, 5).

In terms of the level of participation and attitude in class, students from SNU were found to be relatively more diligent compared to their HU counterparts. While there were not significant differences between the results from freshmen and juniors in both universities, in general, juniors were less diligent in participating in classes compared to freshmen.

3) Collaborative Learning

The collaborative learning category focused on whether the learning experience required students to cooperate with their classmates in completing assignments such as group presentations, presentations, etc. It also considered the level of help students received from classmates, discussions with classmates, friends and family on the content, finding solutions to problems.

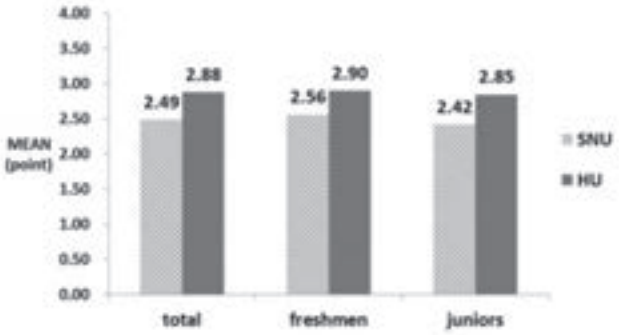

Fig. 6　Level of collaborative learning experience

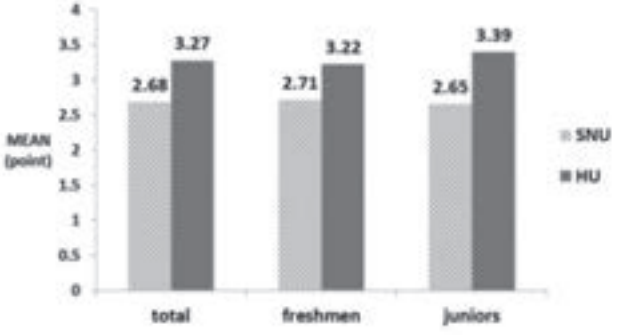

Fig. 7　Level of research conducted on academic materials

Once information was collected on these fields, the average value was calculated. Results showed that students at HU had more experience with collaborative learning (Fig. 6). It is interesting to note that the results revealed a considerable differences between the level of collaborative learning in SNU and HU, despite the cultural similarities between Japan and Korea. This suggests the need for an in-depth analysis of the factors that lead to students experiencing higher levels of collaborative learning.

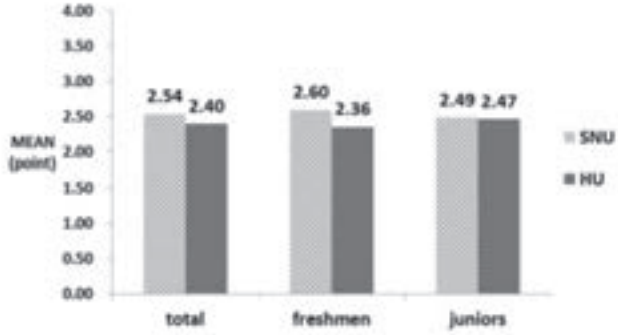

Fig. 8　Activeness in seeking feedback

2. Active Learning

1) Active learning experiences

The active learning experiences category included two types of questions, which considered the extent of students' effort towards researching academic materials (e.g. papers or data), and the extent to which students sought to receive feedback on their work. Results showed that HU students were more active in their effort towards researching relevant academic materials (Fig. 7), and SNU students were more active in seeking feedback on their work (Fig. 8).

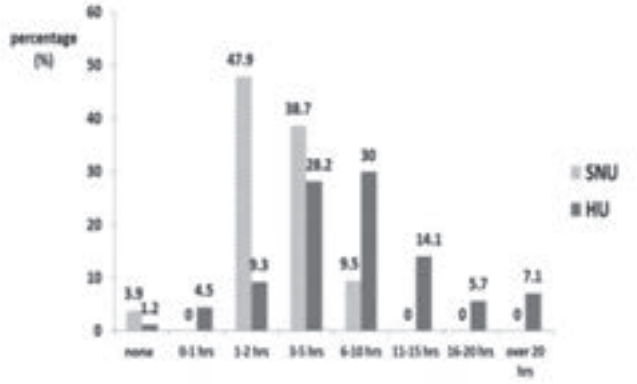

Fig. 9　Hours spent on preparing for classes and reviewing coursework

2) Study hours

In relation to hours spent on studies, results are presented in graphs as there were significant differences in the questions asked by the two universities. Overall, students at HU tended to spend more hours on preparing for their classes and reviewing their coursework, while students at SNU tended to dedicate more hours on studying subjects unrelated to their courses (Fig. 9, 10).

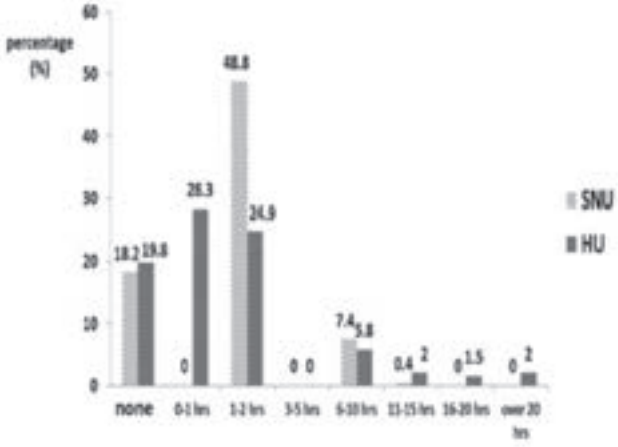

Fig. 10　Hours spent on non-coursework studies

Fig. 11 Level of discussions with friends that have different values — SNU students

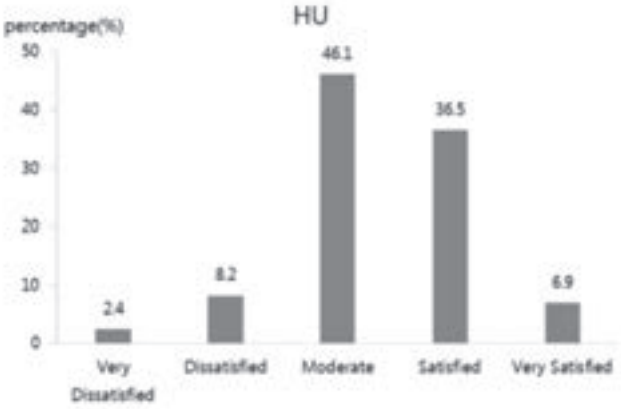

Fig. 12 Level of discussions with friends that have different values — HU students

3) Discussions with friends with different values

Questions were also asked in relation to the level of discussions students have with their friends that do not share the same values as they do. SNU requested responses on a four point scale, while HU requested responses on a five point scale. Results showed that 22.3% of SNU students and 43.4% of HU students responded positively (Fig. 11, 12).

3. Extracurricular Learning Activities

1) Participation in club activities

The level of participation in extracurricular activities is closely related to academic achievement and adjustment in college (Kuh et al. 2006). The level of participation in club activities, which is a type of extracurricular activity, was somewhat higher in SNU students, particularly for juniors in SNU (Fig. 13).

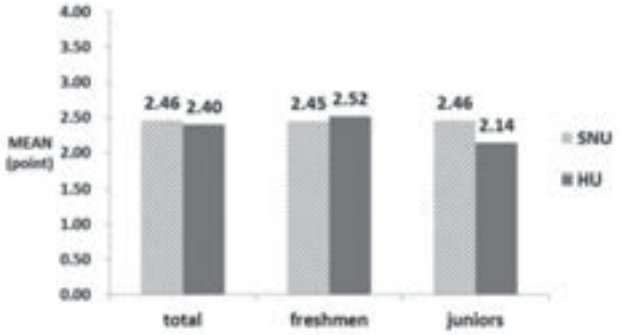

Fig. 13 Participation in club activities

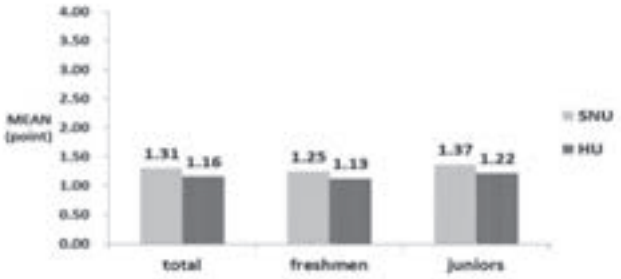

Fig. 14 Participation in course volunteering work

2) Volunteer work as part of courses

Overall, there was a low level of participation in course volunteering activities from students at both universities, though results from SNU demonstrated a slightly higher level of participation than results from HU. The reason for this is likely to be attributable to SNU's policy, which allows students to earn credits by participating in volunteer work. As extracurricular activities contribute to improving academic achievement and provide opportunities to experience various academic skills, measures should be taken to promote student participation in volunteer work as well (Fig. 14).

3) Internship and field experience

The results for questions relating to internship or field experiences are presented in separate graphs as different criteria was used by the two universities. 60.5% of the SNU respondents responded negatively, and 22.9% responded positively (Fig. 16). Only 19.5% of the HU students responded that they had never gone through internships or field experience, and 38.1% of the juniors responded that they often experience such things, which suggested that many such opportunities were available to students at HU (Fig. 16). As internships or field experience are factors that may help influence students'

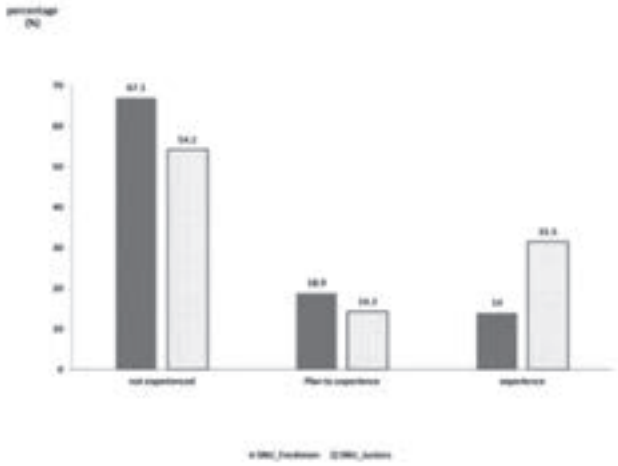

Fig. 15　Internships and field experience in freshmen and junior of SNU

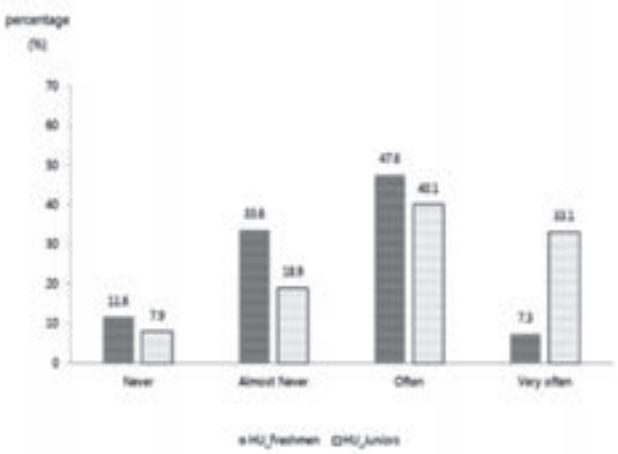

Fig. 16　Internships and field experience in freshmen and junior of HU

career decisions and increase students' motivation to study, ways to increase student participation should be sought.

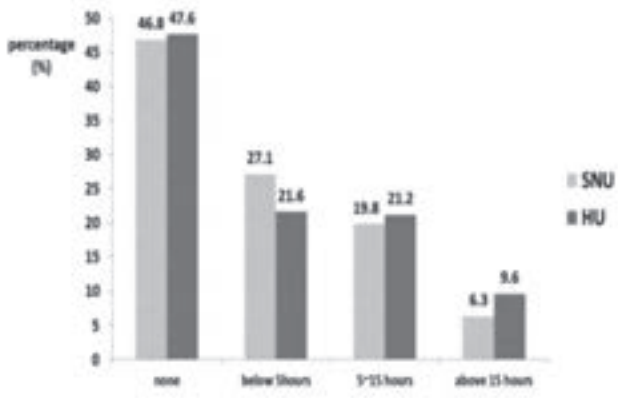

Fig. 17　Hours spent in part-time jobs

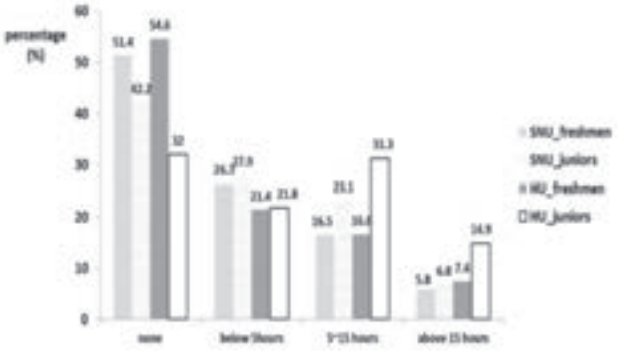

Fig. 18　Hours spent in part-time jobs by grades

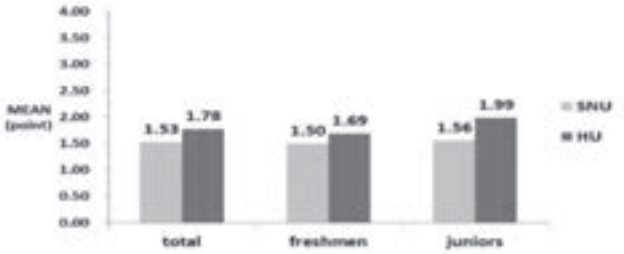

Fig. 19　Interaction with faculty members

4) Working in part-time jobs

In both universities, approximately half of the respondents had experiences with part-time jobs (Fig. 17). Students from SNU had relatively more experience with part-time jobs less than 5 hours, and students from HU had relatively more experience with part-time jobs that took up around 5-15 hours and more than 15 hours (Fig. 18).

4. Interaction with Faculty Members

Questions in this category focused on issues such as the level of discussions about enrollment, assignments, career decisions. Compared with SNU, HU's results were significantly higher with juniors showing a higher level of interaction with faculty members than freshmen (Fig. 19). SNU's results in this area were also the lowest compared to other Korean universities. It seems necessary for SNU to aim to increase contact and facilitate interaction between students and professors, to ensure the provision of proper student support.

5. Changes in Learning Outcomes

Questions in this category asked participants whether there had been any change in their academic performance and competencies since the beginning of their undergraduate studies. In particular, the questions focused on major-related knowledge and skills, class-related knowledge and skills, academic writing skills, oral communication skills, critical analytical thinking skills, problem solving skills, information processing capacity, teamwork and collaboration skills, time management, foreign language proficiencies and global competencies.

SNU and HU used different criteria for these questions. While the HU questionnaire HU included an option to provide negative responses (i.e. to indicate a decrease in academic skills), the SNU questionnaire only included positive options, which is an obstacle to providing an accurate comparison. Nevertheless, the responses are significant in that they provide an insight into the students' perceptions on changes in their academic ability. Due to the difficulties in providing an accurate comparison, the discussion in this section focuses on the issues of significance that were obtained through the survey.

1) Major-related knowledge and skills

HU students were more positive than SNU students in relation to changes in their major-related knowledge and skills. 60% of SNU students responded positively while 74.3% of the HU students answered that their knowledge and skills had improved (Fig. 20). The level of change experienced by juniors was higher than the level experienced by freshmen (Fig. 21).

2) Class-related knowledge and skills

SNU students had more positive responses than HU students in relation to changes in their class-related knowledge and skills. 34.3% of HU respondents felt that they had experienced positive change (Fig. 22). However, 61.3% of the HU respondents said that there had been no change to their knowledge and skills, whereas in SNU, 11.9% of the respondents responded as such (Fig. 23). This significant difference appears to be due to the fact that SNU students were relatively more attentive and

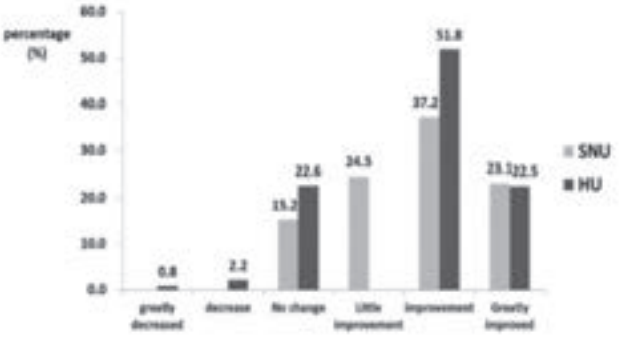

Fig. 20 Major-related knowledge and skills

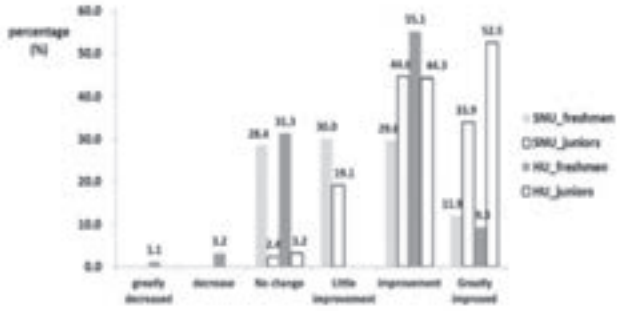

Fig. 21 Major-related knowledge and skills by graded

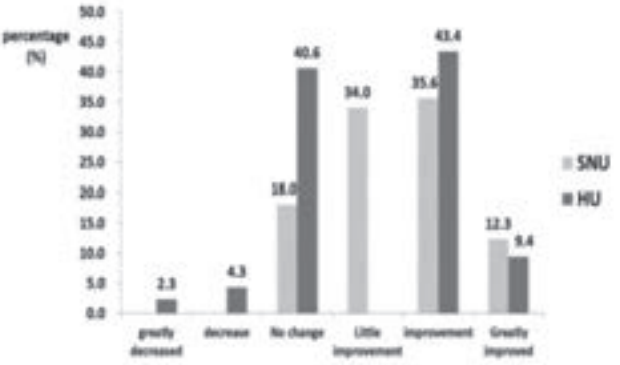

Fig. 22 Class-related knowledge and skills

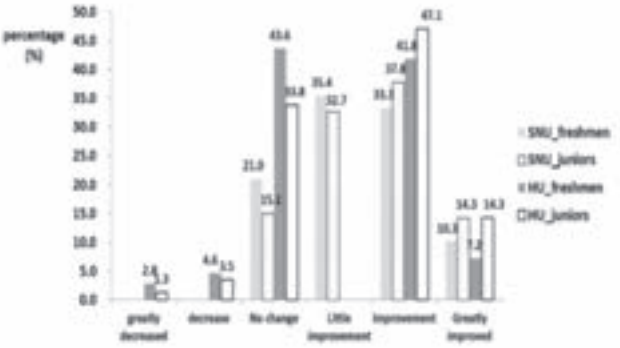

Fig. 23 Class-related knowledge and skills by grades

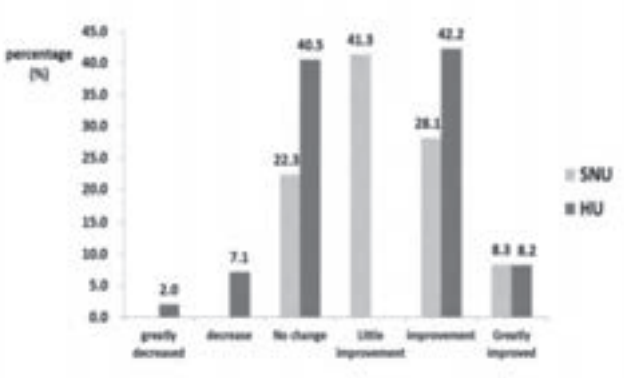

Fig. 24　Academic writing skills

active in their classes compared to their HU counterparts, as discussed above.

3) Effective academic writing skills

In relation to academic writing skills (i.e. the ability to write in a clear and effective manner in an academic context), 22.3% of the SNU respondents answered that there had been no change, while 40. 5% of the HU students responded as such (Fig. 24). In general, SNU students felt a higher level of change compared to HU students of HU (SNU 77.7%, HU 50.4%). However, the level of change perceived by juniors in HU was relatively higher than those in SNU (Fig. 25).

4) Oral communication skills

In relation to oral communication skills (i. e. the ability to communicate orally in a clear and effective manner), a higher number of HU respondents suggested that there had been no change (30.1%) and respondents in SNU were generally much more positive about their improvement (88.3%). However, juniors in HU had the highest positive response rate in relation to their improvement (Fig. 26, 27).

5) Critical and analytical thinking

37.9% of HU respondents answered that there had been no change in their critical and analytical thinking skills, while 13.6% of SNU respondents answered that there had been a positive change (Fig. 28). However, juniors at HU had the highest positive response rate in relation to their improvement (Fig. 29).

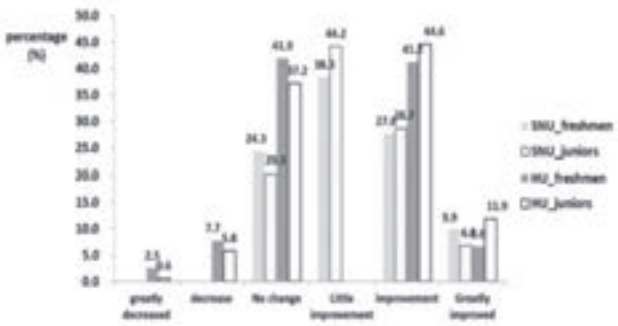

Fig. 25　Academic writing skills by grades

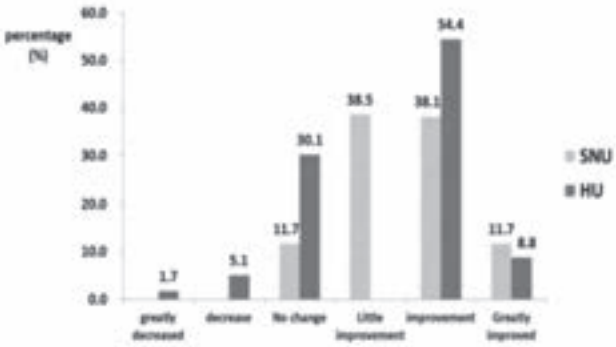

Fig. 26　Oral communication skills

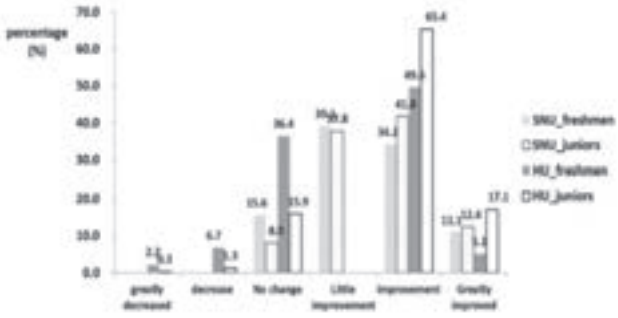

Fig. 27　Oral communication skills by grades

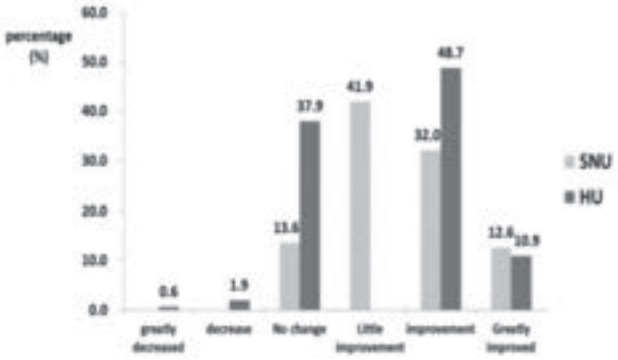

Fig. 28　Critical and analytical thinking skills

6) Problem-solving skills

In relation to changes in problem-solving abilities, 38.5% of SNU respondents answered that there had been

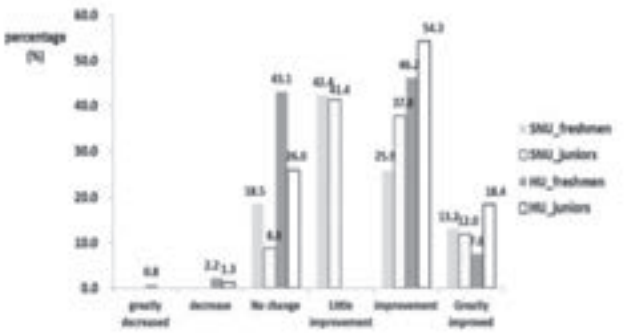

Fig. 29 Critical and analytical thinking skills by grades

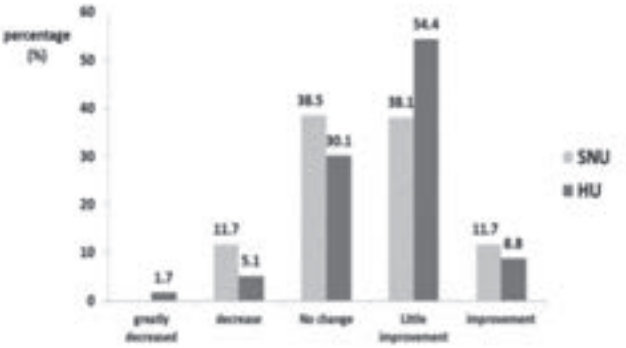

Fig. 30 Problem-solving skills

no change, which was a higher percentage than the HU respondents (30.1%, Fig. 30). Juniors at HU had the highest response rate in the "little improvement" category (Fig. 31). Positive responses were relatively high at 63.2% for HU students, but only 49.8% for SNU students responded positively. Problem-solving skills must be developed through university education as a core academic competency. Innovative teaching methods and various extra-curricular programs should be developed and made available to help students improve their problem-solving skills.

7) Teamwork and cooperation

About 40.6% of the students in HU and 18.0% of students in SNU stated that there had been no change in their ability to cooperate with others (Fig. 32). However, in both universities, the proportion of juniors who felt that they had improved their cooperation skills was higher than the proportion of freshmen (Fig. 33).

8) Information processing skills

In relation to the ability to process information, SNU students generally felt that they had improved compared

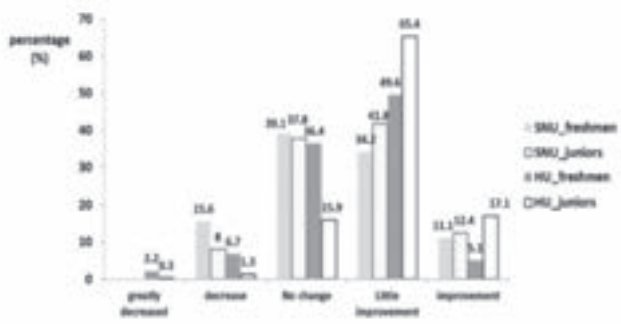

Fig. 31 Problem-solving skills by grades

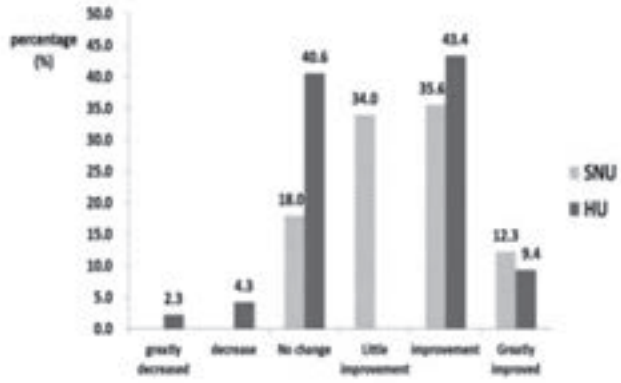

Fig. 32 Teamwork and cooperation skills

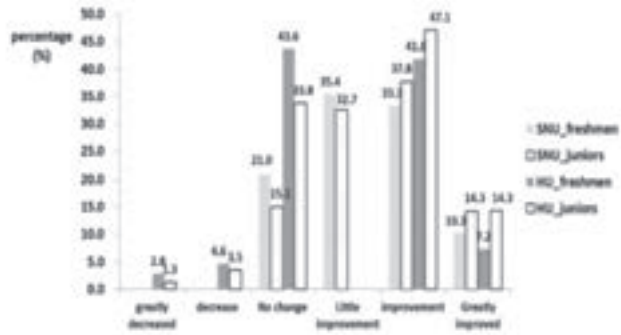

Fig. 33 Teamwork and cooperation skills by grades

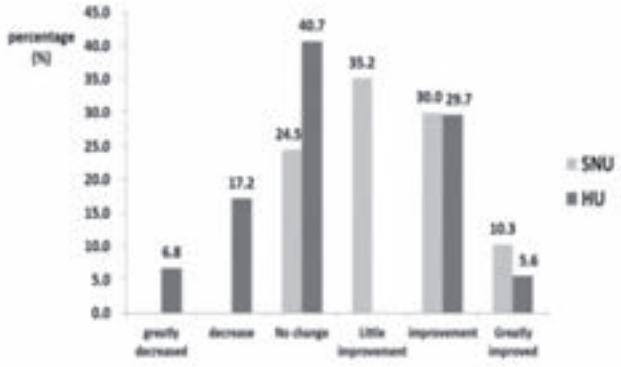

Fig. 34 Information processing skills

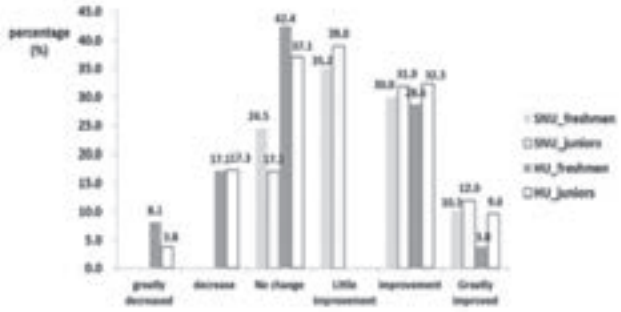

Fig. 35　Information processing skills by grades

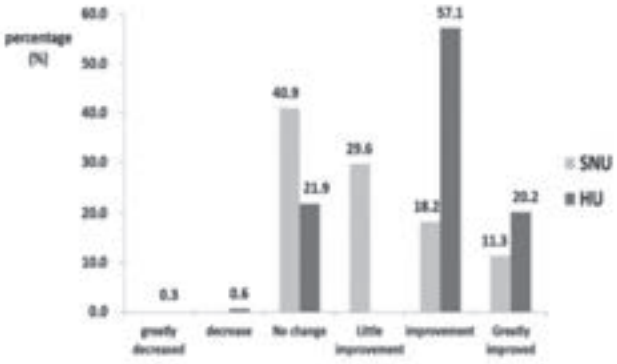

Fig. 36　IT skills

to HU students (Fig. 34). While 24.5% of the SNU respondents said that they did not change, it seems that SNU students had relatively more opportunities to develop their information processing capacity through their university experience compared to HU students (Fig. 35).

9) IT skills

In relation to IT capabilities, i.e. the ability to utilize computers, IT and software, 40.9% of SNU students answered that there had been no change in their IT capabilities, which is higher than the 21.9% of HU students that responded as such (Fig. 36). Even the freshmen at HU felt a positive change, and 77.3% of the overall respondents in HU responded that there had been an improvement to their IT capabilities (Fig. 37).

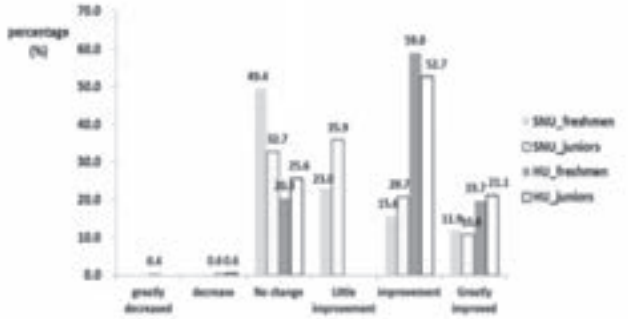

Fig. 37　IT skills by grades

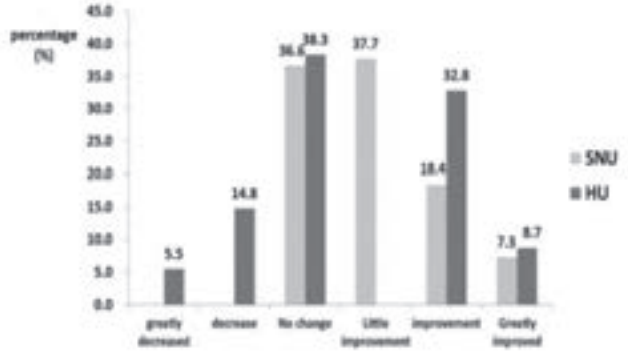

Fig. 38　Time management skills

10) Time management skills

Time management is one of the most important factors that determines whether a student can successfully adapt to university life. 36.6% of SNU and 38.3% of HU respondents stated that there had been no change in their time management skills, which amounted to one third of the overall respondents (Fig. 38). While the SNU questionnaire did not provide for negative responses, the HU questionnaire provided for the option to answer that the respondent's time management skills had decreased (Fig. 39). Compared to other skills, there was a higher level of negative responses for this time management category. This indicates the need to provide active education and training on time management to university students so that they may improve such skills.

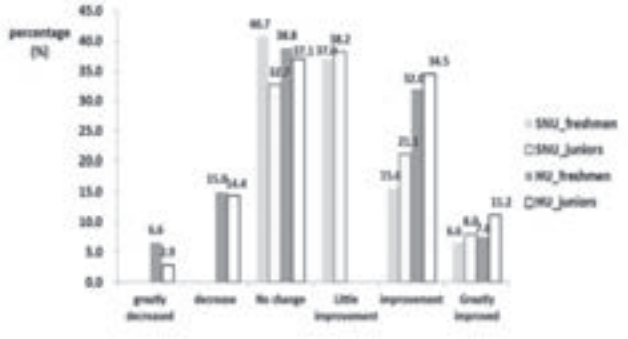

Fig. 39　Time management skills by grades

11) English and foreign language proficiencies

The number of respondents who answered that they did not feel a change in their English or foreign language proficiencies was relatively high at SNU (Fig. 40). 46%

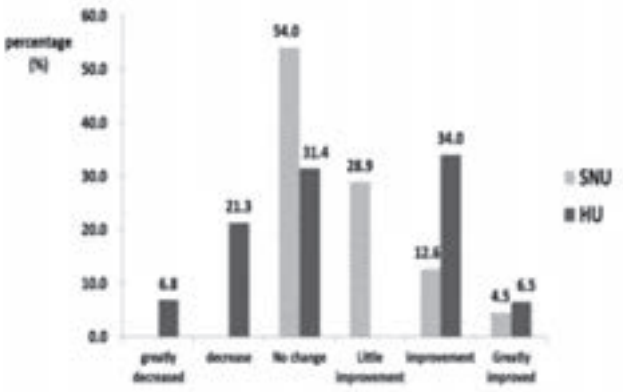

Fig. 40 English and foreign language proficiencies

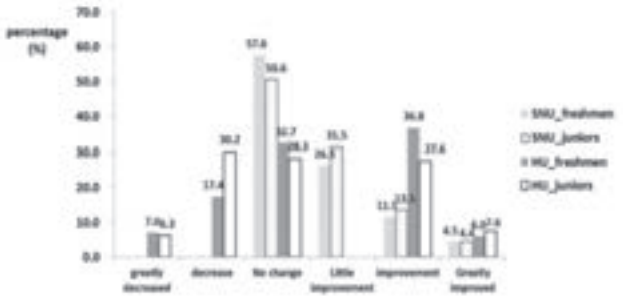

Fig. 41 English and foreign language proficiencies by grades

of SNU students 40.5% of HU students stated that there had been a positive change. In the case of HU, unusually, the positive response rate was higher for freshmen than for juniors (Fig. 41).

12) Global competencies

As for global competencies, positive responses were relatively high in HU (39%) respondents compared to SNU (24. 7%). Juniors at HU gave a higher level of positive responses than freshmen (39%, Fig. 42, 43).

6. Satisfaction with University Support

1) Health and welfare service and psychological counselling

64.8% of SNU respondents were satisfied with the services provided by SNU such as health, welfare, and psychological counseling, but only 42.3% of the respondents from HU gave a positive response (Fig. 44, 45). This suggests that there is a need to further expand students' health, well-being and psychological support in HU.

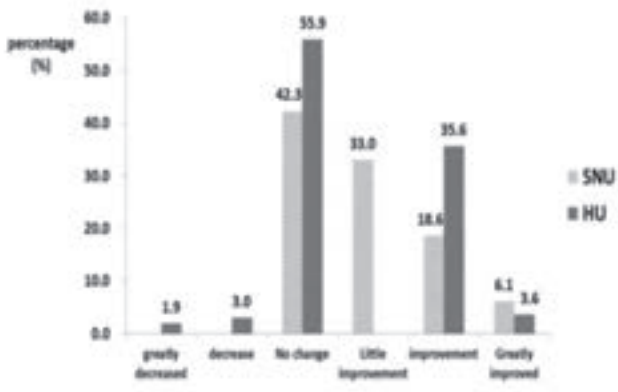

Fig. 42 Global competencies

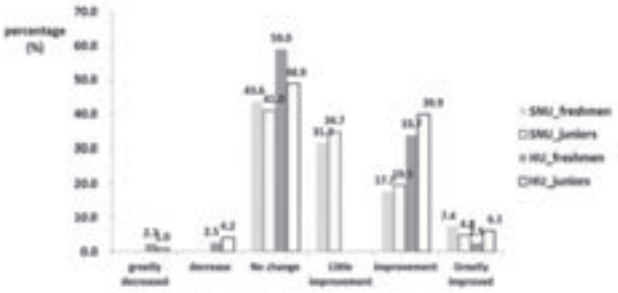

Fig. 43 Global competencies by grades

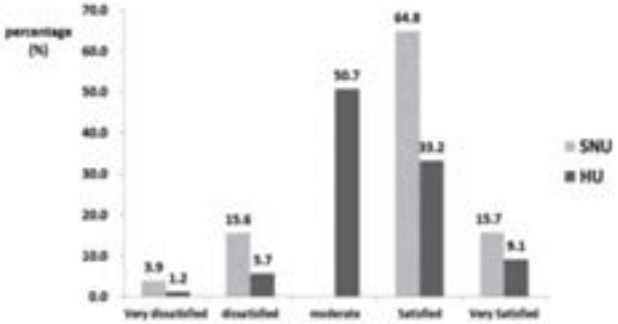

Fig. 44 Health and Welfare service and psychological counseling

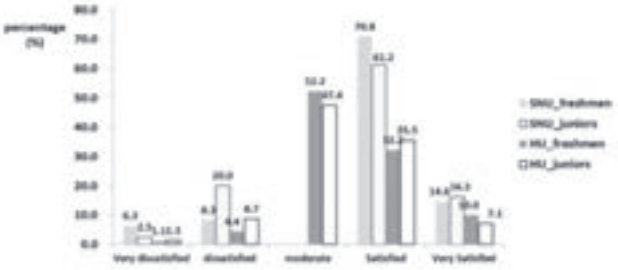

Fig. 45 Health and Welfare service and psychological counseling by grades

2) Tutoring and basic education support programs

The level of satisfaction with the level of support in

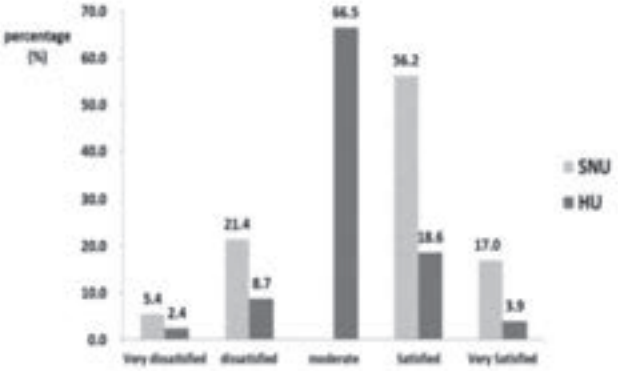

Fig. 46　Tutoring and basic education support programs

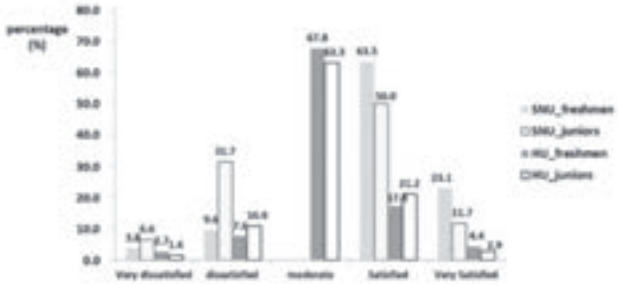

Fig. 47　Tutoring and basic education support programs by grades

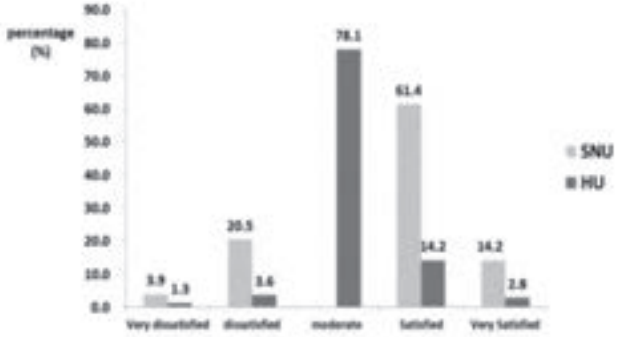

Fig. 48　Employment and Career Development Support

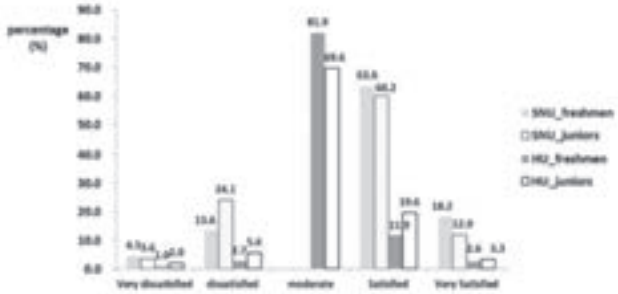

Fig. 49　Employment and Career Development Support by grades

relation to educational needs, such as tutoring or basic education support programs was relatively high for students in HU (Fig. 46). While 26.8% of SNU students responded negatively answer, only 11.1% of the HU responses were negative (Fig. 47).

3) Employment and career development support

As for the level of satisfaction with support relating to students' career development, SNU students were overwhelmingly satisfied with 75.1% of positive responses (Fig. 48, 49). However, 78.1% of HU students responded negatively. This seems to be due to the fact that SNU has set up a separate department to provide career support services to students and also provide various programs and opportunities for students to actively develop their career.

4) Scholarships

In relation to scholarships, the level of positive responses was higher in both universities. The number of students who responded "Moderate" was higher in HU (65.8%), and the number of students who gave negative responses was higher in SNU (Fig. 50). However, the number of students who responded "Satisfied" or "Very Satisfied" was higher in SNU (78.1%) compared to HU (23.6%, Fig. 51). In the case of SNU, it is necessary to examine the reason why positive and negative responses are relatively high compared to HU. While this may be due to the fact that the SNU questionnaire did not provide for an option to answer "Moderate," it may also indicate that scholarships have been granted in a biased or discriminatory manner.

V. Suggestions

The University has an obligation to pay social commitment to active involvement in student learning, solve their learning problems and learning support in order to cultivate the creative talent they need. In this respect, the results of this research for the learning process of the students will provide meaningful information regarding to that each University has to take the concrete effort. It also helps to determine whether the

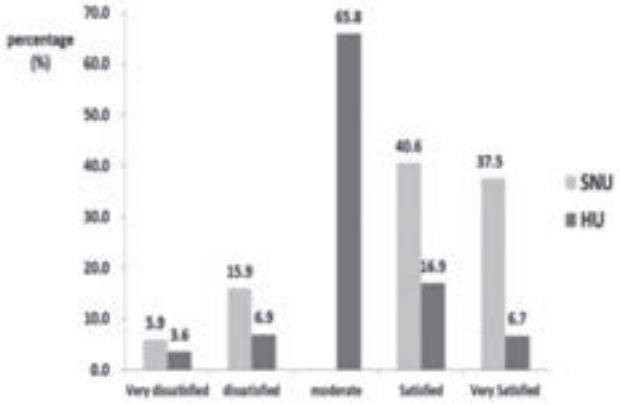

Fig. 50 Scholarships

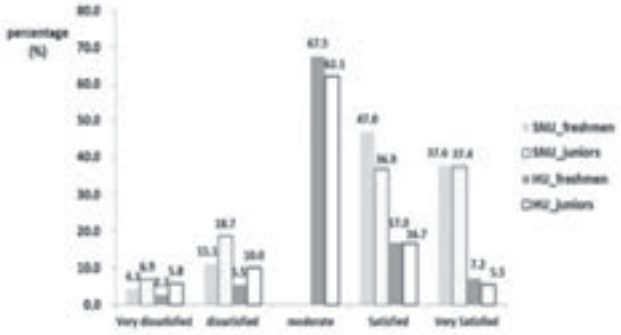

Fig. 51 Scholarships by grades

curriculum, training programs and support services provided by university have a certain impact on student learning. Namely to improve the quality of teaching, the practical suggestions provide the school about what, and how such programs are more effective in order to support student learning that should make any effort.

American universities are also taking advantage of NSSE data for self-assessment of the University. On the basis of a survey, Washington State University had actively improved the level of interaction between students and faculty by developing and providing community learning programs, university residence program and a common curriculum, graduate certification programs etc. In the most cases of Korea Universities, a trend that is becoming common training opportunities starter students with academic potential beyond the academic achievement of high school, while diversifying admission. These affect made the University bring the results that the University of membership might ensure the diversity, but vulnerable groups in study could appear. Vulnerable groups on learning may be formed due to the difference in the starting line of the basic academic background or learning. Due to this, they find it difficult to carry out university studies and also don't have the opportunity to shine their full academic potential. These differences are not often be overcome in the individual student level. These learning process survey data can provide implications for what the university does the substance of the specific assistance for the groups struggling in study.

In addition, the present study was to obtain informations not only to understand the actual situation for improving the quality university education, but also comparison between the situation of higher education between Korea and Japan. The present study compared the situation with the Japanese university education made it possible to grasp the actual situation of higher education of Korean university. In particular, it was revealed the strengths and weaknesses of each university. In particular that the level of interaction with professors seem significant difference compared to the HU suggests that the challenges that must be urgently improved at SNU.

The results of this study will be utilized to enhance the effectiveness of teaching and learning will provide useful data needed for higher education professors and university authorities including students, and even policy makers. Furthermore, in order to evaluate the various universities or performance evaluation of government funded business process and the performance advantage is greater as the value (outcome) data. The results of this study contribute to improve and enhance the quality of learning outcomes in higher education.

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