On Advantages and Disadvantages of Compulsory Major Convergence

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Abstract

The government has proposed a development model for universities to strengthen the capacity of the College of Humanities as part of the university restructuring policy in line with the trend of the times, and encouraged each university to voluntarily induce the establishment of the humanities development plan through financial support under their own individual conditions. With the decline in the school-age population due to the declining fertility rate, the rapid change in the industrial structure has highlighted the decline in the employment rate of the students of the humanities. Therefore, the government is implementing university grading based on the results of the university structural reform evaluation, and pressing low-grade universities through reduction of capacity and reduction of support. In the course of this change, universities have designated the College of Humanities as the primary target of integration with other majors or and its disintegration. This study examines the direction of the government's attempt to change the humanities in the era of the Fourth Industrial Revolution, and suggests a precedent example during the reform of the humanities college. If the humanities college is integrated with practical studies such as management, design, IT, CT, and engineering, the strengths of the humanities can be highlighted. However, the results of this study suggest that many variables such as consideration of students' aptitudes and interests in the integration process of majors, autonomy in major selection, understanding between departments integrated, and demand for a single major before integration or disintegration should be considered. In addition, an example of a local private university shows that the hasty attempt to integrate or disintegrate the humanities can rather lead to various educational harms.

▶Keyword: interdisciplinary major, restructuring of university, the college of humanities, compulsory dual major

I. Introduction

This study examines the direction of the government's change in the college of humanities in the era of the Fourth Industrial Revolution, the era of low birth rate, and the era of job hunting, and investigates the problems that can be derived from the process of integrating the college of humanities with practical studies such as management, design, IT, CT, and engineering. In addition, Let us look at the fact that this kind of hasty process of integrating humanities with other majors can lead to various educational harms through an example of a local private university. However, this study is only an example of integration and disintegration, and it is likely that more in-depth research will be needed for this interdisciplinary major in the future. The government has proposed a development model for universities to strengthen the capacity of the college of humanities as part of the

university restructuring policy in line with the trend of the times, and each university will voluntarily induce the establishment of the development plan of the college of humanities through financial support according to individual conditions. With the decline in the school-age population due to the declining birth rate, the rapid change in the industrial structure has highlighted the decline in the employment rate of the students of the college of humanities. Therefore, the government is implementing university grading according to the results of the structural reform evaluation of the universities, and is pressing low-grade universities to reduce their capacity and subsequently reduce support based on its change. In the course of this change, universities have designated the college of humanities as the primary subject of integration and disintegration. The government will implement the first university restructuring evaluation from 2010 to 2014 and the second university structural reform evaluation from 2015 to 2017, and the university structural reform evaluation will be conducted under the name of the third university basic competency diagnosis from 2018 to 2020.

This paper examines what is the advantage and disadvantage of compulsory dual major system and how the dual major system can be conducted well as a form of the interdisciplinary major system. Chapter 2 examines a case study and some important points to fabricate an interdisciplinary major system. In chapter 3, we will look at the result of restructuring which was carried out in the college of humanities, Namseoul University in 2015, analyze the problems and suggest new alternatives to the new interdisciplinary majors.

II. What is Interdisciplinary Major?

The government conducted the first university restructuring evaluation from 2010 to 2014. This evaluation is a university restructuring policy introduced by the Myung-bak Lee administration and aims to evaluate universities by introducing numerical evaluation criteria. The government intends to limit financial support and student loans to universities in the lower level nationwide and to influence students' choice of universities, thereby eliminating poor quality universities through market principles. The evaluation items include the employment rate, the recruitment rate of the students, the rate of full-time professors, the rate of return of education expenses, the management of the bachelor's degree and the curriculum. In the five areas, the difference in the recruitment rate, the management of the bachelor's degree, and the curriculum of the students is not significantly different based on the government evaluation criteria. Especially, since the employment rate is the most crucial, employment rate can be said to have a huge influence on how universities' own reconstructing would be evaluated by the government. For this reason, some universities have come to integrate or disintegrate the humanities with low employment rates in order to receive favorable evaluations based on the criteria for selecting government-funded universities.

First, the sustainable development of Korean society requires creative talents with human literacy such as humanistic thinking ability, insight, and problem solving ability. Second, it is necessary to cultivate the third generation of global experts who are familiar with language, culture, society, history and economy in each field, Fourth, it is necessary to develop humanities in parallel so that the basic academic foundation will not be shaken in the process of the university restructuring.

1. The Necessity of Interdisciplinary Curriculum Development

An interdisciplinary major provides students with the opportunity to combine the best of several subject areas around a single theme. For example, as an American studies major in college, a student used sociology, history, and government to focus on issues of social justice through the experiences in the U.S.A. Interdisciplinary majors are valuable because they allow students to experience college life in a way that is comparable to the real world. While many careers require you to specialize in one particular area, you still have to bring various skills and experiences to effect for your to success. For instance, financial analysts must become experts in various industries in order to advise their clients effectively. Interdisciplinary study is an effective way to build a wide range of substantive knowledge and develop an optimal level with multitasking. Whether it is any major, success requires commitment, but for students who are looking for more variety in their academic experience, an interdisciplinary major might be a good fit.

The development of interdisciplinary subjects is primarily aimed at cultivating the ability of students to understand things and situations as a whole (consilience). The ability to think in a convergent way (convergence) about things and situations enables a total understanding of human life and the world. Until now, the operation of the curriculum centered on a single discipline has made it structurally difficult to understand the whole life, the world, and the nature of human beings by overly touching the established academic boundaries. This tendency can be seen in most of the university liberal arts courses in Korea. In the meantime, humanities, natural sciences, social sciences and arts have been separated exclusively, blocking the possibility of intellectual communication and exchange between disciplines[5, 7, 8]. It is important to improve the existing liberal education system, which is exclusively isolated from traditional academic boundaries, when it is said that it is the macroscopic goal of liberal education to deepen understanding of human life and to lead a valuable life[1]. The development of interdisciplinary courses that combine humanities, social sciences, natural sciences, and arts to overcome the segmental tendency of education and expand opportunities for integrated thinking and communication is thought to be urgent[1]. The development of interdisciplinary courses is aimed at cultivating talented people who understand the whole world and creative problem solving ability through integrative thinking because knowledge and reason based on existing individual academic fields are limited in the rapidly changing modern society and the ability to create ideas and solve creative problems.[2, 3] This coherent thinking and imagination will be the key foundation for fostering talented people with future-oriented abilities that can lead the era of knowledge integration as well as cultivate decisive qualities and skills in cultivating talented people with creative and problem-solving skills required by companies.

2. Analysis on a Preceding Sample

In October 2008, a survey of 352 students in Chung-Ang University conducted a survey on integration education[6]. As a result, it was found that 80% or more of the needs and expectations of integration education were answered positively. Specifically, 29% of the respondents said that "integration education can provide students with various educational opportunities." In general, 51% and 15% were normal. If you interpret 'normal' as a positive answer, 95% of respondents say that they will. In addition, 31% of the respondents said that the activation of integration education could be a way to secure the competitiveness of graduates, 48% of them, and 18% of them. If you interpret 'normal' positively, 97% of respondents can assume that they are. In the following, there are questions and to answers made by respondents.

Question 1) Do you think that interdisciplinary major education can provide students with a variety of educational opportunities?

Table 1. Reply to question 1

very positive	positive	average	negative	very negative
29%	51%	15%	4%	1%

Question 2) Do you think that the activation of integration education can be a way to secure the competitiveness of our graduates?

Table 2. Reply to question 2

very positive	positive	average	negative	very negative
31%	48%	18%	2%	1%

Question 3) Does the integration major education have a birthmark that will help you get a job?

Table 3. Reply to question 3

very positive	positive	average	negative	very negative
28%	44%	23%	4%	1%

Of course, even if we admit that there may be differences depending on how we interpret the meaning of the questionnaire, the survey index says that at least 80% of students are able to provide various educational opportunities and secure educational competitiveness, assuming that they understand at least what integration education means. In addition, 28% of respondents answered that integration education will help to get a job very much, 44%, positive, and 23%, average.

Even if it does not include the usual, more than 72% think that it will contribute positively to securing employment competitiveness. Based on the results of the survey, the fact that students are not only clearly aware of the need for integration education (including interdisciplinary major education) but also fully support it can be interpreted as a necessity for interdisciplinary

major education. In addition, the results of the survey on professors can be confirmed to be generally consistent with the results of the student questionnaire survey. In other words, 80 percent of students answered that they provided various educational opportunities to students, 88 percent answered yes, 79 percent answered that interdisciplinary major education could be a way to secure educational competitiveness, and 81 percent answered yes, and 79% answered that interdisciplinary major education could help them find employment. If so, it is unlikely that students will be aware of the interdisciplinary major education. In the end, the question "Why is interdisciplinary major education?" Is a tacit answer to the question of how to design our future by developing creative problem solving ability and expanding our thinking ability with logical analytical ability, along with the total and comprehensive thinking ability of human and nature through interdisciplinary major education.

III. A Case Study (on restructuring of the college of humanities)

Humanities have emphasized its importance through the entire history of mankind, and it provides understanding and insight into people by collectively referring to human inquiry such as literature, history, and philosophy. Humanities, a report of wisdom that survived through thousands and tens of thousands of years of human history, was a report of imagination and infinite creativity. Today, the university has been given a great task to preserve humanities and to develop self-sustaining power, and to allow humanities to naturally penetrate other disciplines. In 2014, Namseoul University mandated a dual major system in which students from the Department of English Language and Culture[4], the Department of Chinese Studies, and the Department of Japanese Studies should complete their second major in the current business-related majors. The graduation credits are 130, of which 36 are required to be earned from the business-related majors. The system is in operation for four years and the results of the survey are as follows. The survey included 137 students from the Department of English Language and Culture, 111 from the Department of Chinese Studies, and 118 from the

Department of Japanese Studies, among the first, second, third and fourth grade students in the three departments. The questionnaire consists of five items, but the fifth question is a narrative form and attaches the contents and answers to the appendix. Table 4 shows the number of students by major and grade in the Global Regional Culture Department.

Table 4. Student Number of the Dept. of Global Studies

Department	3 Majors	School Year			
		1st	2nd	3rd	4th
Global Studies	English Language and Culture (137)	39	45	24	29
	Chinese Studies (111)	41	33	26	29
	Japanese Studies (118)	28	39	40	11
	Total	118	117	90	51

<Questionnaire>

Question 1. Do you think that completing other major courses other than the main major will have a positive effect on your future or post-graduation employment?

1) very negative 2) negative 3) positive 4) very positive

Question 2: Do you think it is a burden for you to complete other majors other than your majors under the requirements of compulsory dual majors?

1) very negative
2) negative
3) positive
4) very positive

Question 3: Have you ever considered dropping out, leaving school, or changing the major due to the requirements of compulsory dual majors?

1) very negative   2) negative
3) positive   4) very positive

Question 4: What do you think about abolishing the current regulations and entrusting the student's autonomy to the completion of the dual majors?

1) strongly agree   2) agree
3) disagree   4) strongly disagree

Here, cross-analysis tables and chi-square verification were conducted to see if there were differences in response patterns for four questions by gender, grade, and major. First, let's look at the gender response patterns for each item. Table 5 is the difference between men and women over question 1.

Table 5. The difference between men and women over question 1

Gender	1) very negative	2) negative	3) positive	4) very positive
Female	17	50	148	31
Male	3	24	71	22
χ^2 = 4.7187, df = 3, p-value = 0.1936				

In response to the first question, many students chose "(3) positive" and did not show any difference in choice between men and women by gender. Table 6 is the difference between men and women in question 2.

Table 6. The difference between men and women over question 2

Gender	1) very negative	2) negative	3) positive	4) very positive
Female	3	38	111	94
Male	7	26	56	31
χ^2 =11.729, df = 3, p-value = 0.008372				

Since the p value is less than the significant level of 0.05, there is a difference between men and women. The ratio of female students to 3 and 4 is quite high, and male students also choose 3 and 4, but many of them also choose 2. We can see that girls are feeling a lot more burdened than boys. Table 7 is the difference between men and women over question 3.

Table 7. The difference between men and women over question 3

Gender	1) very negative	2) negative	3) positive	4) very positive
Female	29	79	96	42
Male	27	47	39	7
χ^2 = 15.755, df = 3, p-value = 0.0012				

There is a statistically significant difference. In other words, if the negative answers (1) and (2) are combined and the positive answers (3) and (4) are combined, 136 female students choose positive answers to drop out, leave school, and consider changing the major. 74 male students choose negative answers to drop out, leave school, and change the majors. Table 8 is the difference between men and women in question 4.

Table 8. The difference between men and women over question 4

Gender	1) strongly agree	2) agree	3) disagree	4) strongly disagree
Female	158	83	5	0
Male	72	43	3	2
χ^2 = 4.5127, df = 3, p-value = 0.02112				

There is a statistical difference between men and women, though the majority of men and women (241 female students, 115 male students) choose the first and second questions that students should take on their own autonomy. Women tend to want students' greater autonomy in completing dual majors. Table 9 shows a departmental difference about question 1(Do you think that completing a major other than your major will have a positive effect on your future or post-graduate employment?)

Table 9. The departmental difference about question 1

Majors	1) very negative	2) negative	3) positive	4) very positive
English	3	16	87	31
Chinese	4	29	68	10
Japanese	13	29	64	12
χ^2 = 29.068, df = 6, p-value < 0.0001				

There is a statistically significant difference. Although all three majors choose positive answers, especially those who major in English and American culture have chosen "very positive", so they think that multiple majors will have a more positive effect on their future compared to other majors. The following table 10 states shows a departmental difference about question 2 (Do you think it is a burden for you to complete other majors other than your majors under the requirements of compulsory dual majors?).

Table 10. The departmental difference about question 2

Majors	1) very negative	2) negative	3) positive	4) very positive
English	6	34	69	28
Chinese	1	20	69	28
Japanese	3	10	39	66
χ^2 = 43.783, df = 6, p-value < 0.0001				

There are statistically significant differences. Although all three majors choose positive answers, especially those in the department of Japanese Studies have chosen "(4) very positive", so they think that dual majors are more burdensome to them than other majors. The following table 11 is a departmental difference for the third

question, "Have you ever considered dropping out, leaving school, or changing the major due to the requirements of compulsory dual majors?"

Table 11. The departmental difference about question 3

Majors	1) very negative	2) negative	3) positive	4) very positive
English	33	54	43	9
Chinese	15	44	43	9
Japanese	8	28	51	31
χ^2 =43.418, df = 6, p-value < 0.0001				

There are statistically significant differences: the majors in English Language and culture showed relatively many negative responses, while the majors in Japan Studies showed relatively positive responses. Table 12 is the difference between the departments of question 4 (What do you think about abolishing the current regulations and entrusting the student's autonomy to completion of the compulsory dual majors?).

Table 12. The departmental difference about question 4

Majors	1) strongly agree	2) agree	3) disagree	4) strongly disagree
English	67	63	6	1
Chinese	73	36	1	1
Japanese	90	27	1	0
χ^2 = 23.592, df = 6, p-value = 0.0006206				

There is a statistically significant difference: most of the students responded in favor, but the Japanese majors responded with a particularly large response to the "strongly agree". Table 13 examines the difference in the response patterns of students in three majors. Below are the responses to question 1 (Do you think that completing other major courses other than the main major will have a positive effect on your future or post-graduation employment?). The following is the grade difference for question 1.

Table 13. The grade difference for question 1

School Year	1) very negative	2) negative	3) positive	4) very positive
1st	5	22	62	19
2nd	9	26	71	11
3rd	4	18	52	16
4th	2	8	34	7
χ^2 = 6.4319, df = 9, p-value = 0.696				

There is no statistically significant difference. Most students choose to think that they are positive about future or post-graduate employment. The following table

14 shows reponses to question 2 ((Do you think it is a burden for you to complete other majors other than your majors under the requirements of compulsory dual majors?).

Table. 14 The grade difference for question 2

School Year	1) very negative	2) negative	3) positive	4) very positive
1st	2	27	51	28
2nd	2	15	50	50
3rd	5	10	40	35
4th	1	12	26	12
χ^2 = 19.154. df = 9, p-value = 0.02392				

At the significant level of 0.05, there is a statistically significant difference between grades. The second grade seems to be more burdensome than the other grade. The following table 15 shows a response to question 3 (Have you ever considered dropping out, taking a leave of absence, and changing the major due to the combination of two majors?).

Table 15. The grade difference for question 1

School Year	1) very negative	2) negative	3) positive	4) very positive
1st	20	44	38	6
2nd	16	29	52	20
3rd	12	29	29	20
4th	8	24	16	3
χ^2 = 24.455, df = 9, p-value = 0.003637				

There is a statistically significant difference. The first graders choose the most "no" and the second grade chooses "the same", the third grade chooses the positive item, and the fourth grade chooses the negative item. The following table 16 is the difference between the departments of question 4 (What do you think about abolishing the current regulations and entrusting the student's autonomy to the completion of the dual majors?).

Table 16. The grade difference for question 4

School Year	1) strongly agree	2) agree	3) disagree	4) strongly disagree
1st	67	38	3	0
2nd	78	38	1	0
3rd	56	30	2	2
4th	29	20	2	0
χ^2 = 9.0556, df = 9, p-value = 0.4322				

There is no significant difference between groups, and most students want to make autonomous choices regardless of grade level.

The results shown in the tables above showed no statistically significant difference between the question that multiple majors are positive for future employment and the question that students are given dual majors. Most of the students in the three classes expressed the opinion that not only a plural major is needed for the future, but also an autonomous choice rather than a compulsory choice of dual majors. On the other hand, questions about whether they feel burdened by the multiple majors and whether they consider dropping out, leaving school or prior record as multiple majors show that multiple majors are positive for their post-graduation employment but are burdensome. And it can be seen that compulsory dual majors allow more than half of students to think about leaving or dropping out. In the end, students were able to find out through a questionnaire that multiple majors were positive for future employment, but denied compulsory dual majors and wanted autonomous choices. Consider the following findings. First, students in three departments are required to have dual majors for students who are not interested in business administration. Second, students should be allowed to major in dual majors other than business administration by expanding their choice area if they are obliged to major in dual majors. Third, students of the college of humanities who have selected the existing department of business administration without in-depth discussion on the curriculum have disadvantages in completing credits and applying for enrollment. The unreasonable system was operated in which the professors of the business administration gave unfair credit to the students of the humanities majoring in the field of business and business, or gave priority to the students of the business administration in the application for the course of their own course. Fourth, for some foreign interns and employment departments that require intensive foreign language education, the absolute time of language classes is insufficient. The compulsory dual majors in business administration have been over 50% in severe cases after two years of admission to the college of humanities. Table 17 shows the retention rate of students from 2015 to 2018 at the time of admission, which was compulsory for students majoring in English Language and Culture.

Table 17. The retention rate of students from 2015 to 2018

Admission Year	Enrollment Quotas	Number of the Students Enrolled
2018	63	49(77.8%)
2017	59	40(67.8%)
2016	65	65(36.9%)
2015	53	21(39.6%)

Table 17 shows the rate of student departure, which is getting worse as the grade increases in 2015.

IV. Conclusions

This study shows that there are many statistical differences between gender, major, and grade in the course of considering the burden of compulsory dual majors and even dropping out, leaving school, and priors through the response of students to questionnaire 2 and 3. The results of this study suggest that many variables should be considered in the integration or disintegration process of interdisciplinary majors, such as considering students' aptitudes and interests, giving autonomy to major selection, and understanding other majors related to interdisciplinary majors.

Chae Young-hee (2011) argues for the need for interdisciplinary courses in universities. However, it is important to design a new curriculum to cultivate creative talents through interdisciplinary courses, but it is not merely a matter of integration and disintegration of departments, but it should also be accompanied by sufficient discussion and consensus. The social atmosphere of reduction of the number of students enrolled in Korea and of low employment of the humanities is enough to mislead the original spirit of humanities. Rather, the spirit of humanities should penetrate all disciplines through interdisciplinary curriculum, and it should also help the employment efficiency of the humanities. Today, the boundaries of academic fields are broken and the proportion of exposing natural science to social science students and even humanities to engineering students is increasing; moreover, the convergence between humanities and various other disciplines is increasing. A careful approach is needed to ensure that interdisciplinary majors work in a positive way not only in lowering the boundaries of academic fields but also in enhancing diversity.

<Appendix>

Question 5 of the questionnaire (Below are the students' responses to question 5 of the questionnaire)

1. The basic purpose of the compulsory dual majors is good, but the system is too unstable.

2. Some professors in business-related departments do not understand that only the students from the college of humanities have forced dual major disciplines.

3. Other professors discriminate against dual majors in class or assignment.

4. There is a lack of school support.

5. I understand that the employment rate of the college of humanities is low, but I think it is ideal to find improvements within the department.

6. I would like you to increase the number of departments for the multiple majors.

7. We don't have equal conditions in the process of registering for courses.

8. I want to become a local expert by utilizing the main major, and I need to deepen my major rather than another major without interest.

9. For the students in Japanese Studies, it is difficult to study the major properly because of the burden of various graduation conditions such as JLPT.

10. I hope students themselves can choose their own minor/dual majors.

11. It is a wise choice to help with employment and dual majors in tha it is possible to challenge more fields and expand additional specs in times when it is difficult to get a job with English alone.

12. I think I can increase my ability by doing dual majors. I hope that the dual majors will be chosen freely, but not compulsorily.

13. I am under a lot of mental stress due to the dual majors.

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