

A Study on the Educational Issues of Elective Subjects Recognized by High School Teachers

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Abstract

The purpose of this article is to investigate the overall status of various issues related to the management of elective courses in Korean high schools. To this end, the study surveyed 7,338 teachers. Survey questions included the following items according to the CIPP model: Elective planning, elective management, elective impact and effectiveness, curriculum options, subject selection based on student career perception, teacher competency. As a result of this study, teachers responded that school electives were being operated properly. In particular, the teacher recognized that the process-oriented evaluation was being performed properly. On the other hand, the degree of satisfaction related to the environment for the operation of elective courses was relatively low. Based on these results, this study presented a proposal to properly manage the elective curriculum..

Keywords: Elective courses, curriculum, Korean curriculum, high school, elective curriculum

Introduction

The future society is changing and future education needs to change. In the past, knowledge was not as vast as it is now, so what students need to learn in school might be able to be learned in a few specific subjects. However, in the era of the Fourth Industrial Revolution, when the validity of knowledge becomes shorter, it is not suitable for the students to take certain subjects.

To prepare for the era of the 4th industrial revolution, various education policies are established and implemented to improve school education. The most influential move in high school among such policies in Korea will be the expansion of elective courses. The 2015 curriculum, which is a recent revision of the curriculum in Korea, recommends a variety of subject choices considering students' aptitude and career. Examining how the documented 2015 curriculum operates on school grounds should be supported by educational policies.

Looking at previous studies related to high school selection, there have been studies linking high school vocational and technical education (CTE) courses to high school academic achievement [1],[2],[3],[4]. However, there were not many studies on subject decision in high school students. When deciding on elective courses, high school students were rated as less independent than university students [5]. Meanwhile, students chose the course for the appropriate reasons related to ability, interests and passion. However, in high school classes, the curriculum planning guide had little effect on course selection [6].

Systematically grasping the degree of satisfaction in subject selection in high school will be a prerequisite for establishing policies related to the expansion of student subject choice. As the issues surrounding subject selection arise from various aspects such as planning, execution, results, and various conditions, it is necessary to classify the issues for each aspect to investigate more rigorous student subject options.

2. RESEARCH METHOD

2.1. SURVEY OVERVIEW

The survey was conducted using the Google survey system. The survey participants were 7,338 teachers. The questionnaire developed by the researchers was reviewed by university research experts, curriculum experts, and high school teachers, and was finalized after two pilot tests. After registering the confirmed questionnaire in the online survey system, the Ministry of Education and the metropolitan and provincial offices of education sent an official survey questionnaire to schools nationwide to conduct an online survey. The online survey is designed to be available for both PC and mobile using the Google online survey system for the convenience of respondents. The survey period lasted 17 days from November 11, 2019 to November 27, 2019.

2.2. RESEARCH TOOL DEVELOPMENT

The survey tool was structured as a CIPP model.

Table I. Survey Structure

Area			Main questionnaire
	CIPP	Stages	
Instruction	input (I)	Plan	Information on the completion process according to experience and aptitude Information on elective subjects: teaching, learning and evaluation guidance, etc. Status of subjects considering student demand
	process (P)	Operation	Contents: Consistency between the instructions of the selected subject and the actual class Method: Whether it is conducted in a suitable way, such as student participation such as projects, discussions, discussions, cooperation, activities, and cooperation-oriented classes
	Product(P)	Evaluation and Feedback	Appropriate evaluation such as process-oriented evaluation Assessment of the linkage between elective courses and career design
Infrastructure	Context(C)	Curriculum	To provide practical course options: Consideration of student demand, consideration of students who decide to go to college or not, etc. Various credit recognition policies such as community connection and learning experience outside school
		Teachers	Improving teacher awareness and strengthening competencies related to the operation of elective courses Strengthen class and evaluation expertise
		Students	Strengthen students' academic design capabilities
		School	Strengthen principal leadership and build consensus among members Organization and division of duties for the operation of elective courses
		Infra	Human Aspect: Securing manpower in charge of various elective courses Physical aspects: school space restructuring, etc. Others: Advancement of administrative system, etc.

Through the development process, the final questionnaire was used as a survey tool. The survey tool for teachers consisted of 40 questions, including questions related to the background of respondents. The reliability of the survey tool (Cronbach α) was .952. Table 2 shows the composition and question items of the specific survey tool.

Table II. Question Items

Area	Number	Contents
Respondent background	1~7	School type, area, location size, number of classes, career, grade in charge, subject in charge
Electives Operation Status	8	subjects of teachers
	9	The importance of factors for organizing and operating elective courses
	10~14	Status of School Electives
	15~18	Teachers' Elective Course Status
	19~23	Elective Course Evaluation and Feedback
	24~27	Elective-related matters (Curriculum)
	28~32	Elective-related matters (members)
	33~36	Elective-related matters (infrastructure)
perception of electives	37~38	Students' perception of electives
	39~40	Teacher's perception of electives
Other opinion	41	Overall opinion on the electives

2.3. INVESTIGATION

The survey target was limited to high schools operated by elective courses. The subjects finally analyzed in this study are as follows.

Table III. Analysis Target

Categories		frequency	percentage
School type	General High School	5,553	75.7
	Autonomous high schools (autonomous private high schools, autonomous public high schools)	407	5.5
	Special high school (external high school, international high school, science high school, art high school, physical education high school, Meister high school, etc.)	352	4.8
	Specialized high schools (vocational high schools, alternative high schools, etc.)	1,014	13.8
	Other schools (gifted schools, etc.)	5	0.1
	Other	7	0.1
area	Metropolitan area	4,096	55.8
	Gangwon	244	3.3
	Chungcheong	690	9.4
	Honam	472	6.4
	Yeongnam	1,836	25.0
scale	big city	2,831	38.6
	Small and medium city	3,161	43.1

	Town area	1,346	18.3
Number of classes	Less than 10 class	726	9.9
	More than 10 classes ~ less than 20 classes	1,454	19.8
	20 classes or more ~ less than 30 students	2,194	29.9
	30 classes or more	2,964	40.4
Teaching career	Less than 10 years	2,548	34.7
	10 years or more to less than 20 years	2,327	31.7
	20 years to 30 years	1,534	20.9
	More than 30 years	929	12.7
Summary		7,338	100.0

3. RESULTS

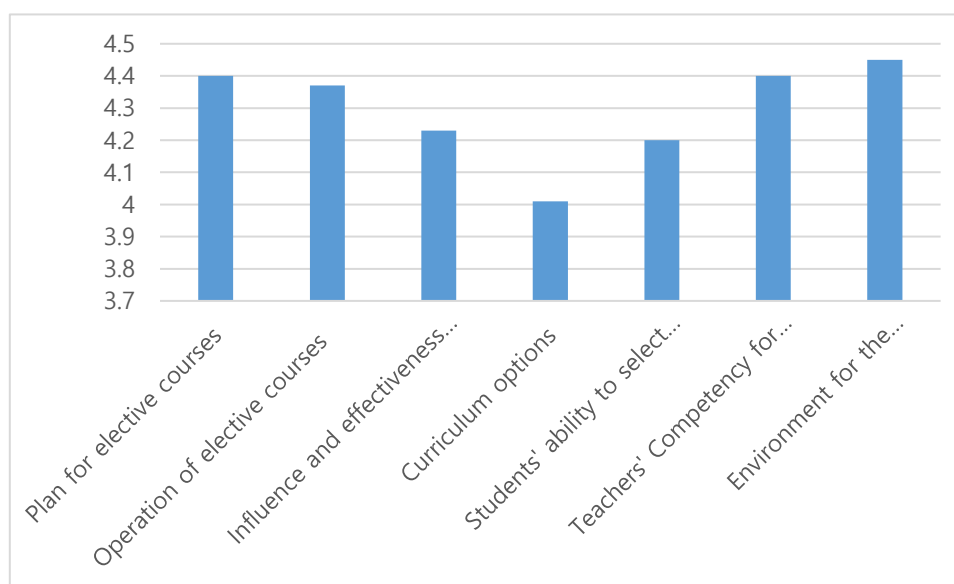
The following results are teachers' answers to the importance of the 7 elements to organizing and running a successful elective. Teachers answered that all seven factors were important. Among the seven factors, the most important response factor was the environment (e.g., infrastructure, home base, etc.). On the other hand, the relatively low importance was about whether the elective subjects were general or career options.

Table IV. Importance By Factors For Successful Elective Organization And Operation

Categories		value	percentage
How important do you think the following factors are in order to organize and operate a successful elective course?	Plan for elective courses	4.40	0.864
	Operation of elective courses	4.37	0.854
	Influence and effectiveness of elective courses	4.23	0.926
	Curriculum options (General choice, career choice)	4.01	1.022
	Students' ability to select subjects according to career recognition	4.20	0.928
	Teachers' Competency for the Management of Elective Courses	4.40	0.803
	Environment for the operation of elective courses (Infrastructure, home base, etc.)	4.45	0.822

The questionnaire used the Likert scale, and each value was measured as follows (not at all: 1, not: 2, moderate: 3, yes: 4, very yes: 5). The following is a graph

Fig. 1 Graph of The Degree of Importance Perceived by Teachers



The following are the results of the average and standard deviation of the 5-point scale for the satisfaction analysis of teacher-recognized elective subjects. In the response to each question, the answer with the highest average value was the process-oriented evaluation ($m = 4.16$). On the other hand, the lowest average value of responses is for the space required for elective course management ($m = 3.10$).

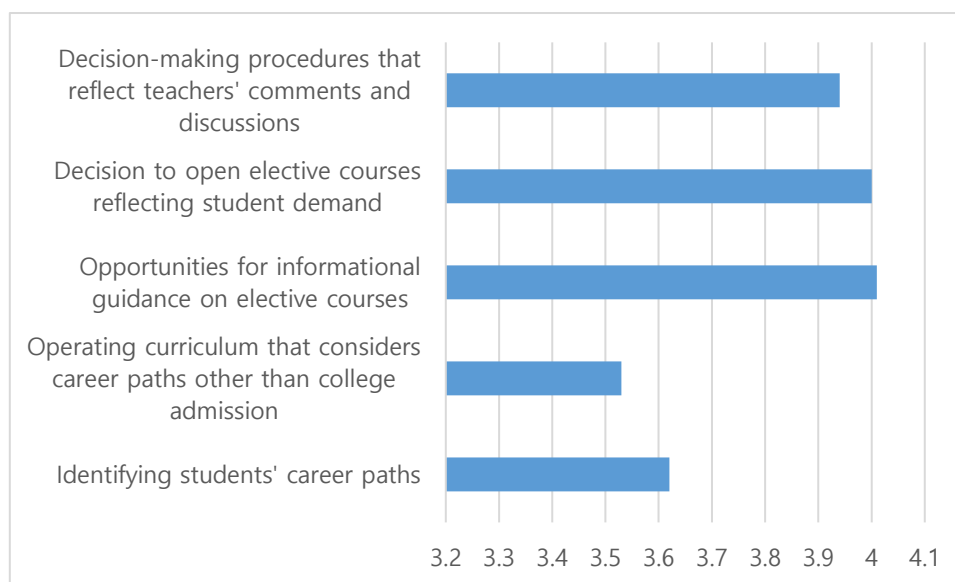
Table V. Average values of responses by teachers' questions

Categories		medium	SD
Status of School Electives	Identifying students' career paths	3.62	0.990
	Operating curriculum that considers career paths other than college admission	3.53	1.126
	Opportunities for informational guidance on elective courses	4.01	0.981
	Decision to open elective courses reflecting student demand	4.00	0.996
	Decision-making procedures that reflect teachers' comments and discussions	3.94	1.029
Teachers' Elective Course Status	Details of the information provided for the elective courses	3.91	0.951
	Class management appropriate for guidance of elective subjects	4.04	0.860
	Classes faithful to taking elective courses	4.02	0.867
	Various teaching methods	3.98	0.893
Elective Course Evaluation and Feedback	Process-oriented evaluation	4.16	0.808
	Appropriate class evaluation	4.05	0.837
	Improving students' academic understanding	4.04	0.863
	Improving the aptitude and career of students	3.77	1.007
	Career design	3.85	0.984
Elective-related matters (Curriculum)	Efforts to open a small number of students (13 or fewer)	3.66	1.177
	Efforts to open subjects from 14 to 50 students	4.03	1.004
	Elective subject management considering career paths other than university admission	3.26	1.225
	Support for the operation and participation of joint training courses between schools	3.80	1.216
Elective-related	Organizing elective courses considering teachers' competency	3.79	1.049
	Strengthen expertise for elective courses	3.95	0.948

matters (members)	Support for course selection and career design	3.93	0.958
	Active communication between members of the principal	3.78	1.067
	Organization of division	3.63	1.086
Elective- related matters (infrastructure)	Securing personnel in charge of elective courses	3.30	1.169
	Space required for elective courses	3.10	1.229
	Budget required to run elective courses	3.16	1.135
	Support from the Ministry of Education or the Metropolitan / Province Office of Education	3.11	1.133
Comprehensive performance		3.76	-

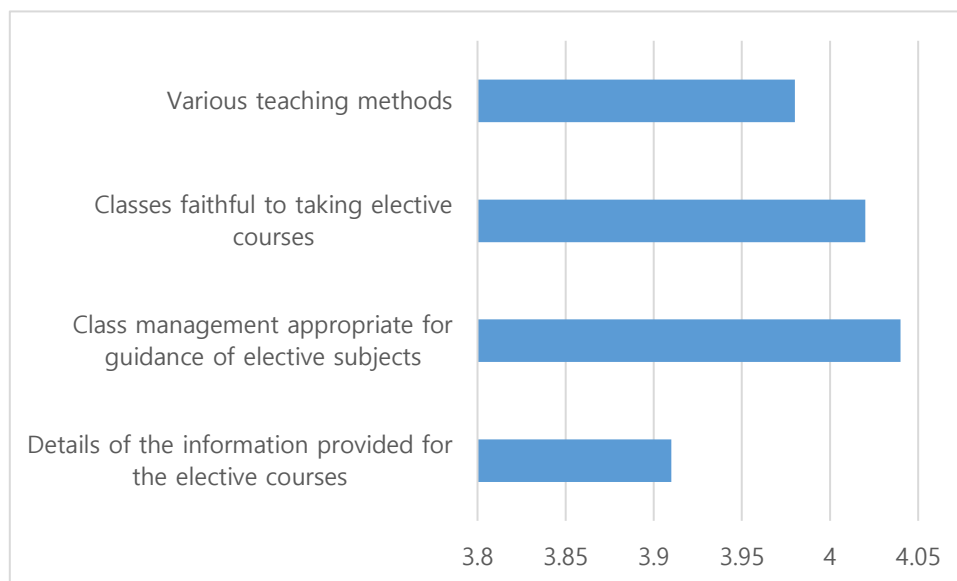
The above table was analyzed by area. First, the current status of school elective subjects was analyzed. Teachers responded that they were doing well in the elective course guide (4.01). On the other hand, they answered that it was difficult to guide students' career paths (3.62).

Fig. 2 Status of School Electives Analysis Graph



The following is the result of the response to how satisfied the teachers' roles were.

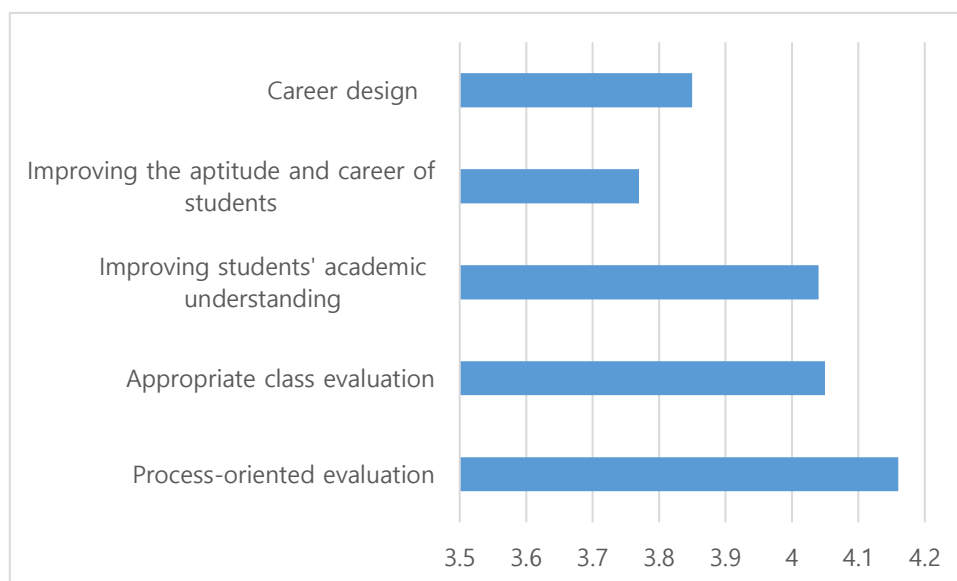
Fig. 3 Teachers' Roles Analysis Graph



Teachers reported that they manage instruction better when teaching elective subjects (4.04). In addition, they answered that the classes were being operated more faithfully (4.02). They responded that they used a variety of teaching methods in their elective subjects (3.98) and provided detailed information (3.91).

The following is the result of the response to the evaluation and feedback.

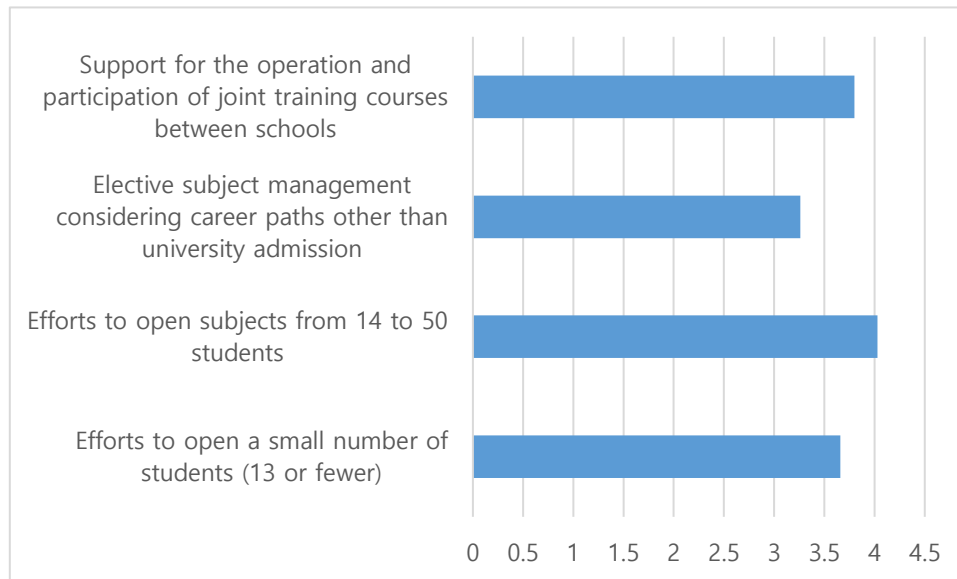
Fig. 4 Evaluation and Feedback Analysis Graph



Teachers reported that course-based evaluation was well performed in elective subjects (4.16). They also replied that an appropriate evaluation method was being carried out (4.05). They responded that students' academic comprehension was improved through elective courses (4.04). On the other hand, the response that they helped the career guidance well was 3.85, and the response that it improved the career ability of students was 3.77.

The following is the result of responses to issues related to the curriculum.

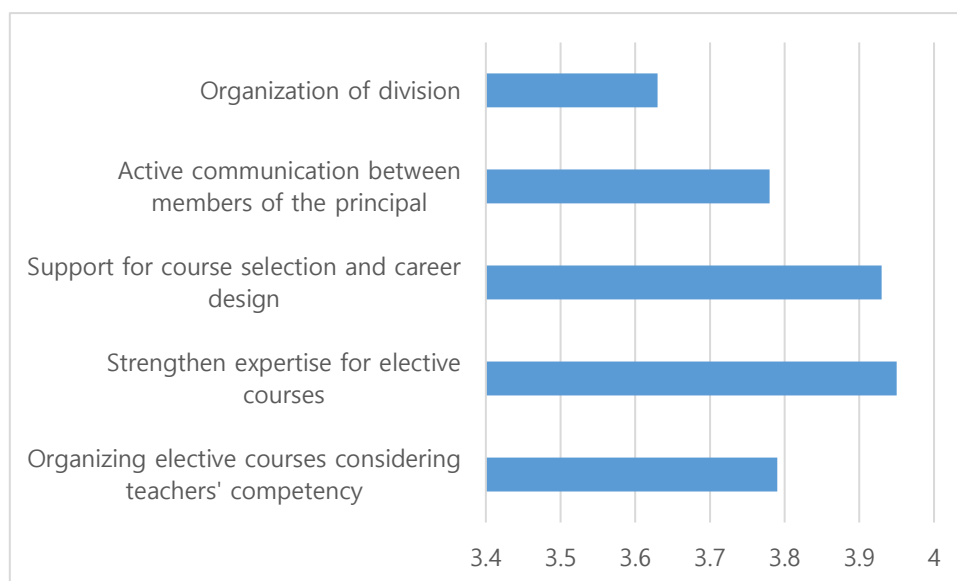
Fig. 5 Curriculum Related Issues Analysis Graph



Teachers responded that their efforts to establish elective classes of 14 to 60 students were outstanding (4.03). However, efforts to open elective courses with less than 13 students were relatively insufficient (3.66). On the other hand, the effort to open subjects less related to college entrance was 3.26. Efforts to open or apply for courses linked to other schools were 3.8.

The following is the result of responses to issues related to teacher members.

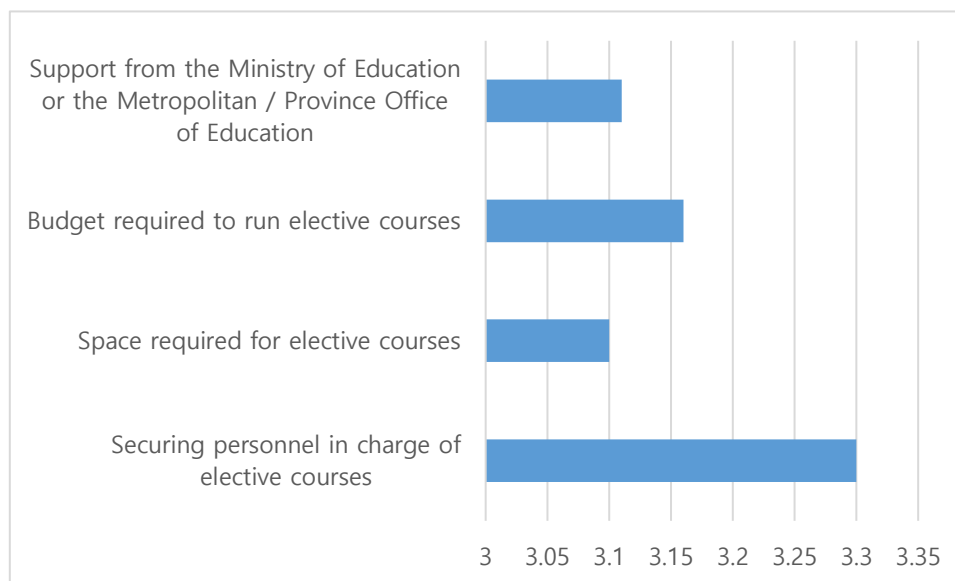
Fig.6. Members Related Issues Analysis Graph



Teachers responded that they are making efforts to increase their expertise for elective courses (3.95). They responded that they were receiving adequate support for elective courses. (3.93). In addition, they responded that elective courses taking into account the capabilities of teachers were organized (3.79), and that they were actively communicating with each other (3.78). On the other hand, the response that the organization's role has been aligned was 3.63.

The following is the result of responses to issues related to infrastructure.

Fig. 7 Infrastructure Related Issues Analysis Graph



Teachers responded that the support related to student safety during elective courses was moderate (3.30). The budget and support from the Office of Education were also moderate (3.16, 3.11). The lowest answer among all questions was enough space for elective courses (3.10). Overall, the responses related to infrastructure were found to be significantly lower than in other areas.

4. CONCLUSION

In the future society, convergent research needs to be developed in various ways. In particular, issues related to education require interdisciplinary research in various countries. From this perspective, convergence studies related to education are preceded [7], [8], [9]. There are also studies conducted in a similar context to this study [10]. This study investigated the satisfaction of teachers related to the management of elective courses. Regarding the management of electives in the school, teachers responded positively by 50% or more to all questions. In particular, it was found that students' needs were reflected at the beginning of elective courses. On the other hand, courses related to students' careers were relatively poor.

Meanwhile, over 70% of teachers responded positively to whether their electives were properly managed. In particular, the research results showed that teachers are using the guidelines appropriately. When it comes to ratings and feedback, teachers respond positively by over 60% to all questions. As a result of the research, it can be seen that assessments centered on the student's learning process are well used.

The teacher said that the elective courses were adequately operated for students who decided on a career outside of college. At the request of students, the most frequently held courses ranged between 14-50 students. Nevertheless, the results of this response were not relatively high compared to other questions. Teachers have tried to strengthen their expertise in managing electives, and they have found that this requires active support from the school.

Satisfaction with the environment was relatively low. In particular, there was a lack of educational space. Teachers recognized the need to secure more classrooms to run elective courses. For this, the budget must be supported. In addition, it is necessary to come up with various ideas that can effectively utilize the structure of schools.

In most countries, college curriculum is structured around electives excluding majors. However, the context of the high school curriculum varies from country to country. In Korea, students can choose and take other courses except for some required courses. Institutionally, students can choose from a variety of subjects and can even offer courses of their choice. However, unlike an education system that guarantees student choice, students are often unable to select subjects in actual situations. The reasons are that country-centered curriculums have existed for a long time and

country-centered exams exist. Certain basic subjects have continued to be emphasized and recognized as important for effective education.

Recently, the Ministry of Education recommends that students take various courses to prepare for the future society. To this end, the university admissions system also takes into consideration what topics the student has completed. In particular, in Korea, where the university admission rate is high, the university admission system has a great influence on student choices. In other words, it is necessary to continuously manage the university admission system in order to expand student options.

Ultimately, there is a need to shift perceptions to give students more freedom to choose subjects. Of course, it is true that basic subjects are important, but it is necessary to form a consensus that students should choose subjects that more consider their career paths. In addition, sufficient conditions are required to expand the selection of subjects. As the results of this study show, there are currently insufficient classroom conditions to offer a variety of subjects. Various methods have to be devised to solve this problem. In particular, it is necessary to find a way to effectively promote joint curriculum management between schools. It is also possible to consider ways to secure the diversity of courses by using online courses that reflect recent social trends. Through these efforts, students will ultimately be able to receive education that is more appropriate to their aptitude and career path.

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