

Abstract

## Future Plans for the Improvement of College Admission System

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The purpose of this study was to design a College Entrance System(CES) in accordance with the direction of future education predicted according to the changes in future society and to derive improvement of the current Entrance system accordingly. First, for this, the transition process of Korea's CES was analyzed and current status of it was diagnosed, second, the direction of future education was examined through according to the prospect of future society and implication of CES was analyzed, third, the implication was derived by examining trends of reformation in UK Japan and China. Fourth, in order to perform cognitive analysis for CES 1) Trend Big Data Analysis and Newspaper Editorial Analysis related to CES, 2) Focus Group Interview and Semantic Network Analysis of stakeholders in CES, 3) analysis of In-depth Interview with professional groups in CES, 4) Survey of professionals were implemented. Fifth, the scenario of future CES was

derived regarding the change of future society and educational system using the scenario method. Sixth, the results of this study were summarized and suggested middle and long-term improvement plans such as the basic principles, directions, prerequisites, factors of tracks and methods of tracks, time of tracks, governance etc. in order to link high school education-college entrance-college education organically.

The main implications of CES of future by main results of a study by contents are as follows.

#### ■ Transition process and diagnosis status of college entrance system

The college entrance system(CES) in Korea has undergone frequent changes, has focused on changes in achievement evaluation methods, especially marking methods more than a fundamental change of school education. Also, the expansion of private education market has been followed in the process that the government is in the center and initiative competition of college and school is unfolded for the institutional environment of college entrance. In that, private education companies that have capital and technology have formed a market advantage even if the government presents a college admission track system, and this process of vicious cycle leading to institutional change for problem improvement has been unfolded. Also, in the process of the reform of the CES, creating conditions of success after reform was not cared compared to much effort put into system design. Current CES has several problems. First, it hasn't led high school education normalization and it still has validity problem in the process of college entrance tracks. Students and their parents' anxiety and their dependence on private education are increasing due to frequent change of admission system. Recently, there is a problem of securing fairness around the Comprehensive School Report track for college entrance.

Therefore, it is important to find a desirable form to restore the essential value of education, rather than concentrating on how the form of the system simply changes. And

the changes in high schools and colleges considering this and social agreement and high level of discussion about it should be done concurrently.

■ Analysis of student's college achievement by type of college entrance

Since 2014, focusing on 'High School Education Contribution College Support Project' college participants, the result of the study was disclosed to confirm the degree of adaptation of students admitted through the admission officer track, currently, 96 longitudinal studies of 54 colleges in total have been posted. There are 7 universities that posted it 3 years in a row, the subject, scope, and the content of the study is different depending on the demanding of the university or the judgment of the study supervisor because its items are not standardized.

As a result of examining the GPA, dropout rate, and university life satisfaction as the result of college life achievement, the highest GPA was among students of Curriculum School Report track, followed by Comprehensive School Report track, Essay Writing track, Scholastic Ability track. When classifying as criminal discharge and withdrawal and expulsion as a dropout, the highest dropout rate was among the students of Scholastic Ability test track, followed by Curriculum School Report track, Essay Writing track, and Comprehensive School Report track in order. In general, the highest satisfaction rate was among the student of Comprehensive School Report track, followed by Curriculum School Report track, Scholastic Ability test track, and Essay Writing track in order.

■ Direction of Future Education Based on Prospect of Change in Future Society

○ Prospect of Change in Future Society

Future societies are prospected to have major impacts on population structure, economic and industrial structure, changes in social and cultural aspects, the development of

knowledge-based society and development of science and information technology, and it is expected to affect the CES. First, the changes in population structure, especially the decline in the schooling population, will be affected by the decrease in the absolute number of matriculant resources, which will alleviate competition for college admissions, while colleges will be divided into colleges that can select freshmen and colleges with priority in recruitment. Second, as the number of diverse admission resources is expected to increase, efforts to secure them efficiently will increase. Third, as the realization of the 4th industrial revolution, the rapid change of science and technology has become a reality, and the ability to utilize knowledge with creativity in practice will be demanded, so school education for enhancing it will be more emphasized and student selection criteria at university will be changed to competency measurement centered. Fourth, as economic growth slows and economic polarization worsens, the social integration function of education will be emphasized more than now in order to mitigate the educational gap caused by income gap. Therefore, consideration for the neglected class will be maintained continuously.

### ○ Primary and Secondary Education in Future Society

The implications for future CES was suggested after examining through aspects of changes in the concept of future human resources and educational goals, changes in educational governance and educational system, changes in the role of primary and secondary schools and curriculum and educational evaluation. First, future primary and secondary school education will change in a way that students' choices are strengthened in terms of school types and curriculum than they are today. In this change, students will be able to customize curriculum and evaluation. In future college entrance, competition will occur among students who have studied different contents, so the way to identify students' diverse interests and histories will be important. Second, the core competencies are set in the future and the concept of future human resources will be

set and the competency centered curriculum that can be used in real life rather than the total amount of knowledge or memorizing courses will be introduced and operated. Therefore, the process-based performance evaluation will be extended and evaluation will be perceived as a process of learning so as to comprehensively assess individual competence, creativity, potential, personality, etc. breaking evaluation method based on written test. Third, when the high school credit system is introduced, if the score of the curriculum is calculated by the absolute evaluation method, problems such as inflation can occur. However, if different evaluation methods are applied to each subject and grade, the indigenous purpose of the credit system can be damaged. Therefore, in addition to the student report, it is necessary to use supplementary components such as college scholastic ability tests and interviews. Fourth, the importance of qualitative evaluation is emphasized as the process-centered performance evaluation on the premise of the change of courses is expanded. Therefore, in order to secure the evaluation competence and professionalism of teachers, efforts should be made to improve the objectivity and reliability of evaluation such as customized training and website construction for information sharing and efforts to raise awareness of change of evaluation methods of parents, etc.

### ○ High School Education in Future Society

For future higher education changes in the future society, we examined at the concept of future human resources, the goals of future universities and higher education, the method of selecting students connected with the concept of human resources, the status and functions of specialization of universities, and the actual status of cooperation between universities. First, as the social perspective on human resources will change and the number of the student will decrease, enhancing the value of each individual students as human resources and the recognition of their values. Therefore, the function of college entrance needs to be reestablished with a focus on educational functions from the

viewpoint of high school–college linkage to provide high–quality education to students with basic literacy rather than students’ selection ability. Second, as the specialization of college accelerates, it will strengthen the Occasional Recruiting centering around the Comprehensive School Report track that set up the concepts of students of the department and select suitable students accordingly. Third, as the elderly population increases and demand changes in the labor market, the status of the university as a lifelong education institution is expected to increase, and as the resource of matriculants become diversified, a method of college entrance tracks should be devised. Fourth, the burden of the college entrance is expected to be lower than the now because the openness of college has been increasing such as management of module typed semester and introduction of flexible semester system, focused learning system, permit to acquire dual degree among domestic universities are increasing, which can make people go college when they need and transfer college freely, avoiding stereotype to go prestigious college in specific time.

#### ■ Trend analysis in the reform of college entrance system in other countries

As the recent trends in UK, Japan, and China’s college entrance system(CES) reforms have been examined, the admission process has been becoming more diverse. In the case of the United Kingdom, which has already diversified its college entrance, it is trying to diversify the types of certificates so as to include not only knowledge but also technical certificates. And in the case of Japan, since the university flows into the atmosphere to promote independence in the selection of students, it has been inducing multifaceted efforts to select the human resources needed by the college. In the case of China, as General Talent Assessment has been implemented as a demonstration, the system has been reformed in order to measure diverse abilities of students by going beyond the conventional written test. The implications can be drawn and summarized as follows after examining the reform trend of the CES in other countries. First, students’ comprehensive abilities are trying to be judged rather than just measuring their knowledge. Second, diversifying

admission tracks has been proceeding in trend in order to measure diverse abilities of students. Third, on the national standardized test, test questions such as multiple choice are no longer used. Fourth, as the diversification of admission tracks is a global trend, it is necessary to re-summarize the concept of fairness in admission to colleges in Korea. Fifth, there is a need to think more deeply about common knowledge which is used for college entrance. Sixth, Korea can be seen as the country of responding to the future society preemptively.

#### ■ Analysis of Recognition of College Admission System

The following four analyses were implemented to analyze the perception of the college entrance system(CES), in that, to analyze various thinking frames, requirements, and prospects related to the CES.

#### ○ Analysis of Trends Big Data and Newspaper Editorial

As a result of analyzing Trend Big Data using the information of search volume of Google Trend for five years in order to examine changes in the CES, it is analyzed that the interest in the CES has been maintained steadily. The characteristics were found that the search volume of Scholastic Ability test was increased in the period of Scholastic Ability test, and the interest in School Report track has been increased obviously in recent three years since Comprehensive School Report track has been expanded. As a result of topic modeling analysis in order to analyze the main issues of the CES in the media, 406 newspaper articles from 15 major newspapers and business magazines over past 5 years were collected and Text Big Data Analytics like Keyword Analysis and Topic Modeling Analysis has been implemented, it was found the keywords about Scholastic Ability Test were frequently and importantly used and the number of keywords about Scholastic Ability Test was the biggest among 15 topics extracted, so the main media in Korea were analyzed that they were mainly interested in the Scholastic Ability Test.

The burden and interest that Korean society has on the change of CES were found, the expectation of CES and the discussion for future direction appeared as topics, but they were not enough. Especially, in order to improve the desirable CES and to create relevant conditions, the social and public debate should be activated and opinions should be collected and shared.

### ○ Analysis of the Semantic Network Analysis of the College Entrance System

The Semantic Network Analysis with Focus Group Interview was implemented in order to understand the status of College Entrance policy for stakeholder groups of the CES and derive improvement plan to design future-oriented CES. As a result of the analysis, problems relevant to two current CES and improvement plan were derived. First, most of the stakeholder groups in the CES recognized Comprehensive School Report track as a valid College Entrance method in creative and plural student selection perspective, however, the opinion was suggested that the improvement was needed in order to secure the social trust in the aspect of management. Second, the influence and question form of College Scholastic Ability Test in current College Entrance has been pointed out as main factors that hinder the change of school field and normalization of public education. However, in the long run, as the number of students has been decreased, the competition for College Entrance has been eased, the opinion that Scholastic Ability Test should function as a scale to judge academic ability in college was prevalent. In order to solve the problem of this short-term CES and to improve one toward middle-long term one, establishing a future-oriented learning environment and evaluation system in secondary education to operate it properly is important. Also, in the long term, recognizing the intersubjectivity of qualitative evaluation in College Entrance and putting the higher education institution as a non-linear and pluralistic system are important. For this, the desirable qualitative change of the university such as the change of social recognition from the mitigation of current uniform university ranking system and reinforcement of university specialization should be preceded.

### ○ Analysis of In-depth Interview

Keyword Analysis and Topic Modeling Analysis that were the methods of Text Big Data Analysis were implemented in order to structuralize in-depth interview by implementation and securement of Focus Group Interview of professionals in CES for exploring the direction of change by each component of future CES. As a result of classifying the 15 extracted topics in consideration of similarity of content and discussion, there were five content items such as track related system and obstacle factor, the content of tracks, the form and structure of tracks, what is College Entrance in College's perspectives and the value and efficacy of College Entrance. Through this, the contents of In-Depth interview has been handling with general topics such as components of contents about future CES, factors of relevant disabilities, management structure and characteristics, principles and value was found, and in order to grasp more detail content and context, the Multi-dimensional Educational Policy Analysis model of Cooper et al. (2004) was applied to induce points in structure, technology, member, norm dimensions and discussed the plan for designing future CES.

First of all, discussions on strengthening the normalization of high school and re-justification the concept of fairness appeared characteristically.

On the structural dimension, according to the characteristics of the college, the components of tracks are going to change, the function of lifelong education of colleges will be strengthened and College Entrance Method will change by the specialization of colleges and reinforcement of the linkage among colleges. In high school education, the autonomy of high school curriculum development and evaluation, change of assessment method, and implementation of High School Credit System were suggested as positive changes. In the factors of tracks perspectives, the form change to the essay test in Scholastic Ability Test or qualification test, the CES reflected social needs in essay writing ability of students, implementation of Standard-based Assessment, enrichment of School Life Record were suggested. A random selection system in College Entrance for some

colleges with recruiting purposes was suggested as one of future track methods, the current status of College Entrance governance and expectations of change were suggested as well.

At the member dimensions, the future university should change in direction to resolve that the culture emphasizes hierarchical orders in College Selection and different perspectives between professors and Admission Officer in student selection perspective, and unstable position of Admission Officer. And if the selfishness and structure of consciousness don't change, stable and desirable College Entrance will not be operated in the future as well.

On the technical side, the current Comprehensive School Record track has influenced positively in order to normalize high school education, however, the problems about fairness and objectivity of evaluation has been indicated such as disparity of the description according to teachers or schools in actual operation, excessive expression and amount of description, etc, so securement of trust has been suggested as an improvement plan in order to solve them.

#### ○ **Analysis of questionnaire survey on relevant experts' in future College Entrance System**

In order to collect the opinion of the experts on the change direction of specific components of the future CES, the survey has been implemented on Admission Director and Admission Officer in general college. As a result, the increased professionalism of the Admission Officer and trust in the evaluation were main conditions for a desirable change of future CES. And in high school education, the expansion of the teacher's right to evaluation and trust in the qualitative evaluation, and in College Entrance governance, college's autonomy of student selection and recruitment have the biggest influence.

Among the principles of the future CES, both the present and the future have high fairness, when analyzing the difference between the present and future importance, the principle of the higher importance of future is the only validity of selection. The

normalization of public education has been chosen as a principle that is important in current CES.

Factors that showed the high importance of present and future, as well as high level of future competence as factors of track in future College Entrance, detailed track of the School Life Record items, In-depth interview, etc. which have shown to have high possibility to be used in the future as well.

This result implied that restoration of trust for the future CES is the urgent need and that based on this, people are expecting a high valid selection for students' competence and college suitability. In the end, the future CES should be able to induce desirable changes not only for students but also high schools and colleges by operating an individualized CES that respects students as a prerequisite.

#### ■ Analysis scenario of future College Entrance System

Scenario Analysis has been based on methodology tried in general social-science field in order to grasp the situation that may come in the future, as an exploratory-normative way of approach. This study proceeded in two steps of grasping factors impacting future College Entrance and inducing final scenario through extracted factors. The Wilson metrics method and morphological analysis were utilized in the scenario derivation process, and the derived scenarios were validated through the professional review process. Induced scenarios in final were three; 'Selecting a student based on learner autonomy', 'Competition-based CES supervised by central government', and 'Noncompetitive based central government-led student customized placement system'.

#### ■ Comprehensive Plan for Future College Entrance System

The result of this study are aggregated and suggested the improvement plans of future College Entrance System(CES) as follows.

First, as the principle and values of the CES, securing real fairness beyond the existing frame of fairness, CES with the top priority of student growth and development, strengthening autonomy related to college entrance and strengthening the linkage between high school–college(normalization of public education) were suggested.

Second, focusing on settlement rather than the planning and design of the CES as a basis for the operation of the future CES, change of the curriculum system, restoration of the professionalism of the teacher, creation of cooperative governance, relaxation of the hierarchy of college ranking and functional specialization were suggested.

Third, as the improved method for each component of the CES, the precondition in the secondary education step and higher education step for the future CES operation were suggested. Also, as components of College Entrance track, current pros and cons of high school data such as School Life Report, a letter of self–introduction, teacher recommendation, and country data such as Scholastic Ability Test were grasped and examined if each component was proper data for the track to measure the ability of the future society.

Based on these results, School Life Record, Interview, Scholastic Ability Test I, II were suggested. And School Life Report is used as the main track component, interview, Scholastic Ability Test I (High School Achievement Evaluation, 5 Grade Absolute Evaluation, Multiple choice + Short Answer + Essay Type), Scholastic Ability Test II (Learning Competency Evaluation, 5 Grade Absolute Evaluation, Essay Type) were suggested as supportive components of track.

And in the case of the group that is difficult to utilize the school records as a main components(high school qualification exam takers, repetitive candidates), Using Scholastic Ability Test I and II together or combining Scholastic Ability Test and text type interview are needed to consider, however, adults and elderly learners and employees are suggested to use career experience relevant field of study and major they are applying and to use interview instead.

Meanwhile, in the classification of the recruitment period, as the premise that College Scholastic Ability Test is not important as a single selection component in the admission system, two components system with Occasional-Regular Admissions will be combined and it is suggested to divide into first and second period, such as a method to put the first from October to November and the second from December to February or combining two periods as one without separation. In order to solve the problems related to the College Entrance governance, such as confusion of College Entrance related-work assignment between the Ministry of Education and the Korean Council for University Education, the method to combine them and install one as the third independent organization was suggested the solution to delegate important decision-making about curriculum and College Entrance.

Keyword : College Entrance System, Principle and Value, Factor of Track, College Entrance Governance, Semantic Network Analysis, Text Big Data Analysis, Scenario Analysis, Future College Entrance System