

## Abstract

# 2016 KEDI Survey Research on Student Competencies

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The purpose of this study is to examine the competencies of the students from K-16 and build a five-year-long research plan based on the current results of the survey. This study develops Student Competency Index(SCI) and analyzes the SCI data for seeking the variables which influence the student competencies. Furthermore, this study provides the fundamental information on building the national education policy for improving the student competencies.

Chapter II investigates relevant theories for the development of SCI, and examined family·school variables that would affect the student competencies. Based on the previous research, the researchers construct a research model and select variables for analysis of SCI and affective variables of student competencies.

As this five-year-long research project 'Survey Research on Student Competencies' has started conducting the first year survey, the researchers collected data on 25,257 students from 239 elementary schools, middle schools, and high schools through K-16. For a computation of SCI, this research goes through the following procedures: ① computing sampling weight for estimated population, ② development of a vertical scale for the questionnaires on verbal and mathematical thinking and score scaling, ③ normalization of each student's competency indicator score, ④ calculation of the weight

of each student competency indicators using AHP method, ⑤weighting adjustment and computing Student Competency Index.

Chapter III provides the analysis of the items fit for the verbal and mathematical thinking questionnaires and presents a developed vertical scale for a comparison at the school level and grade level. Besides, the overall procedure on the development of student competency index is presented in Chapter I.

In Chapter IV, the results of basic analysis and profile analysis are presented based on the calculated student competency index.

First, the basic analysis results are displayed by the education levels and school types. The student competency index score appears to be the highest at elementary school level, and high school level, middle school level followed by accordingly. Moreover, the score varies by the types of high school. The high competence score is inspected in the order of special-purpose high school, autonomous high school, general high school, and specialized vocational high school. Interestingly, the competence level of the specialized vocational high school seems to be lower than that of elementary and middle schools in all areas.

Secondly, the researchers analyze the data by the education level. The declination of competency score is observed at the middle school level, and the score increases slightly at the 1st grades of high school(K-10). However, the score drops again at the 2nd grades of high school(K-11). On the other hand, the level of creative thinking competence tends to increase as the grade level rises, and the communication competence shows no difference by grade level.

In the gender analysis, female students show greater competence in all spheres, especially in self-management competence and creative thinking competence among the sub-domain competencies.

Besides, the higher the household economic level, the higher the students' competency level. The competence level of the students in the rural communities tends to be relatively lower than those in urban areas.

In the comparable analysis among the sub-domain of the student competency, students from all education levels have excellent aesthetic emotional competence,

followed by self-management competence and communication competence at elementary school level, and communication competence at middle and high school level. However, at all education levels, creative thinking competence is insufficient, and community competence is relatively low compared to other competencies. All high school students, regardless of high school type, have excellent aesthetic emotional competence and communication competence. However, the results indicate the competence of creative thinking is relatively weak in general high school, autonomous high school, and specialized vocational high school. The special-purpose high school shows relatively low score in community competence.

The results of the analysis of the students' profile display that students in Korea have great communication and community competencies, however, they lack creative thinking competence in common. The analysis by school types reveals differences among the schools. Students from elementary school, middle school, general high school, autonomous high school, and specialized vocational high school lack an aesthetic emotional competence but have a high self-management competence and knowledge and information processing competence. Additionally, special-purpose high school students exhibit a low level of competence in self-management and knowledge and information processing, however presents a superb level of competence in creative thinking. On the other hand, each representative profile may have a reversed profile type that alternates the positive and negative directions.

In Chapter V, the study presents the comparisons of school types, student factors, and school factors. Consequently, this chapter analyzes the relationship between those factors and the overall SCI or sub-domain competence indices.

First, there are differences of the SCI among students depending on school levels and high school types. The overall SCI is high in the following order: special-purpose high school, autonomous high school, general high school, middle school, and elementary school. However, the average of SCI of students from specialized vocational schools is not significantly different from the average of SCI of students from elementary schools. Contrastingly, the self-management competence of middle school, general high school, special-purpose high school, autonomous high school, and specialized vocation high

school are lower than that of elementary school. The community competence is greater in middle school, general high school, autonomous high school, and specialized vocation school level than in elementary school level. Among them, the community competency average is highest in specialized vocational high school. However, special-purpose high school students are not significantly different from elementary school students regarding a community competence level.

The student input variables, gender, physical and psychological health, single-parent family, parenting style, and parent-child interaction are meaningfully related to the overall student competency index; meanwhile, there are some differences among the sub-domain competency indices. Compared to the male students, female students had higher knowledge information processing competence, aesthetic emotional competence, communication competence, and community competence, but lower creative thinking competence. Physical and psychological health, permissive and supportive parenting styles, and parent-child interaction positively impacted all sub-domain indices, including the overall student competency index. In the case of single-parent families, the SCI, self-management competence, communication competence, and community competence are high. However, there is no difference in the rest of sub-domain competency indices.

Among the student process variables, academic achievement and friendship positively affect all sub-domain indices including the SCI. On the other hand, violent victimization experiences negatively influence the SCI and all sub-domain indices excluding knowledge information processing competence and community competence. Being on students' council experience shows a statistically positive relationship with the SCI, creative thinking competence and communication competence, and club activities and creative experiential activities are positively related to the SCI and all sub-domains competency indices. After-school self-directed learning, reading, arts, and physical activity have a positive effect on the SCI. After-school class, homework, watching television and playing with friends negatively influence the SCI, and there are differences among the sub-domain competencies.

Among the variables of school input, there are differences according to the regional

scale, school establishment type, coeducation, and a ratio of multicultural families. Except the SCI and the community competence, all total sub-domain competency indices of the urban area students is higher than those of the students in the towns and villages. The SCI, creative thinking competence, and aesthetic emotional competence of private schools are higher than those of national and public schools. And the SCI of coeducation, knowledge information processing competence, creative thinking competence and aesthetic emotional competence are lower than those of boys and girls school. Also, the higher the percentage of students in multicultural families in school, the lower the all sub-domain competency indices except the SCI, self-management competence, and community competence.

Class atmosphere, teacher support, competency-based instructional class content, and instructional methods of school process variables are analyzed as major variables influencing student competence. The class atmosphere shows statistically positive relationship with the SCI and the overall sub-domain competency indices, and the teacher support shows statistically positive relationship with the SCI, aesthetic emotional competence, communication competence, and community influence. The competency-based instructional class content is found to contribute to the improvement of all sub-domains except for SCI and creative thinking competence. On the other hand, the lecture method and the cooperative learning of instructional methods have a positive effect on the student competence, and the method of learning by questions and individualized lecture have a negative effect, thus teaching methods have different effects.

Chapter VI provides policy recommendations to support balanced student competence development and reduce the social gaps, as follows.

First, it is required to conduct periodic surveys and researches on student competence at the national level. To support student competence building and balanced student competence development, it is necessary to analyze periodic student competence trends and to formulate education policy plans based on scientific data.

Second, the improvement of school education support system is required. To this end, there is a need to strengthen policies, administrative system and financial support to

resolve differences in student competence based on regional scale, school establishment type, school average of social and economic background. And a strategy to set up and improve the core improvement competencies according to the development status of the students based on the school and high school types is required. By providing education policy that can complement weak competence by considering the type of student competence profile at the school level, it is necessary to support students' harmonious and balanced competence development.

Third, the improvement of school educational activities is required. To this end, it is required to support students' learning activities which we should continuously put efforts to create a favorable school climate. Also, it is necessary to provide training and support to strengthen the capacity of the teachers to change the education content and education methods suitable for the 2015 revised curriculum based on the student competency. And a systematic approach is needed to encourage the group activities of students in and out of the school, and it is necessary to secure self-directed learning time but to supplement it through various art activities. Also, there is a need to provide a program to support the formation of good friendships among students and to stop school violence.

Fourth, careful attention and support from the family are required. To do this, it is necessary to induce a particular attention in parenting style and parent-child interaction, and for complementing the effects of socioeconomic level of the family; there is a need to provide parents education programs for the parents of a vulnerable social group. Also, it is necessary to induce meaningful after-school time utilization of students through effective instruction of family.

**Key words:** competencies, Student competencies, Student Competency Indicators, Student Competency indices, Research of Student Competencies, Student Competency Influence Factors