

## Abstract

# Korean Education Longitudinal Study 2013(IV) : Educational Experiences and Achievements of Middle School Students(I)

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As the third year's data analysis report of 「Korean Education Longitudinal Study 2013」, this study focused on middle school students' educational experiences and achievements. By combining the 1<sup>st</sup> and 2<sup>nd</sup> year data from the 5<sup>th</sup> to 6<sup>th</sup> grade in elementary schools and the 3<sup>rd</sup> year data from 1<sup>st</sup> grade in middle schools of 「Korean Education Longitudinal Study 2013」, this study comprises of two parts: the basic analysis on educational experiences and achievements of middle school students, and the in-depth analysis on factors affecting changes in 1) academic achievement, 2) happiness in school life, 3) career maturity, and 4) personality of middle school students.

In Chapter II, we addressed 'educational experience and growth of elementary and middle school students,' that focused on educational experience and support from family; educational experiences at school; student activities and time management; and cognitive and non-cognitive achievements. With respect to educational experience and support from family, both academic and emotional support from parents for 7<sup>th</sup> grade students

were higher than the basic levels as similar with the results of 5th and 6th grades in elementary school. It represented the active attitude of Korean parents' educational support for their children from elementary to middle schools. In terms of frequency analysis, the most common response about average monthly education expenditure for all children was more than one million won, and students participating in private education were more than 80%, which was slightly decreased than in elementary school (5<sup>th</sup> grade: 82.27%, 6<sup>th</sup> grade: 82.91%). Private education expenses were increased after transition from elementary to middle school, and students whose fathers' educational levels were higher spent more private education expenditures for each subject.

Regarding educational experiences at school, although understanding score in class was lower in middle school than elementary school on average, concentration score in class was higher in middle school than elementary school on average. Furthermore, understanding score in class was relatively lower in rural areas than the other regions, and students whose fathers' educational levels were higher showed higher understanding score in class. Moreover, female students showed higher achievement scores than male students in Korean and English whereas male students were higher achievement scores than female students in mathematics. Although concentration scores of male students in mathematics class was higher than those of female student on average, there was no gender difference in concentration scores in Korean and English. As the regional size becomes larger and father's educational level is higher, concentration score in class tended to be higher. Achievement pressure from teachers was somewhat increased in middle school than elementary school. Male students were more likely to feel stronger achievement pressure than female students did, and students in larger regional sizes and having a father who earned higher educational degree tended to feel stronger achievement pressure.

Concerning teaching methods, both personalized and interactive methods were reduced in middle school, and female students recognized to be more decreased in both teaching methods than male students did. In addition, teachers' enthusiasm and positive relationship with teachers were reduced in middle school. As similar in elementary school, first graders in middle school highly recognized relationships with friends, and they responded that the degree of violence in school was not increased compared to elementary school. While female students recognized violence in school higher than male students did in elementary

school, male students recognized it higher than female students in middle school.

As to student activities and time management, most middle school students tended to participate in extracurricular activities such as sports, learning and so on. Also, the participation rate of voluntary service was more than twice as high as elementary school, and especially it was more noticeable to female students. Awareness about voluntary service was converted more positively than in elementary school. Whereas students' time to study by themselves and time to exercise were decreased in middle school than in elementary school, students tended to spend more than two hours a day to communicate by text messages and online chatting, and playing games and entertainment. Students' aspirations and parents' educational expectations were the highest for Bachelor's degree. In regard to students' aspiration levels, above graduate schools and colleges, and undecided aspirations showed decreasing patterns. Male students' aspirations and their parents' educational expectations were higher than female students. As fathers' educational levels were higher, students' aspirations and their parents' educational expectations tended to be higher.

In terms of educational achievement in the cognitive aspects, academic achievement in Korean, English and math as measured by the vertical equating scale scores were improved than the previous year, and achievement gap by fathers' educational levels was increased as students moved from elementary to middle schools. About the educational achievement in the noncognitive facets, while test stress was increased compared to the previous year, interest in subjects, intrinsic motivation, self-efficacy, self-regulation strategies, academic self-concept, preferences of learning style, and career maturity were decreased compared to the previous year.

In Chapter III, we investigated family, student and school factors in 7<sup>th</sup> grade affecting student achievement growth according to the transition from elementary to middle schools. The results showed that student achievement average scores were increased from 5<sup>th</sup> grade to 7<sup>th</sup> grade and there was an additional achievement score increase in 7<sup>th</sup> grade. We also found that not only student level variables including family background and psychological facets but also school level variables reflecting school background and school climate were related to achievement growth in 7<sup>th</sup> grade according to the transition from elementary to middle schools. With respect to student level factors, female students showed a greater achievement growth than male students in Korean and English. Whereas

socio-economic status and educational expectations of parents were appeared to have positive effects on achievement growth in English and math, the academic support of parents had no significant effect on achievement growth in Korean, English and mathematics. Furthermore, while intrinsic motivation showed a positive effect only on achievement growth in mathematics, external regulation motivation had negative effects on achievement growth in all Korean, English and math. Self-efficacy was positively related to achievement growth in English and mathematics, and enjoyment of reading and test stress had a positive impact on achievement growth in all Korean, English and math. On the other hand, creativity had negative impacts on achievement growth in Korean, English and math. Moreover, relationship with teachers showed a negative effect on the changes of achievement growth in English, and relationship with friends were showing negative effects on achievement growth in Korean, English and math. Observance of rules were positively related to achievement growth in Korean, English, and mathematics. By the same token, class attitude showed positive impacts on achievement growth in Korean and English, and understanding in class by each subject had positive impacts commonly on achievement growth in Korean, English and mathematics. Regarding after-school activities, both participation in after-school classes and private education participation showed no significant impact on achievement growth in Korean, English and mathematics. In addition, as self-study time except school, private educational institute and homework was longer, it was negatively related to achievement growth in Korean, English and mathematics.

With regard to school level factors, school background and school climate were correlated with achievement growth. The numbers of students per teacher were appeared to give a positive influence on achievement growth in Korean, English and mathematics. In particular, private schools showed a greater achievement growth than public schools in Korean, English and mathematics. Further, schools which participated in exam-free semester system showed greater achievement growth in Korean, English and mathematics than schools which did not participated in exam-free semester system. Regarding school climate, achievement pressure of teachers showed a positive impact on achievement growth in math achievement scores, and interactive teaching method had a positive impact on achievement growth in English achievement scores. On the other hand, teachers' enthusiasm and personalized teaching methods had no significant effect on achievement growth in

Korean, English and math.

In chapter IV, we explored family, student and school factors in 7<sup>th</sup> grade affecting students' happiness in school life according to the transition from elementary to middle schools. The results of the analysis shows that students' happiness in school life was decreased from 5<sup>th</sup> grade to 7<sup>th</sup> grade and there was an additional decrease in students' happiness in 7<sup>th</sup> grade. Regarding student variables, a student with lower SES showed a greater happiness rate of change than a student with higher SES by the transition from elementary to middle school. Furthermore, Subject-related self-efficacy at 7th grade showed a positive impact on happiness rate of change, and academic and test pressures had negative impacts on happiness rate of change. Relationships with teachers and friends were shown to have positive impacts on happiness rate of change. With regard to the educational activities in school, concentration in class and personalized teaching method at 7th grade had positive effects on happiness rate of change. In terms of school variables, students in rural areas showed a greater happiness rate of change than a students in cities. Additionally, schools which participated in exam-free semester system research or did not participate had no significant relationship with happiness rate of change. However, the substantiality of career and job-related programs operated by middle school had a positive effect on happiness rate of change.

In chapter V, we examined how students' career maturity (self-understanding, career plan) was changed from 5th to 7th grade, the background and process factors in parent(family), student and school characteristics which were related with the changes, and school effectiveness affecting the career maturity in transition from elementary to middle schools. The results showed that students' career maturity was decreased from 5<sup>th</sup> grade to 7th grade, and in particular, it was sharply reduced at 7<sup>th</sup> grade. While the same pattern was observed in the self-understanding, which was one of sub-factors of career maturity, career plan had no significant change over time. Moreover, career maturity of students tended to be affected by the process variables than parents' backgrounds. While parents' background variables such as occupational status, educational level and family income showed no significant effect on career maturity and the sub-factors, parents' educational support, interaction between parents and children, and parents' maternal attitude which children recognized among parents' process variables were having an equally

positive effect on students' career maturity and sub-factors. In regard to student background variables, female students showed lower career maturity than male students, and there was a negative relationship between academic achievement and career maturity. Student process variables, such as educational aspirations, creativity, self-concept, a sense of community, rule compliance, self-management, enjoyment of reading, time for exercise, relationship with friends, had positive impacts on career maturity and two sub-factors. Whereas the time to study had a positive effect on career maturity and career plan, it was not related to the relationship with self-understanding. While school background variables such as regional sizes where schools located showed no significant effect on career maturity, students' voluntary activities and teachers' enthusiasm recognized by students among process variables had significantly positive effects on career maturity. In addition, although career maturity was more sharply decreased in 7<sup>th</sup> grade, the degree of decline in career maturity was eased off when parents' emotional support and students' satisfaction toward career guidance offered by schools were higher at 7th grade. Finally, the results of the school effectiveness showed that the variance of random effects explained 5.1% ~ 6.2% of the total variance at 5<sup>th</sup> grade. However, after one year, the variance of random effects in elementary school explained 1.9% ~ 2.5% of the total variance at 6<sup>th</sup> grade. After students moved to middle school, the random effects of elementary school explained 0.4% ~ 0.6% of the total variance, and the random effects of middle school took up 3.7% ~ 4.2% of the total variance. These results indicated that the school effectiveness of elementary school was gradually reduced by time, and that students were more influenced by their current schools.

In Chapter VI, we explored how students' rule compliance, volunteer service recognition, a sense of community, multicultural acceptability and personality were changed from 5th to 7th grade. In particular, we estimated the annual growth rate of each variable. Then, we analyzed how parents' academic involvement affected the average annual growth rates of personalities, characteristics of students, family and school affecting personality. Furthermore, after controlling for parents' academic involvement, we investigated student, family, and school variables affecting sub-factors. The findings showed that rule compliance, voluntary service recognition, a sense of community, multicultural acceptability and personality combining these four factors were increased from 5<sup>th</sup> grade to 7<sup>th</sup> grade.

Interaction between year and parents' academic involvement showed negative effects on rule compliance, a sense of community, multicultural acceptability and personality combining those factors except voluntary service recognition. Students in schools which participated in exam-free semester program tended to have higher rule compliance, volunteer service recognition, a sense of community and personality combining those factors than those in schools which did not participate in exam-free semester program. However, students in schools which participated in exam-free semester program tended to have lower multicultural acceptability than those in schools which did not participate in exam-free semester program. Moreover, both individualized and interactive teaching approach, teachers' pressure for academic achievement, and the relationship between teachers and students had positive effects on rule compliance, volunteer service recognition, a sense of community, multicultural acceptability and personality combining those factors. Violence in schools had negative impacts on rule compliance, volunteer service recognition, a sense of community, multicultural acceptability and personality including those factors. Students attending schools in small or medium-sized cities and rural areas tended to have lower degrees of rule compliance, volunteer service recognition, a sense of community, multicultural acceptability and personality including those factors than students in Seoul. Students attending schools in metropolitan cities tended to have lower degrees of rule compliance, volunteer service recognition and personality than students in Seoul. Also, academic achievement by taking an average of vertical scale scores in Korean, English and mathematics had a positive effect on rule compliance, volunteer service recognition, multicultural acceptability and personality including those factors, except a sense of community, whose regression coefficient was very small. Additionally, academic stress showed negative impacts on rule compliance, multicultural acceptability and personality. The degree of mobile phone addiction had negative impacts on rule compliance, volunteer service recognition, a sense of community, multicultural acceptability and personality including those factors. However, time to exercise, relationship with friends, experience of leadership in class and school, and parent-child interaction had positive impacts on rule compliance, volunteer service recognition, multicultural acceptability and personality including those factors.

Based on the results of this study, we provide useful policy implications as follows.

With respect to students' improvements of academic achievement as students advanced to middle school, the concept of academic achievement should be changed from intellectual capacity to key competences of the 21st century talent, and the relationship between academic achievement as the new concept and as basic knowledges should be identified. Furthermore, the policies to compensate students' academic difficulties caused by family backgrounds should be operated consistently. In particular, the system which connect and consistently manage the policies implementing sporadically in various government departments, local governments and civilian departments should be established. Moreover, students' adaptation programs to support their test anxiety and learning-psychological characteristics should be provided. Also, in addition to activating reading education by levels and steps using DSL, it is necessary to reexamine the relationships with teachers and friends as social capitals. Notably, given the no effect of private education on academic achievement, policy makers and school reformer need to consider how to enhance self-directed learning skills for cultivating the basic skills for future society. In conjunction with the results of this study, future research should pay attention to further exploring the effect of private schools and the policy of exam-free semester system in middle school. Specifically, about the policy of exam-free semester, classes focusing on students' participation activities should be supported to enhance academic abilities aimed to improve key competences, and it is necessary to investigate longitudinal effects of exam-free semester system after implementing the policy. Finally, measures to enhance students' class understanding of subjects and educative power of schooling are also required to improve academic achievements of middle school students.

In order to enhance happiness of students, plans to enhance students' learning-psychological competence and social competence should be prepared, and customized classes should be operated considering students' levels and abilities as well as creating the desired academic climate. In addition, there is a need to operate career training programs substantially in connection with the exam-free semester policy.

In light of the career maturity, it is necessary to recognize the importance of students' process variables and operate the career education by utilizing them actively on the assumption which career education in middle school should be based on the deep understanding for middle school students' characteristics. Besides, efforts are necessary



to enhance the students' awareness of voluntary activities, to create the desirable school atmosphere to stimulate teachers' enthusiasm, to diversify the career education in schools, and to increase students' satisfaction of career education in schools. In addition, on the career education, supports are required to reduce the gap between schools.

As to the policies for improving students' personality, it is necessary to determine the current students' personality level by subdividing the sub-factors, and it should be approached by setting up detailed assignment according to specific sub-factors. In addition, education programs for parents by the age group need to be prepared to void conflicts between students' personality development and parents' academic involvement. Furthermore, connection with related educational policies should be considered in order to multiply the effectiveness of personality education. There is no question about that the core subjects of personality education in schools and classroom are teachers. Indeed, to require the active commitment and participation of teachers, it is important to reduce the number of students per class, and it is necessary to consider small- and mid-size cities and rural areas by priority on determining personality education-related personnel and budget. Explicit and tacit compensation systems for students with good personality as well as high achievement score should be operated well in home, school, and society, and it is necessary to review alternative plans by including mobile phone addiction to personality education.

**Key words:** Korean Education Longitudinal Study 2013, educational growth, academic achievement, happiness in school life, career maturity, personality change