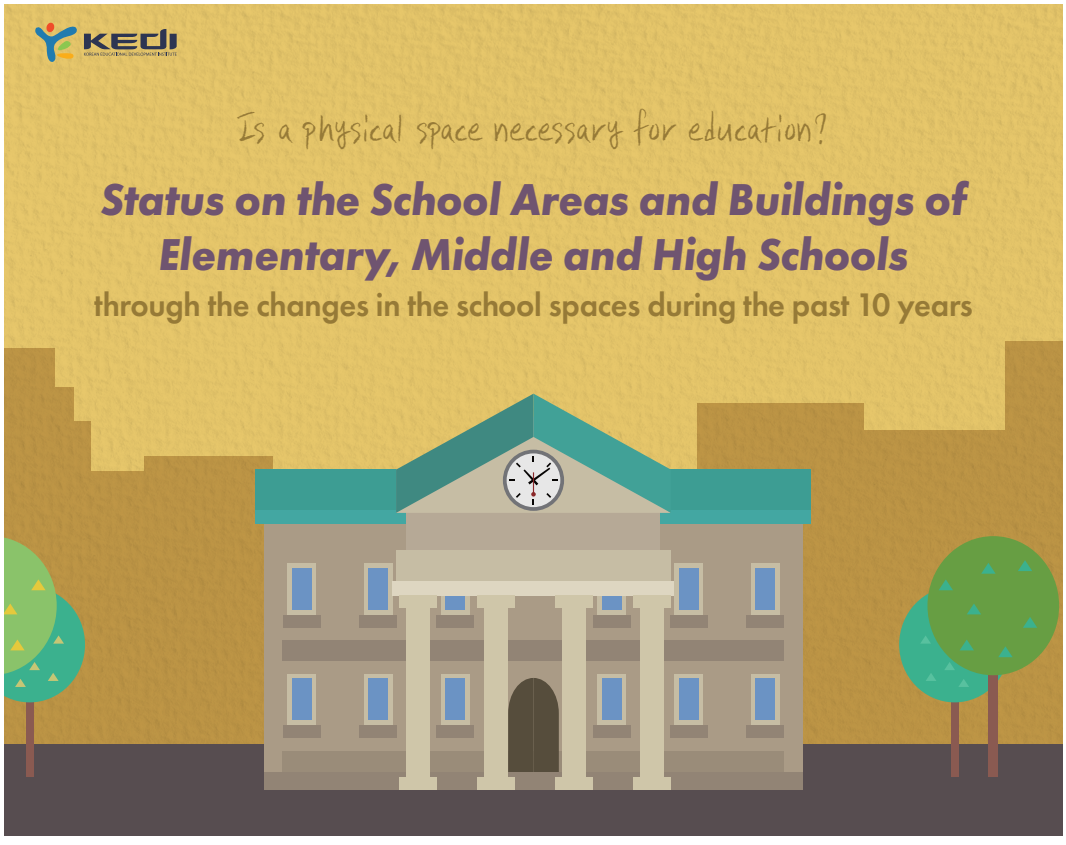
Status on the School Areas and Building of Elementary, Middle and High Schools

November 2021



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Even in the 21st century, when people talk about "education" they first think of the public education, represented by education at schools. This is because, without regards to complying with the mandatory education, most people believe that "school" is a place where you must attend to for a fixed duration. Also, going to a specific place at a specific time to obtain school education is taken for granted. As a result, when we think of one's school days, we not only think about the teachers and the friends, but also of physical places, such as classrooms and the schoolyard.

With the spread of COVID-19, we begin to question whether a physical space of school is really necessary for the act of education. Of course, this question is not especially new as it was also raised by the educational sociology in the past. However, the question was raised in the past to discuss solutions to the problems arising from accommodating or detaining large number of students in a limited space, but now, the question is grounded on the confidence in efficacy and efficiency of non-face-to-face, distance learning, that advanced greatly under the COVID epidemic.

However, the view that the face-to-face education cannot be given up, even if excellent non-face-to-face curriculum is developed, is also strong. Education at school is not only to deliver knowledge and skills, but also has a hidden curriculum of facing the socialization process by interacting with other students. Moreover, school is also an institution that provides reliable care-taking services for the parents who have to work full-time. Therefore, the school spaces are becoming a target to transform into a place to maximize the educational effects with a developed technology, rather than becoming an unnecessary space as the information and telecommunications technology has developed greatly.

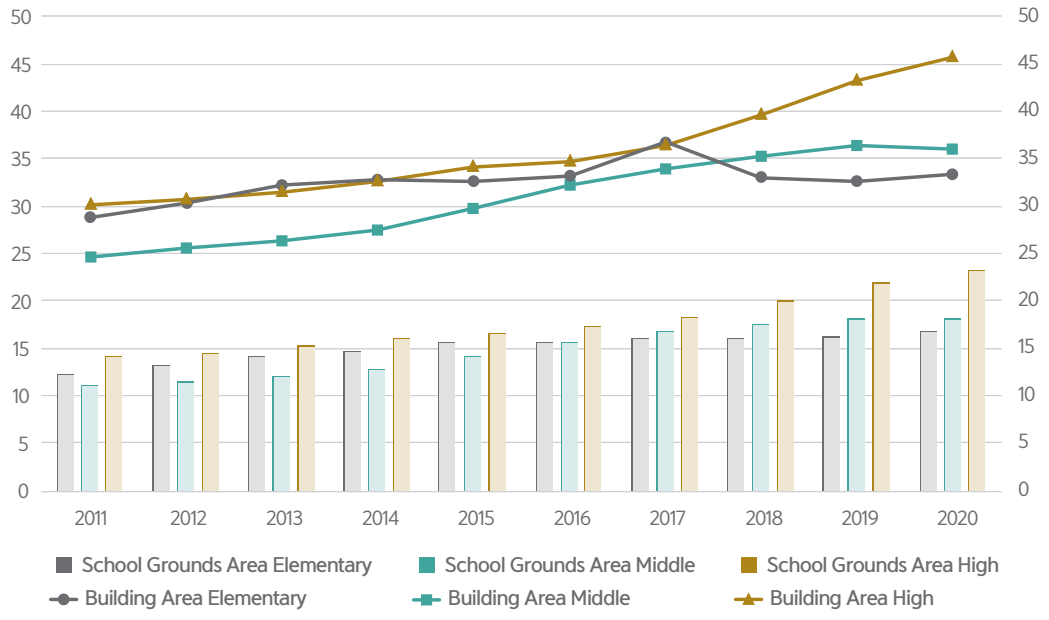
I intend to look at what changes has occurred to the school spaces of elementary, middle and high schools during the past 10 years. First, I looked at the school ground area and the building area per student, which is the most basic information on the school space, and the ratio of school buildings over 30 years old. As shown in the <Table 1> and [Diagram 1], school grounds area and building area per elementary, middle and high school students has continuously increased during the past 10 years in all school levels, and this seems like a logical conclusion when considering the rapid decrease in the number of students recently. The building area per 1 high school and middle school students has increased by 65% (as compared to 2011) between 2011 and 2020, and the school ground area of the two school levels has also increased greatly by 45%, each. Also, as the grades progress, the per student school ground area and the building area. increases faster, and the building area is about half of the school grounds area. However, the rate of increase of the building area per student is higher than that of the rate of increase of the school ground area. It can be assumed that the size of the school site was not increased at the time of establishing new schools or remodeling, but the school buildings were expanded.

<Table 1> Changes in the Average School Ground Area and Building Area (m2) per Student [2011~2020]

Classification		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Rate of Increase over 10 Years (%)
School Grounds Area	Elementary	28.7	30.3	32.2	32.8	32.6	33.2	36.7	33.0	32.6	33.3	16.03
	Middle	24.6	25.5	26.3	27.4	29.7	32.1	33.9	35.3	36.4	35.9	45.93
	High	30.1	30.7	31.5	32.6	34.0	34.7	36.4	39.6	43.2	45.6	51.50
Building Area	Elementary	12.0	13.0	14.0	14.6	15.5	15.5	15.8	15.9	16.0	16.6	38.33
	Middle	10.9	11.4	11.9	12.7	14.0	15.5	16.6	17.3	18.0	18.0	65.14
	High	13.9	14.4	15.1	15.9	16.5	17.1	18.1	19.8	21.7	23.1	66.19

Source Korean Educational Development Institute, Brief Statistics on Korean Education

[Diagram 1] Changes in the Schools Grounds Area and Building Area (m2) per Student [2011~2020]



Source Korean Educational Development Institute, Brief Statistics on Korean Education

<Table 2> and [Diagram 2] shows the number of elementary, middle and high school buildings and the ratio of buildings over 30 years old. Unlike the average building area per student earlier, the number of buildings shoed almost no changes over the past 10 years, or showed slight decrease. In case of elementary schools, the number of buildings continued to decrease, even though very slightly, and during the past 10 years approximately 2,000 buildings (−6.4%) has decreased. On the other hand, middle and high schools repeated slight increase and slight decrease over the years, and is maintaining a gradual decreasing trend since the mid 2010s. During the past 10 years the rates of change are −3.0% (442 building) and −0.1% (15 buildings), respectively.

During the same period, the ratio of buildings over 30 years old has increased steadily at all school levels, and the ratio in 2020, as compared to 2011, has increased by 10%p (elementary and middle school) ~ 10.5%p (high school). This is because the number of new buildings built each year is comparatively less than the number of buildings that were built during the 1980s (buildings considered over 30 years old as of 2010s), when the number of students increased greatly, and the ratio of reconstructing the building over 30 years old is low. It is necessary to connect this result with the increase of school building area per student. The total number of buildings has decreased and there are not many new buildings being

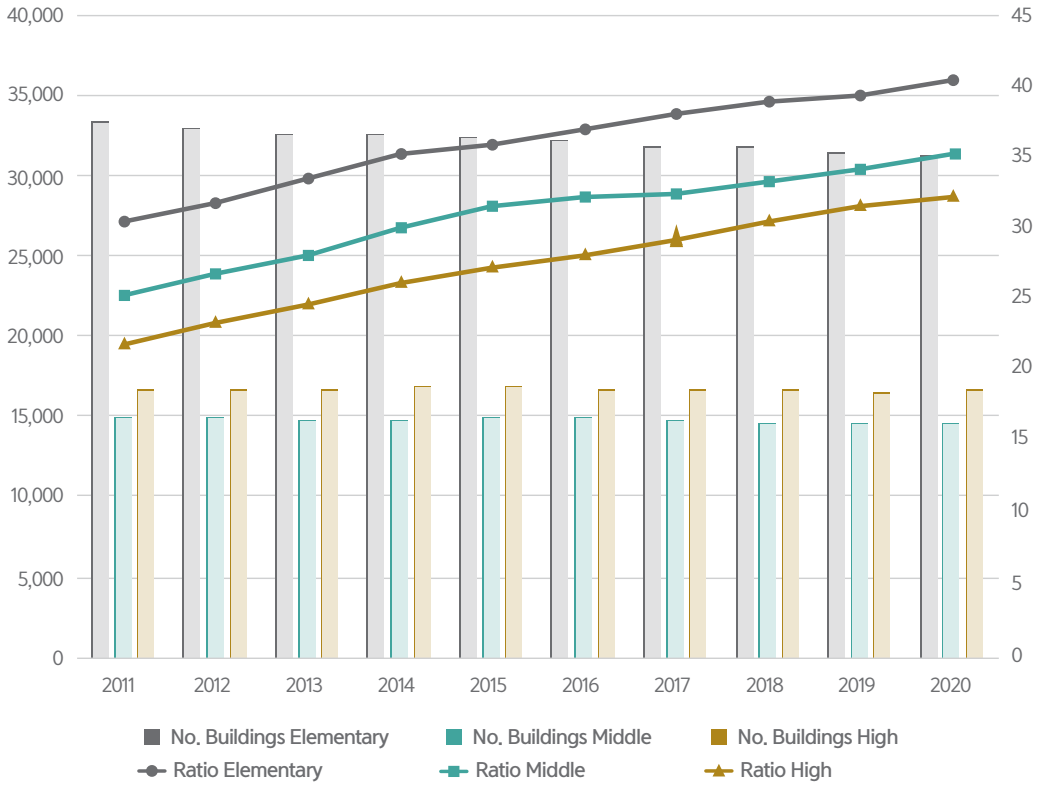
built; however, the school building area per student has increased, and this can only be the result from a serious decrease in the number of students. However, also, it may be partially due to the fact that the newly built schools are relatively larger, by having more spaces for auditorium, cafeteria and other extra-curricular activity rooms.

<Table 2> Changes in the Schools Grounds Area and Building Area (m2) per Student [2011~2020]

Classification		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Elementary	No. Buildings	33,397	33,017	32,593	32,455	32,363	32,104	31,859	31,793	31,334	31,264
	Ratio	30.6	31.8	33.6	35.3	35.9	37.0	38.1	38.9	39.4	40.6
Middle	No. Buildings	14,870	14,873	14,788	14,778	14,825	14,799	14,703	14,539	14,488	14,428
	Ratio	25.3	27.0	28.3	30.2	31.6	32.3	32.6	33.4	34.2	35.3
High	No. Buildings	16,563	16,619	16,709	16,727	16,752	16,688	16,660	16,598	16,518	16,548
	Ratio	21.9	23.4	24.7	26.3	27.3	28.3	29.3	30.5	31.6	32.4

Source Korean Educational Development Institute, Brief Statistics on Korean Education

[Diagram 2] Total Number of Buildings by Year and the Ratio of Buildings Over 30 Years Old (Building, %)



Source Korean Educational Development Institute, Brief Statistics on Korean Education

As seen before, the ratio of school buildings over 30 years old is increasing at all school levels of elementary, middle and high schools, and the ratio will continue to increase, if reconstruction of old buildings is not being implemented. However, the ratio of buildings over 30 years old may be partially adjusted in the near future as the school buildings will be rebuilt or remodeled as part of the Green Smart Future School Project for the next 5 years.