

Transformation of Elementary Schools in Aging Societies: Case Study of Dutch Schools from the Perspectives of Students, Teachers, and Parents

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Abstract

In the context of changes in urban planning considering aging in place, the school is emerging as a potential place for the joint use of public facilities in mixed-use neighborhoods with safer, denser, more walkable streets. School integrating community facilities requires special attention, as conflicts in spatial use between seniors and young children could create unexpected impacts for schoolchildren. This paper explores the issue of a school design that integrates community facilities in terms of sharing seniors' space to find a better direction that supports children as well as seniors in the context of global aging.

Two schools in the Netherlands are compared to find a better way of integration through qualitative research with Students, teachers, and parents. Questionnaires, in-depth interviews and roundtable discussions are employed, and participant's responses are compared to determine their keywords for school environment.

This study clearly shows that the design is the issue. While one school showed how the inappropriately designed school environment blocked the opportunity for schoolchildren's normal development, the other school showed no negative impact on students showing that a policy of restriction that discourages the children's drive to explore the school environment could be avoided if the design were prudently made. Society keeps changing, and buildings also need to change to accommodate societal needs and lead the direction of change. This study clearly shows the role of the architect

in the professional field who sincerely understands societal needs and leads the direction for a better society in the global aging context.

Introduction

The elementary school is considered the most basic public infrastructure in community planning from the very early period of neighborhood conceptualization¹. Given the process of global urbanization and the aging of societies, the school emerges as a potential place for public facilities in neighborhoods with safer and more walkable streets. Providing community facilities inside the school can allow better access to services and promote community cohesiveness. Community facilities in schools can provide benefits for elderlies, as access to recreational facilities with close proximity can improve the physical and mental health of seniors², which is critical for them to maintain autonomy and independence³.

However, integrating community facilities in school requires special attention, as the school's main purpose is the education of children. Conflicts in spatial use between seniors and young children could create unexpected negative impacts for schoolchildren. Strategic layout and the appropriate use of space are keys to the success of space sharing in the school setting.

The ideas of integrating education and care to activate regional revitalization and the cooperation between schools and communities started in the United States in the 1930s⁴ and transformed into various types of community schools, not only in the United States but also in many other countries.

Actively adopting the community school concept in the early 1990s, the Netherlands became one of the countries to successfully implement the spirit of the community school

School	Category of community integration	No. of Institute in the complex	Composition of Institute	Participants	Remarks
A	Brede School	2	1 School + Daycare	17(Student-9, Teacher-4, Parent-4)	New construction
B	Child center	4	2 Schools + Community health +Preschool	17(Student-5, Teacher -5, Parent-7)	Senior housing integrated/Addition

Table 1 Investigated School Summary

	Policy on community-sharing space	Experience and opinion	Direction for change
Parents	-awareness of and information on community facilities	-experience of voluntary work -experience of use of community space in school -contribution of common space to education -advantages and disadvantages of community-sharing space -willingness to send siblings to same school	-wish for change in school environment
Teachers	-awareness of and information on community facilities -policy regarding students' use	-experience of use of community space in school -experience of coordination of shared space -level of responsibility related to community-sharing space -contribution of common space to education -advantages and disadvantages of community-sharing space - personal comparison of experience for different types of schools	-wish for change in school environment
Students	- awareness of and information on community facilities	-confidence in school space -experience using community-sharing space -experience meeting strangers	-wish for change in school environment

Table 2 Questionnaire for parents, teachers, and students

(called “brede school” in the Netherlands). However the issues for school design in terms of community integration are not sufficiently addressed in the research on the school environment. A community-sharing school in the Netherlands seems to be much more critical, as the Dutch school system requires 2 years of kindergarten integrated with 6 years of elementary school and the diverse religion/educational philosophy combinations of schools that make it possible for small-scale schools to share a tight space in the same building. Schools searching for extra space almost always welcome free space under the condition of sharing with the community. Therefore, schools with the community-sharing design are required to consider sharing with not only other schools but also community facilities, coordinating and scheduling the use of the common space.

This paper explores the issue of a school design that integrates community facilities to find a better direction that supports children’s development as well as the wellbeing of senior

users in the context of global aging. Two schools in the Netherlands are compared in terms of influence of facility sharing on everyday life through qualitative research with students, teachers, and parents.

Methodology and Process

This paper compares the design of two elementary schools through a case study of two different integrated community facility settings. Students’, teachers’, and parents’ experiences are analyzed to investigate the influence of those settings on child development as well as teachers’ everyday life. A total of 34 people, including parents, teachers, and students, participated in the research through semi-structured questionnaires, interviews, and roundtable discussions (Table 1).

School A is located in a high-density residential area where the senior population is increasing. It shares a building with a daycare, and shared community facilities include a meeting hall (aula), gymnasium, small playroom, kitchen/lounge, craft room, and

School	Parents	Teachers	Students
A	safety, restriction	safety, restriction, maintenance	restriction, acceptance, too small(packed)
B	benefit, convenience	cooperation, communication	restriction, acceptance, too big

Table 3 Keywords from interview with parents, teachers, and students

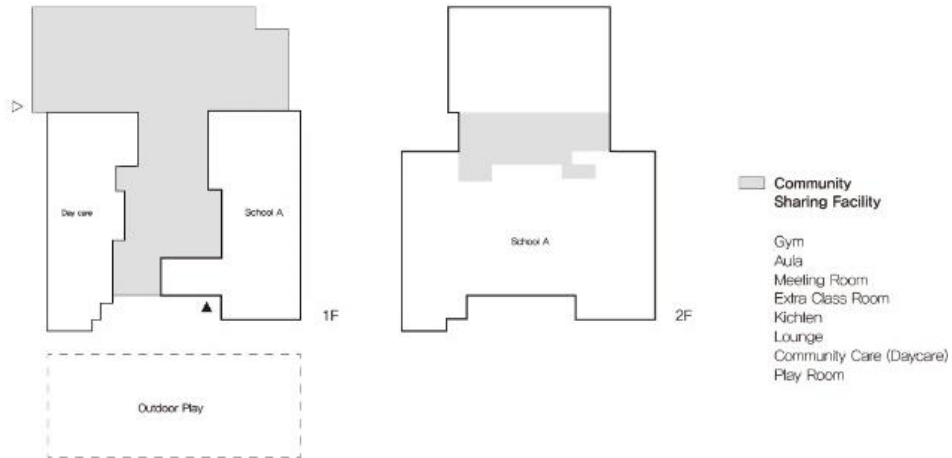


Figure 1 Plan of School A

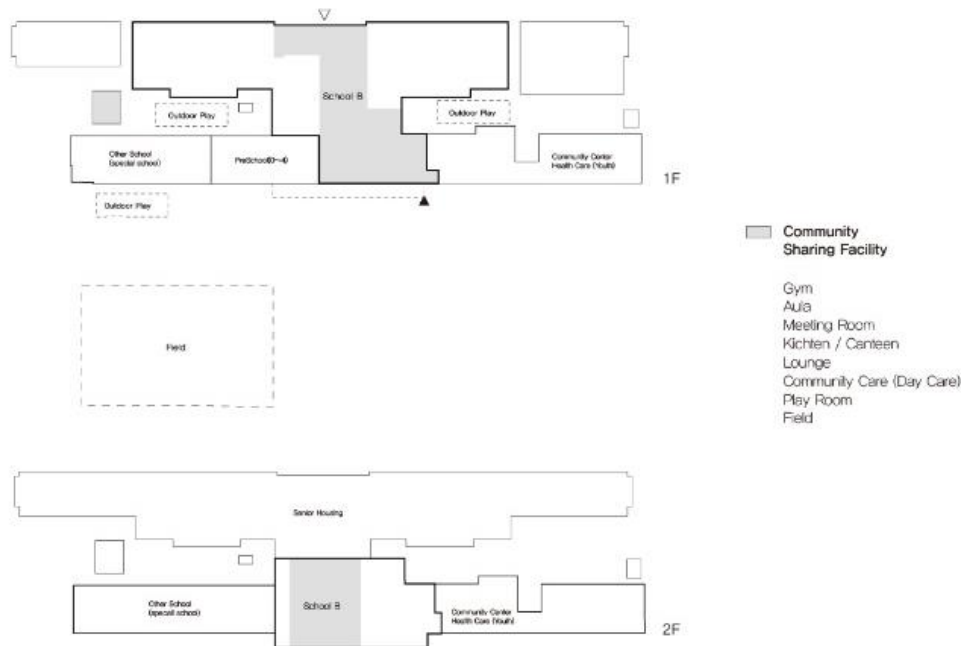


Figure 2 Plan of School B

meeting room. The community facilities are accessible from a separate entrance next to the gymnasium. Dividing doors separate the educational, administrative, and community-sharing sections. School B is located in a recently revitalized residential area. The original

school building also contained senior housing on the upper level with a separate entrance. Recently, the school received an addition and renovation for a new type of brede school called a “child center”. The added space includes a special education school, community health

center, and preschool, and the community-sharing facilities include a gymnasium, meeting hall, canteen, lounge, playroom, community kitchen, and meeting room.

This study was conducted from September 2017 through February 2018 in the schools that responded to a participation request⁵. Students in grades 6 and 7 (grades 4 and 5 for countries that do not include the kindergarten level), teachers, and parents were selected by the schools. Interviews with the students were conducted in a private room and teachers and parents participated in the questionnaire session and roundtable discussion in a closed meeting room. The research intended to investigate the keywords to determine critical issues to be resolved in terms of designing shared community space inside the school.

Results and Discussion

In general, School A was perceived as having a negative design, while School B was accepted without any negative responses from parents and teachers. Students in both schools had some complaints, but they generally accepted the situation. In the context of integrated community space becoming a dominant trend, experience in specific school design should not be counted as individual and personal. The keywords frequently used in the interviews with similar meaning are shown in Table 3.

1) Parents' point of view

Responses from the parents were extremely divided. While typical keywords from School A included "safety" and "restriction," common keywords from School B included "benefit" and "convenience."

The following quotes were obtained from Parents in School A:

"...The teacher stays in the classroom and...students go to the bathroom alone and they never know who will be in the corridor. It is scary."

"The children's safety comes first; there are too many strangers in the building."

"Students cannot use the rooms when they want to use them. For example, they cannot use the gym instead of the playground when it is raining outside."

"There are too many restrictions. Nobody wants to send their kid here again."

"The kids never complain or feel stressed, as they don't know the dangers."

"The community-sharing space is not clearly divided, and the scheduling of community use is

not coordinated, creating acoustic issues as well as safety issues during recess breaks".

Seniors easily invade students' territory, as the elevator is located deep within the school, and there are not enough bathrooms. That is why teachers are reluctant to let students go outside of their classroom: to avoid unexpected situations."

Keywords for School B were very different. Parents tended to talk about the "benefit" of those shared spaces in terms of "convenience." Even though more institutes were sharing the common space compared to School A, the majority of respondents appreciated the space provided for the community, the opportunity to meet with people, and the classes for children in various stages of their development.

The following quotes were obtained from Parents in School B:

"...it is very convenient that I can attend Dutch classes. At another school, it is not allowed if my child doesn't go to that school anymore."

"I am very happy that my children are attending this school and about the things that I can learn and do here."

"It is very good that my child goes to the same school...very convenient at pick-up time."

School B clearly divides the school zone and common area, which is controlled by a reception desk preventing the children's access to areas outside of school boundaries. Parents and community members access the canteen and lounge during drop-off and pick-up times, enjoying communication with familiar faces as well as teachers. It is also related to the fact that multicultural community members look for opportunities to learn about Dutch culture and language. Parents showed appreciation regarding the inclusive environment provided by the school.

Parents' choice of elementary school in the Netherlands is reported to depend on the school's quality of education, social interaction, and environment⁶. Parents' opinions on schools shared with the community are more critical than those on regular schools, as the majority of them are members of the community, the partner to keep close relations. Focusing on the issues raised by the parent group, safety and restriction were the issues identified as needing resolution to make the community-sharing space acceptable apart from improvements to the space in terms of quality and quantity.

2) Teachers' point of view

Teachers' keywords from Schools A and B were also clearly divided. Safety and restriction of access to the shared space were the main issues for teachers at School A, similar to the parent group. Maintenance issues and reluctance to coordinate space were also added.

The following quotes were obtained from teachers in School A:

"Safety is a big issue, especially when kids are using the common space."

"Children stay inside the classroom only."

"I am scared about community adults' use of the children-only facility."

They seemed stressed when they allowed students' use of unmonitored corners of the school space and uncomfortable regarding restrictions when they yielded the space for other community groups. They believed that the school was borrowing the spaces from the city, and they did not consider those spaces their school's territory even if they were responsible for the maintenance and utility bills.

The following quotes were also obtained from teachers in School A:

"We cannot enter the room when required and send the students for errands."

"There are too many restrictions during school hours, and the boundaries are limited."

"When things overlap, priority is always given to the community."

"The lack of control of the temperature is stressful."

The coordination of the usage of the space is inefficient, and communication channels are not clearly set, as the school is not the owner of the community space; rather, it borrows the space during class time. Those situations generate "maintenance" issues in School A.

Teachers in School A tells:

"Many things are lost and misplaced after use by other parties."

"Things are not kept clean, as other people are using them."

"I am reluctant to use other common spaces due to the complicated process."

Therefore, teachers in School A tended to hesitate to use common spaces to enhance educational quality, negating the virtues of the brede school. In the case of School B, even though four different institutes were involved, systematic preparation, such as an internet-

based sign-in system and regular meetings with the representatives of each institute, resolved the problems, minimizing lag periods.

The following quotes were obtained from teachers in School B:

"Parents stay in the canteen when they wait; when they come and drop off the kids, they stay and share a coffee. It's very beneficial."

"The elderly tend to complain about the noise. We try to communicate with them, for example, through cooking classes (come to learn)."

Teachers in School B appreciated their expanded space, as it enriched the quality of education and opportunities for children while they were at the school, including after school hours. They needed to pay attention to their students continuously. However, they saw it is a tradeoff for the generous space. That is why "cooperation" and "communication" emerged as keywords from teachers in School B.

3) Students' point of view

Common keywords from students in both schools were "restriction" and "acceptance." Students in School A were more frequently restricted in using their school space, which was used by a senior group regardless of the school schedule. When asked about experiences of meeting strangers, many respondents showed negative feelings even if they accepted the condition.

The following quotes were obtained from students in School A:

"Elderly people come and use the craft room, and sometimes during our lunch break, we see adult dance classes."

"Frequently used space? Basically the classroom; that's it. I don't know other places."

"I don't like those restrictions. But it is a school rule. I learned to accept it."

These were very different from the comments at School B, which were milder, assuming that the strangers they met might have their own reason to be there.

The following quotes were obtained from students in School B:

"We're not allowed outside of the school. We're only allowed to enter the bathroom during school time."

"When I'm restricted by the teacher ... I just accept it. I do not need to know everything in the school."

“We need to go through reception. As there are people that do not belong to the school, it is natural to have restrictions.”

The attitudes of students from both schools showed understanding and acceptance of their situation. However, students’ desires for change in the school environment differed. Both schools commonly mentioned the size of the school as well as the lack of both indoor as well as outdoor play areas. Some students in School A felt packed in the classroom and wanted to have more space, and a couple of students confessed a lack of confidence in their school space:

“(I want) more open space; I don’t want to feel packed together. I want a little bit more space in the classroom.”

However, students in School B expressed their desires in a different way:

“I want to run around ... not just sit and stand...”

“I would like the school to be a little bit smaller.”

“Sometimes I don’t know where to go.”

It might be natural to assume that bigger and more complicated settings make students more confused and stressed in terms of spatial knowledge and environmental confidence. However, the opposite was found. Students in School A were not confident in their school, and they met more strangers and seemed to be stressed by the sharing policy. Students in School B were more confident in their school spaces. The only possible explanation for this result is the spatial layout and design of the school setting.

Conclusion

The case study of the two elementary schools sharing space with the community clearly shows that school design matters. The keywords from the interviews with parents, teachers, and students revealed common concerns and issues. While “safety” and “restriction” were dominant keywords from parents and teachers in School A, keywords from School B were relatively positive: “benefit” and “convenience” were dominant among parents, and “cooperation” and “communication” were common among teachers.

“Restriction” and “acceptance” were keywords obtained from the interviews with the students of both schools, and it was related with the somewhat different contexts. While students in School A tended to be kept in their classroom

due to safety issues and felt packed together, students in School B were controlled by reception and felt it was too big. While School A showed how the inappropriate design blocked the opportunity for schoolchildren’s normal development, School B showed the possibility of resolving those problems.

School B even led to improvement in terms of seniors’ involvement in school activities through the transformation. In the past, seniors living in the same building were indifferent to the school, and they used to complain about the noise from the schoolyard and new addition as it blocked the view and daylight. However, when the new space was provided, some female seniors volunteered to distribute lunches for the students and started enjoying school spaces. Society keeps changing, and buildings also need to change to accommodate societal needs and lead the direction of change. This case study of two elementary schools in the Netherlands clearly shows the role of the architect in the professional field who understands societal needs and leads the direction for a better society in the global aging context.

Endnotes

1. Clarence Perry, *The neighborhood Unit* (New York: Regional Survey of New York and Its Environs, Vol. 7, 1929).
2. AARP, *Aging in Place: A state Survey of Livability Policies and Practices* (Washington: AARP, 2011).
3. WHO, *Global Age-friendly Cities: A Guide* (Geneva: WHO, 2007).
4. Yolande Emmelot, Ineke Van der Veen, Guuske Ledoux, “De brede school: Kenmerken, Verwachtingen en Mogelijkheden”, *Pedagogiek*, Vol. 26, no. 1 (2006): pp.64-81.
5. The researcher conducted this research as a visiting researcher affiliated with Delft University of Technology
6. Daniel Vos, *Empty Schools: Quantitative research on hidden vacancy among primary schools in the Netherlands*, Master Thesis, Delft University of Technology (2015).