

School Planning and Design with Children's Participation: A Case Study of Shimoyama Elementary School

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This report is founded on the belief that user participation in design and planning is a key to success in creating better schools. Designers need to understand what teachers, children and community people really think of their present school, and what they want to do for their new school. It is especially important to bring children's views and ideas into school planning and design. According to my research, well-organized design workshops with children help provide useful information for creating better schools and help foster affection for the school. Yet, it can be difficult to involve children in such a process; this paper describes one attempt.

The new school site for Shimoyama Elementary School is located on sloped land in a mountainous village. The school is small, serving just 120 pupils, but it also serves as a symbol of the community. Five existing schools were to be demolished and combined into the new school. Facilities such as the gym, library, multi-purpose spaces and practical rooms were to be designed for use by the wider community as well as students.

We first surveyed the existing schools to understand the current problems and the children's needs. Next, we conducted an observational survey of children's behavior and interviewed them. We then organized several design workshops—the focus of this report—with all students of the existing schools to enable them to evaluate their current schools and allow them to exchange ideas for creating an ideal school.

Design Workshops with Children

The process of design workshops was as follows:

1. All students of the five schools met for an orientation. We made a slide show presentation of unique school buildings to fifth and sixth grade students.
2. Individual students worked in each school for two months.
3. All students of the five schools met for the students' presentations and to exchange ideas.

We divided the children from all schools into three groups according to age: first and second grade, third and fourth grade, and fifth and sixth grade. Each group worked on a different theme and used different methods (Table 1). Some of the results of the students work are shown in Tables 2 through 5.

Table 1. Design workshop themes and methods

Theme	Target	Method
My Favorite Places in My School	1 st / 2 nd grade	Children pick their favorite place, photograph it and write about it on a formatted sheet.
My School History: Learning and Life	3 rd / 4 th grade	Children in groups study their school's history through documents and interviewing a person of an older generation.
My Ideal Future School	5 th / 6 th grade	Children in groups study and design their ideal school.

Table 2. Results from 1st/ 2nd grade design workshops: My Favorite Places in My School

Name of School	Examples	Reasons
Sanba Elementary School	Slide	Good view from the top of the slide.
	Pond	Many killifish in the pond. Attractive grass field around the pond. Some grasses can be cooked and eaten.
Habu Elementary School	Japanese Room	A symbolic big drum is in this room. Comfortable tatami floor used in this room.
	Clinic	Clinic is only in this school. Nice doctor there.
Wagou Elementary School	Gym	Popular for playing with balls.
	Tree House	Created by all students. Swing by using automobile tires.
Tahirazawa Elementary School	Play House	Created by 1 st grader from 412 milk cartons.
	Play Land	Lots of play equipment in it. Tarzan rope is most popular.
Azou Elementary School	Frog Pond	Lovely gigantic carps are in the pond.
	Creature Land	There are 13 hamsters, 3 crabs, 8 tadpoles.

Table 3. Research themes from 3rd / 4th grade design workshops: My School History: Learning and Life

Name of School	Research Themes
Common for all schools	Transition of students' numbers in each school.
	When was the school built? Who built the school?
	How and what was played in the old days?
Habu Elementary School	How have school uniforms changed?
Sanba Elementary School	How has school lunch changed?
Tahirazawa Elementary School	How have learning styles and tools changed?
Azou Elementary School	How have learning styles and tools changed?

Table 4. Examples of 5th / 6th grade children's favorite schools and places in our slide presentation

1. Colorful school	6. Elevator in school
2. School in woodlands	7. School with a lot of glass partitions
3. Athletic equipment in school field	8. Library in the center of the school
4. School like a town	9. Triangular shaped classroom
5. School like a shopping center	10. Freestyle learning and spaces

Table 5. Example proposals from 5th / 6th grade design workshops: My Ideal Future School

Name of School	Projects	Examples of Proposals
Sanba Elementary School	Presentation board and models	Ideas for accessible design.
		Different design solutions according to age.
		Classrooms with living creatures.
Habu Elementary School	Detailed models	School yards with trees, flowers, and a vegetable garden.
		A skylight for getting sunshine and a view to the stars.
		A symbolic round shaped school building. Unique shaped desks and other school furniture.
Wagou Elementary School	Presentation board	Convenient desks in science room.
		A hot spring bath in school.
		Floor heating in school. An observation platform and clock tower in school.
Tahirazawa Elementary School	Several models	Classrooms with fruit trees.
		A courtyard with a fountain.
		A school with an art museum.
Azou Elementary School	One big model	12 story pencil building.
		Wind power generation.
		A school ground with spectator seats.
		An indoor swimming pool. A planetarium in school.

After the workshops, we asked teachers to evaluate them by completing a questionnaire. The results are shown in Tables 6 through 8.

Table 6. Teachers' evaluation of 1st/ 2nd grade design workshops

Question	Comment
Did you get interested in the new school project?	<ol style="list-style-type: none"> 1. We need more time to get interested in it. 2. We have little information about the new school project.
Did you complete it?	<ol style="list-style-type: none"> 1. It was good for children to find their favorite places in school. 2. We found that children loved the places they created.
Do you want to do it again?	<ol style="list-style-type: none"> 1. We would like to do other types of workshops again. 2. We should develop the way to do it.
Do you think children enjoyed it?	<ol style="list-style-type: none"> 1. They enjoyed the presentation and its preparation. 2. They were very excited about boasting about their school to others.
Do you think it helped children to get interested in the new school project?	<ol style="list-style-type: none"> 1. We did not explain the project well to children. 2. It seems to be hard for younger children to think about a new school. 3. They might gradually become interested in the new school.
How did you work with the idea?	<ol style="list-style-type: none"> 1. We let children discuss the presentations. 2. We gave each child a role in group work. 3. We taught children how to make sheets with maps and photos. 4. We did pre-presentations inside our school before big meetings. 5. We changed the format and narrowed the number of place choices.
How did you motivate children to work?	<ol style="list-style-type: none"> 1. We encouraged children to discuss the appeal of other schools. 2. We let children pick different places from each other. 3. We let children get interested in places from whole school site.
Were there any problems?	<ol style="list-style-type: none"> 1. It might be better to show the places children picked besides showing their photos. 2. It took a long time for children to prepare the presentation because of inexperience. 3. Children tend to be more interested in play than in learning.
Other comments?	<ol style="list-style-type: none"> 1. It might be better to narrow the theme to, for example, "play environment" rather than the whole school environment. 2. The next theme should be what to create for the new school. 3. It might be a good experience for children to speak in front of parents, government members and community people.

Table 7. Teachers' evaluation of 3rd/ 4th grade design workshops

Question	Comment
Did you get interested in new school project through it?	<ol style="list-style-type: none"> 1. We should create our own school together. 2. We found the importance of a wooden school. 3. We have little information about the new school project.
Did you complete it?	<ol style="list-style-type: none"> 1. It was difficult to link it to the actual new school project. 2. We didn't have a time to research and prepare for it. 3. We enjoyed it, but we could not explain the importance of it because children would graduate before the new school's completion.
Do you want to do it again?	<ol style="list-style-type: none"> 1. We need more time if we do it again. 2. We should discuss it more with children.
Do you think children enjoyed it?	<ol style="list-style-type: none"> 1. They enjoyed the research and presentations. 2. Children living with big families tended to enjoy it more because they could talk more with their grandparents. 3. It was difficult to motivate children to do this work.
Do you think it helped children to get interested in the new school project?	<ol style="list-style-type: none"> 1. We did not explain the project well to children. 2. It was difficult to link it to the actual new school project. 3. Children understood they would not go to new school.
How did you work with the idea?	<ol style="list-style-type: none"> 1. We let children discuss their presentation to make it more understandable. 2. We let children have their own special theme in each group. 3. We let children study the common themes for every school, then the individual theme of our school.
How did you motivate children to work?	<ol style="list-style-type: none"> 1. We narrowed down the research topics for easier choices. 2. We made use of old photo albums being kept in the school. 3. We let children interview graduates of the school.
Were there any problems?	<ol style="list-style-type: none"> 1. It was difficult to define the limits of generations. 2. There were few historical materials from which to learn about old school days. 3. We should better explain the relationship between this work and the new school construction. 4. There was no interaction between lower, middle, and upper grades.
Other comments?	<ol style="list-style-type: none"> 1. We should know the plan of this workshop earlier for better preparation.

Table 8. Teachers' evaluation of 5th/ 6th grade design workshops

Question	Comment
Did you get interested in new school project through it?	<ol style="list-style-type: none"> 1. It was hard to imagine the new school environment. 2. We could imagine the new school as our working place. 3. We had an idea from the viewpoint of renovation of the present school.
Did you complete it?	<ol style="list-style-type: none"> 1. There might be a gap between children's ideas and actual new school planning 2. We did child-centered work, so I had no idea for myself. 3. We didn't know how to use the results from the new school project.
Do you want to do it again?	<ol style="list-style-type: none"> 1. We should do it in a different way next time. 2. We should further discuss the purpose of it.
Do you think children enjoyed it?	<ol style="list-style-type: none"> 1. Children with younger brothers and sisters who would go to the new school were especially serious about it. 2. Some children focused more on making models than discussion.
Do you think it helped children to get interested in new school project?	<ol style="list-style-type: none"> 1. It was difficult to link it to the actual new school project. 2. Children understood they would not go to the new school.
How did you work with the idea?	<ol style="list-style-type: none"> 1. We encouraged every child to have at least one idea. 2. We visited new schools in other districts to think about our school. 3. We let all children discuss together.
How did you motivate children to work?	<ol style="list-style-type: none"> 1. We let children design not only the whole school but parts of it. 2. We encouraged children to make a model. 3. We let children use found materials. 4. We balanced the time between discussion and making models and presentations. 5. We made a file to record the process of work.
Were there any problems?	<ol style="list-style-type: none"> 1. It was expensive to make models. 2. It took a lot of time to finish projects. 3. We should explain more about the new school project itself. 4. Each school should share the information by exchanging ideas.
Other comments?	<ol style="list-style-type: none"> 1. We were surprised to see children working so seriously. 2. Children seemed to have a greater attachment to their school than before.

Discussion

We gathered many ideas from the children through the workshops, not only for the new school but also for the present school. However, we also found the following problems in the workshops we conducted:

1. Teachers tend to be reluctant to incorporate the design workshop into the school curriculum; it should be fixed a year before.

2. We should clarify the position of teachers in the process of school planning. We should have a number of meetings with participating teachers before the workshops with children.
3. There were few teachers who were interested in the new school. We should motivate them to think about it. We also failed to show the outcome of the workshops to them. We should fully explain to the teachers how to use the workshops' outcomes in the school planning.

We arrived at the following solutions to improve the workshops:

1. Present the outcome of the workshops and discuss them with every person who is involved in school planning and construction.
2. Summarize the implications for requirements for the new school that were generated by ideas from the workshops.
3. We should meet again with the children in a subsequent workshop in which we show and discuss with them the model and drawing of the new school.

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