

## Bridge of Chopsticks Contest\*

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In 1999, Niigata City saw 12 consecutive summer days with temperatures exceeding 35 °C, the region's hottest season since the Niigata Meteorological Observatory began operations. In the midst of this heat wave, a "bridge of chopsticks contest" was held in the municipal gymnasium with participants from the higher grades of the elementary school. This was the first time the event was held. It was sponsored by the Niigata Regional Society, the Kanto Branch of the JSCE, and others to give the public a chance to see up close the civil engineering facilities.

The Niigata Regional Society formed a working group in March 1999 to study the proposed contest under the suggested idea of "offering children a chance to make a bridge model, one of the most popular civil structures, using disposable wooden chopsticks." After the study was completed, the contest was established as a "volunteer activity (by the host)" and the following basic policies were decided: 1) model construction should take place at a large site that can be opened to the participants in advance; 2) members should try to do what is thought possible or good to do; and 3) the contest should be canceled, even if in the planning stage, if it turns out that it is unlikely to succeed. With these policies in mind and no preconceptions, planning was begun.

Problems unfolded during the course of the detailed study, including the following:

- (1) These days, children are busy and so are teachers. (There are already numerous events for children, especially in the first half of the summer vacation. There are so many sports contests and summer festival events that there is no room for a new event.)
- (2) How much time and enthusiasm are children willing to devote to time-consuming handiwork?
- (3) Does handiwork, which requires steady and persistent effort, have any appeal to today's children? Can it match the excitement and immediate feedback of a TV or PC or a video game?
- (4) Nowadays children tend to act independently. Can

they act as a group? Who will supervise them? Who will be the group leader? In light of recent social concerns, is it possible to expect schoolteachers to become leaders?

- (5) Do children, who are now accustomed to being given what they want, have the imagination to picture a dream?

Based on the problems identified above and the basic policies of the working group, the following specific measures were worked out:

- (1) Incentive: a TV appearance (An appearance on TV seems a great attraction to today's children).
- (2) Incentive (group award): a rare chance to climb the main tower of the Honshu-Shikoku Bridges.
- (3) PR and invitation activities: primarily the distribution of fliers and posters; and secondarily, visitations to schools and other groups to promote the contest.
- (4) Establish a full-support system to help the children make their handicrafts through their own independent efforts.
- (5) Since the making of a bridge with disposable chopsticks is a new idea, the members' own universities and technical high schools will be asked to make a prototype in order to determine the feasibility of building such a bridge and identify problems likely to be encountered.

Since the PR and invitation activities, including the individual invitation activity, are expected to present the greatest difficulties, it was decided to have the members directly approach handicraft teachers at elementary schools and other organizations. A catchphrase used for this was "A child's dream will come true in the form of a bridge model." It was impossible to approach all of teachers in the country and so only a limited number were approached, but this method appears to have brought good results.

Thus, more than one action was taken to solve expected difficult problems. Through information collection, members could understand the current situation and take the necessary steps.

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\* Both "bridge" and "chopsticks" are pronounced "hashi" in Japanese. This coincidence motivated the choice of the material of the handicraft bridges in the present contest.



Photo 1. Contest site: All are working hard.



Photo 2. Making the model: A bit more to finish it. Hang in there.



Photo 3. The 23 groups and their advisers: We had a nice day.

Time was restricted and no precedent existed. Members were haunted by possible problems but launched the invitation activity anyway. At first there was not a single response, making members feel greatly concerned, but the situation suddenly changed about one week before the deadline for applications, and in the end 51 groups applied. Although the number of participants had been set at 12 groups initially, it was doubled to 24 in the hope that the enthusiasm of as many children as

possible would be reflected in the event. The final participants were selected by lot, (one group cancelled after the lot, leaving 23 groups to participate in the contest).

Once the participants were selected, an elaborately worked out schedule was followed. It started with a meeting on July 24 at which the participants were given hints on model making. Model concepts were selected and design drawings were prepared. Finally, the models were started. For the rest of the details, the members could only wait for the contest on August 10 to see what the children's enthusiasm and efforts would produce.

On the day of the contest, under a scorching sun, the members prepared the contest site and awaited the children. Every group that entered the contest showed up, bringing their models, filled with their hopes, to be finished at the site. The members were excited to see the works, but the varied states of progress had them concerned about whether all of the groups would be able to maintain their concentration long enough to complete their models in the allotted four hours. But on the contrary, the hall was so filled with the children's eagerness to bring their works as close to perfection as possible that when time was up, the feeling of "so soon!?" was shared by everyone (Photos 1-3). The judges had a hard time assessing the models, but expressed their great pleasure at seeing the children's sparkling eyes and smiles, which revealed their sense of accomplishment. The models were evaluated for creativity, workmanship, degree of effort, and teamwork. Photos of some of the winning models are attached to this report (Photos 4-9).

Looking back, the author feels that children have plenty of creativity but that adults might ruin it before it has a chance to develop. However busy they may be, there are children who do what they wish to do. There might be only a few adults who have their own dreams and objectives, without which children cannot find their own.

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**"The future is bright. Let's enjoy it!"**

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### Postscript

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The winning models were put on public view in November 1999 at an exhibition related to the "Day of Civil Engineering." They were also shown at five other events in Niigata City and Nagaoka City. A report on the contest written by a member of the team that won the award for the best model is presented below.



Photo 4. Award for Best Model: "Katteni Returns" (team name) from Tochio Municipal Tochio Higashi Elementary School



Photo 7. Awards for Excellence and Workmanship: "Sonokodan" from Nagaoka Municipal Yamayazawa Elementary School

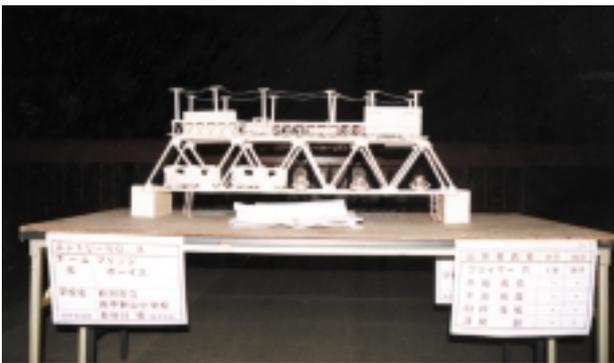


Photo 5. Awards for Excellence and Effort: "Bridge Boys" from Niigata Municipal Minami Nakanoyama Elementary School



Photo 8. Awards for Excellence and Teamwork: "Sekisho Team" from Nagaoka Municipal Sekihara Elementary School



Photo 6. Awards for Excellence and Workmanship: "Hibiscus" from Niigata Municipal Sakaiwa Elementary School



Photo 9. Awards for Excellence and Effort: "Super Lovers" from Nagaoka Municipal Kawasaki Higashi Elementary School

## Report on the Bridge of Chopsticks Contest

Takashi Kamimura, Tochio Municipal  
Tochio Higashi Elementary School, 6th grade

"Best model award, Entry No. 19, 'Katteni Returns!' (team name)" we jumped for joy.

Then, I remembered our efforts leading to this point in time. We had worked hard from morning till evening every day during the summer vacation. At night, we split pairs of disposable wooden chop-

sticks and attached the individual sticks to form rectangular shapes. During the daytime, it was very hot, particularly in the school's handicraft room, which had no air conditioning. But we made every effort to complete the bridge. We quarreled sometimes. Someone was hurt by another's critical remarks and cried. Nevertheless, we could not afford to be at odds with one another for very long, as the deadline was August 10. Besides, "teamwork" was one of the evaluation criteria, so we made up with each other as soon as someone

mentioned "teamwork." The most difficult task for me was the making of the abutments. To attach split chopsticks to one another to form a T was quite a job.

On the day of the contest, we worked hard right up to the last moment to finish the model. It did not look like an easy job for the judges to make their selections. Our work was called "Bridge of Peace," and when viewed from the side, looked like people standing hand in hand. One of the design elements is wooden hearts supporting wooden globes. The bridge deck is designed to allow people to walk or have fun in the middle of the bridge while cars travel along the sides -- with this image in our minds, we waited with pounding hearts for the announcement of the awards.

And we won. We jumped for joy. Our parents looked happy too. We won a trip to Shikoku. We were so happy that it was like being in heaven.

August 21. I was excited, and wondering how I would feel at the top of the main tower of the bridge. But I did not find it heavenly. We had to walk a long way along a very high place and climb even higher. And directly below our eyes was the sea. We reached the highest point of the Seto Bridge at last. "Wow!" The view we had from the height was too splendid to be described. I thought anew that this bridge connected Honshu and Shikoku. We were also given a detailed explanation of the bridge.

On the next day, we went on a tour of the Akashi Kaikyo Bridge. "Being at a high place is scary and I will just give it a look," I thought. But again, we had to climb to the highest point of the bridge. While the highest point of the Seto Bridge was around 200 m above sea level, the highest point of the Akashi Kaikyo Bridge was 297 m above sea level. It was very high and I was even more scared.

By participating in this contest, we learned a lot about bridges, such as the different bridge types, and about the parts of bridges, including abutments and girders. And through the tours of the Seto Bridge, Akashi Kaikyo Bridge, and Onaruto Bridge, we also knew that a lot of time, money, and effort were spent on the bridges. Thanks to these efforts, people on Shikoku can now conveniently travel to Honshu in a very short time. It was also learned that even after construction was completed, they still required a lot of money and effort for inspections and management. I may never have another chance to climb a bridge up to the highest point. I shall not forget this significant experience.

At the airport on our way home, we talked about our future activities. We decided to make some suggestions about our "Bridge of Peace" to the overseas students with whom we have been exchanging opinions over the Internet. I think it would be wonderful if this opportunity leads to the creation of a world bridge.