



Japanese Traditional Crafts for Children Adopted at the Montessori School

- From Practical Life Activities to Peace Education -

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INTRODUCTION

Origami, the art of folding paper, is a Japanese traditional craft, which can be made by most Japanese. Japanese origami was greatly influenced by Fröbel (1782-1852), a mid-nineteenth century German educator's method of teaching derived from European traditional origami, which further developed into folding to make various geometrical shapes, and was widely adopted particularly in the Japanese kindergartens. (Yamaguchi, 1996) In the United States, some practices were reported, such as origami used for developing concepts and processes of algebra (Georgeson, 2011) or as peace education through the story of "Sadako and the thousand paper cranes" by Eleanor Coerr (Nesbitt, 1998).

The origami crane is a well-known symbol in Japan representing happiness and longevity. People in Japan customarily make a thousand origami cranes and link them together by thread (Exhibition 1). These cranes are then given to a sick person as a wish for them to become well again. A thousand origami cranes are now regarded as the symbol of peace for Japanese; they can be seen in many locations, such as hospitals, war memorials and even the hard-hit areas of the Great East Japan Earthquakes which occurred last year (Fig.1).

In our university-affiliated kindergarten, practicing origami crafts have been adopted for years as the practical life activities of Montessori education (Fig.2). We believe children can develop their fine motor coordination efficiently by practicing origami.



Fig.1 Thousand Paper Cranes at the Earthquake-Stricken Area



Fig.2 Children Folding an Origami Crane

RESEARCH QUESTIONS

We need to clarify the educational impact of origami on child development. The following questions are to be addressed.

-When are children eager to practice origami?

-Is there any relationship between the age and their favorite type of origami?

-Is origami unique from other hand-craft activities?

-Does origami have some additional effects besides improving fine motor skill?

METHODS

Studied Cohort: Children in our university-affiliated kindergarten -9 classes; 75 children aged 3, 70 aged 4 and 79 aged 5 in total

Research Period: 3 months

-December in 2011 to February in 2012

Observed Hand-craft activities:

Origami -Paper-Cup (Fig.3), Helmet (Fig.4), and Crane (Fig.5)

Making Braid (as a control hand-craft work of origami) (Fig.6)

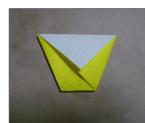


Fig.3 Paper-Cup (Need 5 steps)



Fig.4 Kabuto-Helmet (Need 13 steps)



Fig.5 Crane (Need 24 steps)



Fig.6 Making a Braid

Issues Addressed: Ability to complete each hand-craft
Favorite hand-craft for each child

As for the ability to complete each hand-craft, children were encouraged to do the craft during the research period, and the classroom teachers checked the abilities of children. As for the favorite hand-craft, the daily activities of children were observed, and the hand-crafts each child made were recorded. If children made the hand-craft voluntarily for more than 10 days during a 3 month period, that hand-craft was regarded as a favorite one for that child. Other features of children with hand-craft activities were also checked on the daily observational records, and the records were retrospectively reviewed.

Statistical Analysis:

Contingency table on each hand-craft activity was analyzed between ages using Pearson's chi-square test. P value < 0.01 was judged significant.

RESULTS

-When are children eager to practice origami?

Almost all children like to practice origami at age 3. They would like to try many kinds of origami, although at age 3, they are not able to complete difficult ones. Upon completing an easy one, they seem satisfied with their own hand-crafts, and can develop their own self confidence. We believe origami is an adequate introductory activity of practical life.

-Is there any relation between the age and the favored type of origami?

TABLE 1. Number of children who are able to complete each origami

Type of Origami	Age			p
	3	4	5	
Paper-Cup	73/75	70/70	79/79	NS
Helmet	66/75	70/70	79/79	*
Crane	1/75	28/70	44/79	*

* : significant difference between ages ($p < 0.01$)

NS : not significant

TABLE 2. Number of children who favor each origami (> 10days-work in 3 months)

Type of Origami	Age			p
	3	4	5	
Paper-Cup	39/75	0/70	0/79	*
Helmet	30/75	0/70	0/79	*
Crane	1/75	16/70	41/79	*

* : significant difference between ages ($p < 0.01$)

By comparing the number on Table1 and Table2, it is noticed that children tend to work with each type of origami when they become able to complete, however, they quickly become reluctant to work with an easier one. The Paper-Cup, which is the easiest type of origami and most children can complete this at age 3, is seldom worked on by children at age 5. The same tendency is observed with the Helmet, but Crane, which is the most difficult one, is the favorite type of origami for children at age 5.

-Is origami unique from other hand-craft activities?

TABLE 3. Number of children who are able to complete and favor for making a Braid (> 10days-work in 3 months)

Braid	Age			p
	3	4	5	
Able to complete	31/75	62/70	72/79	*
Favor to make	18/75	22/70	19/79	NS

* : significant difference between ages ($p < 0.01$)

NS : not significant

Making Braid is a difficult work for children at age 3, and most children can complete that by age 5. However, the tendency of working to make a braid when they become able is not so distinctive compared with the tendency seen in origami. This is supported by the fact that there was no statistically significant difference between ages in number of children who favor to make braid (Table 3). Origami can be made in a shorter time than braid, and as a paper-craft in nature, children can write some messages on origami paper. These features may be the uniqueness of origami and more children like to work with.

-Does origami have some additional effects besides improving fine motor skill?

In observing children making cranes at age 5, it is noticed that children begin to cooperate with each other when making a thousand origami cranes for someone who is sick. Some of them also write a message on origami cranes suggestive of praying for world peace. Children seem more enthusiastic to make origami cranes when they pray for others than when merely making them for fun.

DISCUSSIONS

Through cosmic education, Montessori philosophy is now spread all over the world, and adopting the tradition of each country into Montessori educational method is encouraged. (Trudeau, 2002) Origami is one of the Japanese traditions, and most Japanese can make them. There are several benefits of origami as a practical life activity. Parents can work with their children and children can gradually improve their abilities from easy to difficult ones. Japanese paper, used to make origami, is not expensive, soft to the touch, and children can write messages or figures on the paper itself. Moreover, the paper can be modified or cut according to the child's imagination. With our study, origami was found to be an adequate activity for early childhood education. There are many kinds of art-crafts in origami, so children can practice at their own paces, although each child's physical, mental and social development is different.

Another great virtue of origami is promoting the mind of cooperation in making larger art-crafts by combining one's own product with those of friends. The illustrative example is a thousand origami cranes; making those in cooperation with friends is usually for someone in troubles. Growing-up in Japanese cultures, children at 5 years of age come to know the origami crane represents the wish for peace. Adding significant meaning to their practical life activities enhances the eagerness of children to practice origami. Making a thousand cranes is hard work for one child, but sharing a common purpose with friends, children learn to know the importance of cooperation.

Making a thousand origami cranes is a great example from Japan, which leads us to pray for others and wish for peace in our society. Probably, each society all over the world has its own unique activities, tied up with its cultural background. How we help children to collaborate and to build peace in their classroom is an important role for Montessori teacher. Finding out possible activities for Montessori education in each society and organizing those activities into an appropriate manner for children should be pursued.

FUTURE DIRECTIONS

The Education for Sustainable Development (ESD) recently promotes efforts to rethink educational programs and systems (both methods and contexts) that currently support unsustainable societies requiring global solutions. (UNESCO, 2012) ESD covers many forms of education that already exist, and ESD is quite consistent with Montessori Education philosophy. Peace education is regarded as a key aspect of ESD as well as Montessori education. As a first step of peace education for children, the educational method for creating an opportunity to think about world peace besides making a thousand origami cranes should be invented, and the efficacy of the method should be evaluated with the future research, in order to improve Montessori education.

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APPENDIX

Montessori Teacher Training Program in our University

In Notre Dame Seishin University in Japan (Fig.3), we run a Montessori teacher training program as a university curriculum with a history of approximately 40 years, established with the help of Sr. Christina Marie Trudeau, who was a vice-president of professional development on AMS (Fig.7). Our Montessori teacher training program is only open to senior students at the university. In that program, hands-on practice is held in the Montessori Children's Room at the university-affiliated kindergarten (Fig.8) and lectures are held at the university. Training lasts for one year and 309 university students having been trained and certified by our university to date.



Fig.7 Sr. Trudeau (center)



Fig.8 Notre Dame Seishin University

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