

## Knowing Our Body

Compilation of Human Body Picture Books for 5 to 6-Year-Olds for Providing Basic Health “Body” Information to All

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### 【Introduction】

While people are required to take the initiative for healthy behavior and ensuring proper medical care, there exists an ever widening gap between the health information available to and understood by the people and advances in medicine available to the medical professionals. Based on the assumption that the key to good health is for people to be knowledgeable about their bodies, we focused on two goals aiming to foster a well-informed society. One is the development of routine nursing support techniques suiting the individual, and the second is making available health information to everyone including teaching pre-schoolers about the human body. Toward this goal we compiled teaching material. For the first goal, we developed and spreaded practical nursing skills with patients and nursing professionals in the first year of this project. That program has been completed. This report focuses on the second goal.

### 【Goal】

Using a Community Based Participatory Research (CBPR) strategy, involving researchers at universities, and the community, such as child-care workers and parents compile teaching materials for pre-schoolers and teach them about the human body.

### 【Plan and Implementation Process】

- 1) To select the target community to teach physical health information, we conducted a survey of 15 school nurses and a survey on precedent subjects that would eventually be carried out. The results showed that teaching children about the physical mechanism of the human body is important for people to lead healthy lives and it was also concluded that ideal subjects are kindergarten children and older children in nursery schools (5 to 6 years of age). (Hishinuma et al., 2006)
- 2) We focused on existing educational tools such as toys, picture books and illustrated books, and found them to be diverse-ranging in content depending on the purpose. Out of these, we decided that a pictorial book explaining the human body using three-dimensional models compiled in the U.S. was excellent, and translated this into Japanese and published it (3D Model Picture Book: The Human Body, Kodansha, 2005).
- 3) We conducted a survey of knowledge that five-year-olds had about the names of body parts and internal organs. Surveyed were 15 boys and 14 girls through their parents. Results indicated that most of them knew the names of external parts and knew such internal parts as bones and heart. They knew that food was for stomach contents and had also seen blood. It was concluded that it is also possible to talk about those parts and they would understand what was being said using those words.
- 4) We compiled picture books on seven systems: digestive, urinary, circulatory, and respiratory systems, bones and muscles, as well as nervous and reproductive systems. Specialized information was prepared by college teachers, while terms used, easy-to-understand expressions, information volume and contents were determined based on the opinions of

school nurses who were research members, public health nurses, graduate students, and the public. We asked an illustrator to draw the pictures, as well as create a picture-card show. Based on the results of the precedent subjects, we asked a shop to make internal organ T-shirts as visual educational tools.

- 5) Using the digestive system picture-card show, internal organ T-shirts, and picture books, we carried out the picture book educational program at two nursery schools, and evaluated the usefulness and pertinence of the program. Sixty-seven five-year-olds participated, and 45 parents and five child care providers answered our questionnaire. Child care providers replied that the program helps five-year-olds understand the human body and that they enjoyed learning about the body's mechanism together with the children. Both parents and child care providers requested further development of the program. (Matsutani *et al.* 2007)
- 6) We carried out the program and the questionnaire survey on child care providers between January and June 2007, for a total of 20 times on a total of 742 children at kindergartens, nursery schools, and elementary schools. The educational tools used were the picture books of the digestive system (13 times), those of bones and muscles (3 times), and those of the urinary and circulative systems and the T-shirts (one time each). Parents and child care providers replied that the intended goal was more or less achieved. They said that the children listened and looked on with interest during classes, and responded enthusiastically to organs they knew and to "poop." The teachers who taught the classes also said the children responded well, and that the classes were fun for them and they were motivated to do them again in the future. Comments were also received on the picture-card show and implementation methods.
- 7) Based on the results of 6) and exchange of opinions between participating program members, the picture books were revised. Carefully selected contents were placed on the picture books, and a commentary of two pages in length (A4 size) for each system was compiled for parents and child care providers. The picture card show was changed to one consisting of pictures pasted to the surface only.
- 8) To evaluate the effects of the teaching tools, we are currently carrying out evaluative research by conducting classes on all seven systems in private kindergartens and investigating the increase in knowledge of the children, and gathering opinions from child care providers and parents.

## 【Goal Attainment】

### 1. Research activities

We have been developing educational tools for a program to teach children about the human body since 2003 with the aim of fostering people who take an initiative in leading healthy lives. This endeavor started with a conceptual model shown in Figure 1 based on the need for such educational tools felt by college teachers. As a result of surveying the comments of people involved in the health education of children, child care providers, and parents, as well as precedent cases, it was revealed that the first step to cultivating people who would take the initiative in being healthy was to develop the required teaching materials and programs, as well as having the public participate and cooperate in these.

We analyzed the development of the picture books and the program progress, according to the nine elements of the Community-based Participatory Research (CBPR) proposed by Israel (Table 1). The following results were seen for the nine elements; setting the target community as older children (5-year-olds) <identity>, served as a joint project of picture books compilation where the

participation of the public increased with progress <partnership>, resources in the project accumulated <resources>, continued discussions at equal stance <cyclical interaction>, while respecting each other's experience and knowledge, those carrying out the program changed from nursing professionals to the public to child care providers <capacity building>, successfully prepared the educational tools for continuing the program <sustainability>, and gave presentation at seminars <dissemination>. Information was also spread to parents and child care providers through the children <local relevance>, and the evaluative research proceeded as planned as comments were gathered in the program <balance>.

Particularly important amongst these elements is partnership, and as shown by the water ring model (figure 1), as the program progressed, the circle of people contributing to it, such as the public, participants, and all those who exchanged opinions, and helped develop the educational tools and program, also spread. The program, which was first launched inside our college, gradually broadened to child care providers and parents in the region through teachers, students graduating from our college, and ward residents, thus expanding the target community of the program and contributing to relation-building. The other important element is capacity building. To the children of the target community, the picture books are a means of acquiring information, so this means all participants successfully acquired knowledge and skills. In particular, the faculties of the nursing college were able to create easy-to-understand educational tools from the thoughts of the people and reaction of children in the process of conveying specialist knowledge to children, thus allowing them to acquire the skills for providing information to the community people.

This study involved the repeated interaction of many in the process of developing picture books (coalition), continuous discussions on equal footing, and accumulation of new knowledge and skills by participants with time. We were able to express this process using a spiral model (Figure 2).

## 2. Education of novice researchers

In the first year of this research, which established “nursing techniques for supporting daily living” as a program, joint research with people actually involved in the field (patients, nurses, other professionals) successfully contributed to the research endeavors of these people. One of the students summarized the results in a doctorate paper “Effects of Nursing Care Program ‘Awaking the Body’ to Promote Reconditioning of Patients with Acute Cerebrovascular Disorders.”

Throughout the “Making Available Knowledge of the Human Body to All” program, graduate students participated in all stages of the activity. Joint efforts to carry out this program (picture card shows, symposiums, etc.) according to the target community served as an opportunity to learn what people-centered care actually is. The candid information of responses and opinions of the community were gathered. By reporting and talking about such information, they were able to learn the elements of CBPR. This is also involved in data gathering and research progress for the evaluative research of this program.

A COE research fellow employed in the final year of the project was scheduled to give presentations in two conferences in 2007.

## 3. Future directions

- 1) Revision of the picture books

Evaluative study of the picture-books “Knowing our body”, by using monitors. Through the internet the monitors are asked to answer the questionnaires about the books. The monitors are parents, care-takers, and kindergarten teachers.

In addition to this study, all records from local institutions, where our programs have been implemented, are analyzed. After obtaining the results of the evaluative research on these educational tools and program, if further revisions are deemed necessary, we will have community members participate and work with us on those revisions.

2) Evaluative researches on this program

- ① Evaluative research of the health teaching program ,”Knowing our body”, for the pre-school children.

The survey is conducted to evaluate the teaching effects on 22 five-year-old children at the private kindergarten after implementing seven card-board shows.

- ② Cohort study of the program, “Knowing our body”, for the pre-school children---after one year of implementation.

At the private elementary school, the study is conducted to survey the effects on first-grade elementary children at the private school after one year of implementation.

3) Dissemination of this program

We will also consider collaborating with picture book publishers and the government to spread the program. In addition, to continue this program, we are also planning to foster and secure personnel who will be able to become program providers in the future.

Table 1. Analysis of Israel’ s Nine Elements

	<b>Keyword</b>	<b>Element</b>	<b>COE 11</b>
1	<b>Community</b>	Approve community as one unit of identity	<b>5-year-olds, caregivers, parents</b>
2	<b>Strength and resources</b>	Accumulate resources and strengths in the community	<b>Easy to understand expressions, special knowledge, educational needs, pioneering cases</b>
3	<b>Equal partnership</b>	Promote cooperative and equal partnership in all stages	<b>Discussions during member meetings</b>
4	<b>Acquisition of skills</b>	Foster collaborative learning and skill acquisition	<b>Adjusting use of words, pictures, and content to five-year-old children, effectiveness of visual educational materials</b>
5	<b>Balance</b>	Balance knowledge output and intervention for benefit of all partners	<b>Implementation of program and results, selection of technical knowledge, observe response of children</b>
6	<b>Local relation</b>	Focus on regional related and ecological aspects	<b>Local events, symposiums, touring of program</b>
7	<b>Circularity</b>	Develop in circulative and reciprocal process	<b>Revision of picture books in discussions, editing committee</b>
8	<b>Diffusion of results</b>	Spread results to all partners and further spread through them	<b>Calling out to local kindergartens, distribution of picture books</b>
9	<b>Sustenance</b>	Promote sustenance in long-term process	<b>Compilation of picture books, presentations at conferences</b>

Figure 1. Water Ring Model on the increase of partner

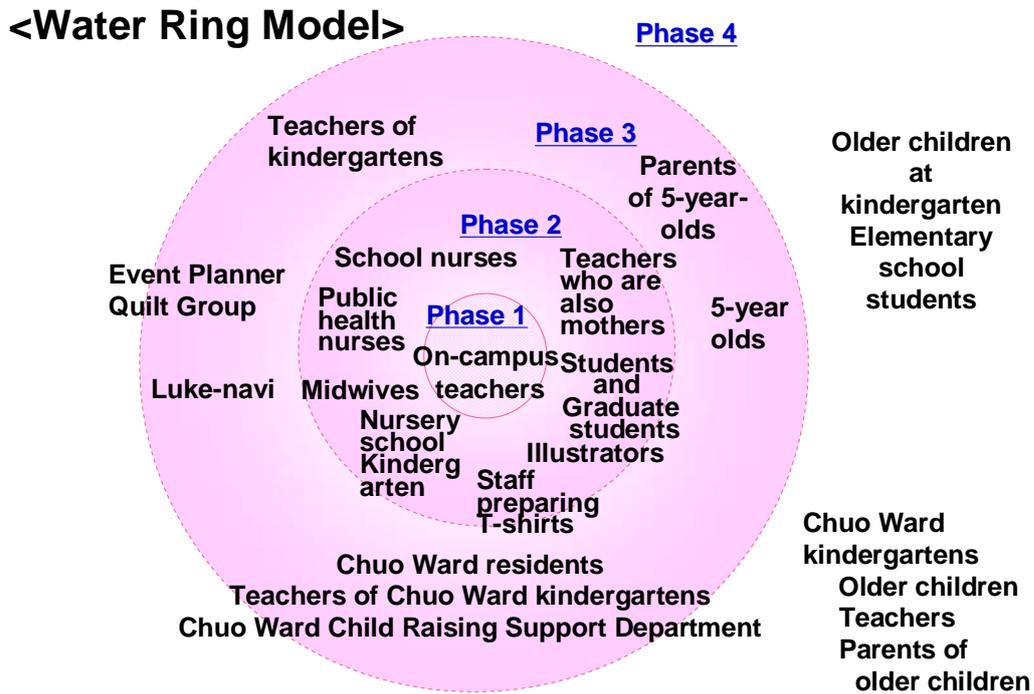


Figure 2. Special Model of the activities of this project

