Acquisition of Oral and Written Language by Children with Severely Impaired Hearing

Mitsuru Furukawa¹, Masako Notoya² and Takaki Miwa³
Department of Otorhinolaryngology, Graduate School of Medical Science and Kanazawa University, Japan

1. Introduction

As useful measurers for promoting the language development of children with poor hearing, the auditory compensation or ear training using a hearing aid and visual means using cued speech, speech reading and finger signs are usually practiced from the early period of life. In spite of such measures, it is known that the language development of children with poor hearing tends to be delayed.

The conventional direction for children with poor hearing has been given based on the knowledge of the development of children with normal hearing who first learn the oral language (OL) and then the written language (WL). In this method, the lower the learning of OL is, the slower becomes also the learning of WL.

We attempted to start the education of WL from the early period of life simultaneously with ear training, as a means to improve the retardation of language development. The effect of the use of WL for the training of children with severely impaired hearing was compared with that of OL. We obtained that the training of children with poor hearing using WL from an early period of life is effective for the promotion of the language development [1-3]. The purpose of present paper is to introduce our method and to assess the efficacy of WL training from the early period of life in the acquisition of OL.

2. Method of Training

The language sign learning for infants with hearing impairment at our department is a multi-sensory method consisting of the reception and expression trainings using WL in addition to the conventional ear training, speech reading and articulator training. The learning program is determined on the occasion of an interview with the mother once in every other week (for 45 minutes each) depending on the indi-
individual progress so that the mother can train her child every day at home. Also bi-weekly (for 2 hours), a group ear training and checking of the home study is given. The training curriculum is shown below.

2.1 Ear Training

a) Arousing attention to voice, musical instrument, sounds and social sounds; b) on/off discrimination of musical instrument sounds, music, and social sounds; c) discrimination of words and sentences; d) discrimination of syllables; e) discrimination of rhythm; f) discrimination of intonation.

2.2 WL Learning

This practice mainly consists of reception (reading comprehension of words and sentences) and expression using WL cards (presentation of WL cards in the correct grammatical order of Japanese and writing practice in the older children). In our series, kanji (ideogram), hiragana (phonogram), and katakana (phonogram) have been used randomly. The outline of the initial steps of WL learning given at our department is as follows.

**Step 1:** WL cards are attached to everyday goods and furniture to stimulate the correspondence of WL with actual objects. Picture cards are also shown to stimulate the words. Then matching of the WL cards with corresponding actual objects or the picture cards or action (reception of WL) is encouraged.

**Step 2:** The actual objects, picture cards or actions are shown, and the child picks up the corresponding WL cards or writing letters (expression of WL).

**Step 3:** The child is shown a sentence card, containing two or more words, and selects the corresponding objects, picture cards or action (reception of a sentence).

**Step 4:** The child constitutes a sentence, in response to a question given by a picture card, action, or LW, by picking up and arranging WL cards or writing letters (expression of a sentence).

**Step 5:** The child constitutes a sentence, in response to a question given by a picture card, action or WL by selecting word cards and function word cards, or writing letters (expression of function words).

**Step 6:** The child constitutes a sentence by adding conjunctions and auxiliary verbs.

Examples used in our training course are shown in Fig. 1