Evidence has demonstrated that early behavioral interventions for children with developmental delay improve their intellectual, social, and communication functions. A requisite condition to receive effective interventions may be having well trained therapists because that the effects of the intervention heavily depend on the fidelity. However, it may be difficult for some children and their families in Japan because the number of trained therapists are far fewer than the number of children and families who need the interventions.

People who provide interventions for children with developmental delay in Japan, instead of behavioral intervention therapists in other countries, are parents at home, nursery teachers at nursery schools, special education teachers at schools, and clinical psychologists, occupational therapists, and speech and language therapists at child development support centers.

Under such situations, the author developed a new model to disseminate the evidence-based behavioral interventions which can be fit in the welfare and educational system. The main concept of the new model is teaching behavioral intervention strategies to practitioners who had been working with children with developmental delay in their professions. If we can teach them the evidence-based behavioral intervention strategies, the duration of the training may be reduced because they already had basal knowledge, experience, and plenty of activity ideas in their professions. More importantly, it may expand the availability of evidence-based behavioral interventions for children with developmental delay and their families in community settings.

The purpose of the present dissertation is to identify the method to develop human resources to increase the number of practitioners who can implement evidence-based behavioral interventions in community settings. The primary aims of this dissertation are to: (a) Investigate trainees’ (i.e., parents, nursery teachers, clinical psychologists, and special education teachers) baseline characteristics and examine the effects of the training programs on their intervention skills; (b) identify determinants of the intervention effects on intervention skills; (c) examine the effects of each training procedure on acquisition of intervention skills and...
knowledge; (d) examine the effects of training programs on children’s development; (e) examine the effects of a pyramidal training program to inherit behavioral intervention strategies; and (f) examine the acceptability of the training programs.

In Experiment 1, a brief parent training program was applied to 20 parents of young children with autism spectrum disorder, and the effects on parents’ intervention skills, parental stress, and children’s development were examined. In Experiment 2, different feedback conditions were applied to 24 nursery teachers, and the effects on teachers’ intervention skills and knowledge were examined. In Experiment 3-1, 3-2, and 3-3, an expert-level training program was applied to six practitioners of early intervention, and the effects on practitioners’ intervention skills, knowledge, and children’s development were examined. In Experiment 4-1 and 4-2, a pyramidal training program was applied to 11 practitioners, and the effects on practitioners’ intervention skills, knowledge, and trainers’ procedural fidelity were examined. In Experiment 4-3, the author summarized the results in Experiment 3, 4-1, and 4-2, and identified participant practitioners’ pre-intervention characteristics and determinants of intervention effects on intervention skills.

As for trainees’ baseline characteristics and the effects of the training programs on their intervention skills, the author found that all the trainees (i.e., parents, nursery teachers, clinical psychologists, and special education teachers) had difficulty in reinforcing children as their baseline characteristics. However, they quickly acquired the skills as the intervention proceeded; the post-intervention fidelity regarding reinforcement was very high. In contrast, trainees required more time to acquire intervention skills concerning target behavior, and the post-intervention fidelity regarding target behavior was lower than those of other categories (i.e., setting, antecedent, and reinforcement).

The essential difference between the skills that they quickly acquired and those they did not was that the former skills were the ones that they could provide regardless of the child’s behavior. The skills they required more time to acquire were ones for which they needed to change their behaviors depending on the child’s ever-changing response. Since the skills that had to be adapted in accordance with a child’s response were not uniform, the trainees probably required more time to practice in various contexts.

As for determinants of intervention effects on intervention skills, the author found that whether or not the trainees were in active duty was significantly related to the number of feedback sessions required to reach the mastery criterion. In contrast, trainees’ professions, years of experience, knowledge of examination scores, and child’s development levels were not related to the outcomes.
As for effects of each training procedure on acquisition of intervention skills and knowledge, the author found the following: (a) A didactic lecture had a minimal effect in improving trainees’ intervention skills, but was sufficient for improving their knowledge of behavioral intervention strategies; (b) video feedback was effective in improving intervention skills, which could be automatically implemented for every child and in every activity; however, it was not sufficient to improve the skills in which trainees need to adapt depending on ever-changing responses of the child; (c) the self-feedback rehearsal effect did not seem as strong as the feedback from trainers; and (d) in-vivo feedback was the most effective in teaching behavioral intervention skills in a short period of time and the only one that taught skills to adapt trainees’ behaviors depending on the child’s responses.

As for effects of training programs on children’s development, the author found that children clearly showed improvements in regard to attention, initiation, imitation, language skills, and social skills. With regards to the number of training sessions in which children received the intervention (e.g., five 20-min one-to-one sessions in the expert training program), the development were overt. The children might receive effective interventions not only during the one-to-one sessions, but also within their daily activities as trainees acquired behavioral intervention skills.

As for effects of the pyramidal training program to inherit behavioral intervention strategies, the author found that the expert training program was successfully inherited by using the pyramidal training in Experiment 4-1 and 4-2. The results indicate that the use of the expert training program and pyramidal training program is effective for disseminating research-based behavioral intervention strategies efficiently and continuously.

As for acceptability of the training programs, the author found that the trainees were very satisfied with the trainings. The results show the acceptability and feasibility of the training programs to be used in community settings. The trainees did not seem to mind the temporal cost and labor of the training. They were also satisfied with the training even though their intervention skills did not change much. The results suggest that trainees may appreciate any training programs regardless of the content as well as changes in their intervention skills. Stated differently, the claim here is that trainers need to assess improvements in trainees’ fidelity, but not rely heavily on the degree of their satisfaction when examining the effects of the training program.

The author believes that the findings will help to develop a dissemination model that will fit in with the Japanese welfare and educational system. I truly hope that the findings will help to increase the number of
research-based training programs; enable individuals who work with children with developmental delay to receive the trainings without economical, temporal, and/or geographical restriction; enable the individuals to be reinforced by children through interventions; and expand the availability of evidence-based behavioral interventions for children with developmental delay and their families in community settings.