Functional recovery care

- Acute hospital
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- Elderly patient with pneumonia

- Evidence-based analysis
- Discharge-related data analysis
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Consideration of Constructs for the Social Skill Training Program Development for Children with ADHD Tendency: Focus on the Analysis of the Practical Report

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ABSTRACT

The IN-Child means of “inclusive education needs child”. There is IN-Child who shows remarkable difficulty in a behavior face about 3.6% in Japan (Ministry of Education, Culture, Sports, Science and Technology, 2012). However, there are a few concrete teaching programs to improve social skills according to the characteristics of ADHD tendency, and the effectiveness of its teaching programs has not yet been verified. The purpose of this study is to decide on the social skill training program for the children with ADHD tendencies in regular classes. We searched the practical reports on children with ADHD tendencies in foreign countries by using the ERIC-Institute of Education Science thesis database. Among them, 23 papers were related to practical reports. Since there were practices listed in the review paper, a total of 12 cases were analyzed. There were many programs that used rewards, such as token economy, thereby indicating that a program promoting voluntary activities with a reward is believed to be effective for children with ADHD tendencies.

< Key-words >
social skill training, Inclusive Needs Child (IN-Child), constructs, ADHD tendency

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I. Introduction

Inclusive Needs Child (IN-Child) refers to a child in need of an inclusive education by a team, which is also comprised of experts. The needs are not dependent on intellectual or developmental delays due to physical, mental, and home environment (Han, Ota & Kwon, 2016). IN-Child refers to all children who are in need of inclusive education regardless of diagnosis.

Around 3.6% of the children who are attending regular classes showed remarkable difficulty in behavioral aspects, such as ADHD tendency (Ministry of Education, Culture, Sports, Science and Technology, 2012). However, there are a few concrete teaching programs to improve social skills according to the characteristics of ADHD tendency, and the effectiveness of its teaching programs has not yet been verified.

Han, Ota & Kwon (2016) developed the “IN-Child Record” (hereinafter called “ICR”) to grasp the actual state of IN-Child. The ICR domain is shown in Table 1.

| Domain       | Item                      |
|--------------|---------------------------|
| Physical     | Stages of the body        | Q1-Q10        |
|              | Posture, movement, and motion | Q11-Q20    |
| Mental       | Inattention (attention deficit) | Q21-Q27 |
|              | Hyperactivity and impulsivity | Q28-Q33     |
|              | Adherence                 | Q34-Q39      |
|              | Self-esteem               | Q40-Q44      |
| Daily Living | Social functioning        | Q45-Q49      |
|              | Communication             | Q50-Q54      |
| Learning     | Listening                 | Q55-Q59      |
|              | Speaking                  | Q60-Q64      |
|              | Reading                   | Q65-Q69      |
|              | Writing                   | Q70-Q74      |
|              | Calculating               | Q75-Q79      |
|              | Reasoning                 | Q80-Q82      |

In a previous study on ICR, children with ADHD tendency who showed remarkable behavioral difficulties had problems in their daily lives, such as communication (Han, Yano, Kohara et al., 2017). In Japan, however, many teachers in regular classes have little knowledge about the special needs education, and they do not have sufficient teaching experience. Therefore, most educators feel that it is difficult to teach an IN-Child. It is necessary to propose the social skill training program to such teachers and solve the teaching difficulty. In addition, teaching about daily living skills according to
the actual state of the child can lead to acquiring the necessary skills for the child to enter as a member of society in the future. For this reason, it is deemed necessary to develop teaching programs focused on social skills for children with ADHD tendency.

Currently, teaching social skills to children with ADHD tendency is being practiced a lot. However, despite many studies regarding the teaching methods for improving social skills, only a few teaching programs have been systematized and validated. Moreover, the teaching content is not a teaching method according to the child’s characteristics of ADHD (Ota, Kwon & Kohara, 2017). The program for children with ADHD tendency that is necessary for the educational field is a systematized program according to the characteristics of the children, as they can acquire the necessary abilities within society.

The development process of the social skill teaching program is as follows: 1. Proposal of the draft of the program (determination of construct and determination of contents); 2. Verification of content validity and modification of the draft of the program; and 3. Effectiveness verification of the program. In order to prepare the drafts of the construct of the program, Kohara (2017) analyzed the previous studies and practical reports of the social skill programs for the children in Japan. In addition, the previous studies were compared to that of the characteristics of children with ADHD tendency, and constructed the draft domain of the instruction program that focused on the four capacity building (Table 2).

The purpose of this study is to decide of constructs on the social skill training program for the children with ADHD tendencies in regular classes.

<Table 2> Draft of the Domain of the Social Skill Training Program for the IN-Child (ADHD Tendency)

| Domain of Training Programs for Social Skills | Sub-Domain | Evidence Material (Practical Report) | ICR Domain |
|----------------------------------------------|------------|------------------------------------|------------|
| Schedule management ability                  | Time       | Soyama & Katada (2012)             | Inattention (attention deficit) |
| Schedule management                          | Iwanaga, Watamaki & Sasayama (2012) | Social functioning             |
|                                              | Miyamoto (2014) | Harayama (2015)                  |            |
| Listening ability                            | Keep to Listening | Tsuzuki, Hyodo, Ito et al. (2016) | Listening |
| Expression ability                           | Express feelings | Hirayama, Shouji (2016) Takano, Eita (2017) | Speaking |
|                                              | Ask a question | Asai, Koidari & Osawa (2013) Harayama (2015) | Communication Speaking |
| Information organization ability             | Situation organization. | Harayama (2015) | Communication |
|                                              | Straighten up personal belonging | Totsuki, Hyodo, Ito et al. (2016) | Social functioning |
|                                              | Emotional management | Soyama & Katada (2012) | Communication |
II. Methods

1. Data Extraction Method
   1) Extraction Method
       The ERIC-Institute of Education Science thesis database was used for this study. The data was extracted by using the search keyword “ADHD social skill” according to the following data selection criteria.

   2) Data Selection Criteria
       • It should not be a medication therapy that uses methylphenidate.
       • It should contain the description of the educational practice for children with ADHD or ADHD tendencies.
       • The full text of the papers should be available for public inquiry.

2. Analysis Method
   This study examines the concept of social skill training program by dividing the subjects into four categories, namely, target audience, program duration and frequency, program evaluation method, and program contents and effect. Furthermore, the contents of the program and the effect map are each analyzed in connection with the area of the program (Kohara, 2017) and the area of the IN-Child record, respectively.

III. Results

1. Practical Report on Children with ADHD Tendencies
   A total of 193 cases were found after a query with the search keyword “ADHD social skill”. Among them, 23 papers were related to practical reports, with 9 of them available for full text inquiry.
   Among the 9 cases, 8 of them were original dissertations and 1 of them was a review. Since there were 4 education practices listed in the review paper, a total of 12 cases were analyzed. The analysis results were reclassified as the subjects (Table 3), the deadlines (Table 4), and the evaluation method (Table 5). In addition, the correspondence analysis results between the map area / the ICR and the program contents / effects were summarized as shown in Table 6.
### Table 3: Participants of the Social Skill Training Program

| Reference | Diagnosis (n), Age |
|-----------|-------------------|
| 25)       | ADHD (1), N/A     |
|           | ADHD and Autism Spectrum (1), N/A |
|           | Autism Spectrum(4), N/A |
| 24)       | ADHD (20), primary class |
| 14)       | ADHD (31), 3-11 years old |
| 10)       | ADHD (4), N/A |
| 19)       | ADHD (N/A), N/A |
| 22)       | ADHD Tendency (1), 6 years old |
| 7)        | ADHD (18), 6-10 years old |
|           | Teachers (18), N/A |
| 8)        | ADHD (44), 5-10 years old |
| 20)       | ADHD (16), 8-11 years old |
| 3)        | ADHD Tendency (114), 6-13 years old |
| 6)        | ADHD (41), 8-10 years old |
| 18)       | ADHD (56), 8-12 years old |

### Table 4: Period of the Social Skill Training Program

| Reference | Period |
|-----------|--------|
| 25)       | Twice a week for a total of 3 hours (1.5 hours per meeting) |
| 24)       | Once a week for a total of 90 minutes (1.5 hours) |
| 14)       | The normal 8 to 10 sessions have been reduced to 7 sessions. |
| 19)       | 9 hours per day, 5 days per week for a total of 8 summer weeks (3 hours per day in art, which is a child-chosen academic subject, and computer) |
| 22)       | N/A |
| 7)        | N/A |
| 8)        | 2 to 3 times per week The duration of each setting was limited to 30 to 60 minutes. |
| 20)       | A total of 10 weekly 1-hour sessions |
| 3)        | 18 weeks |
| 6)        | 2 sessions per week 10 afternoon sessions (2 hours each) × 5 weeks |
| 18)       | 5 months |
### Table 5: Outcome Measure of the Social Skill Training Program

| Reference | Outcome Measures |
|-----------|------------------|
| 25)       | 1. Parents' answers on The Social Skills Rating Scale  
2. Parental interviews, direct observation of participants interacting with peers within the group, and previous results |
| 24)       | 1. Testing  
2. Research on the pupils’ attention and spatial thinking (original, i.e. prepared by the author of the article)  
3. Written questionnaire survey  
4. Assessment of the learning and social behaviors based on the opinion of the teachers  
5. Oral questionnaire survey  
6. Research on behavior and personality peculiarities based on the self-assessment of the pupil |
| 14)       | 1. Child Behavior Checklist, Conners' Teacher Rating Scale, and School Situations Questionnaire |
| 10)       | 1. The subjects’ behaviors were compared with the matched peers who represented an average teacher-expected behavior by using direct observation for at least 3 days a week for 20 minutes at 15-second intervals.  
2. Preschool and Kindergarten Behavior Scales (PKBS)  
3. ADHD Rating Scale-IV (ADHD-IV) |
| 19)       | 1. Parent satisfaction surveys |
| 22)       | 1. Vineland Adaptive Behavior Scale  
2. The number of incidences of aggression were counted at 5 minutes and at 30 minutes after completion of the art activity during indoor freeplay time. |
| 7)        | 1. Classroom behavior  
- This includes direct observations of classroom behavior.  
- This is a modified version of the Behavioral Observations of Students in Schools (BOSS)  
- Each observation session lasted for 15 to 20 minutes during academic instruction and related activities (e.g., independent seatwork).  
2. Academic performance  
- On a weekly basis throughout the study, the classroom teacher administered brief pretests and posttests of academic material that were covered during the week.  
- These tests contained 10 to 20 items and typically took 2 to 3 minutes to complete.  
- Math tests contained written numerical problems to demonstrate the competency in performing arithmetic operations (e.g., addition, subtraction, multiplication, or division) being taught in the classroom.  
- Spelling tests involved the teacher dictating that week’s spelling words, with the students providing written answers.  
- Pretests were administered on Mondays prior to the instruction, whereas posttests (identical in content to the pretests) were given on Fridays after the day’s lesson had occurred.  
3. Social validation  
- Students: Consumer satisfaction ratings (3-point Likert-type scale)  
- Teachers: 11 items requesting their perceptions of the impact and practicality of CWPT (a 3-point Likert-type scale) |
| 8)        | 1. Home Situations Questionnaire (HSQ)  
2. Kaufman Brief Intelligence Test (K-BIT)  
3. Social Skills Rating System (SSRS)  
4. Children’s Communication Checklist (CCC)  
5. Working Together: Building Children’s Social Skills Through Folk Literature |
| 3)        | 1. Normal-behavior scale (SWAN, Teacher version)  
2. Strengths and Difficulties Questionnaire (SDQ)  
3. Social Skills Rating System (SSRS)  
4. Teacher questionnaire (available on request)  
Each of the intervention elements during that week (0 = not used or inadequate use; 1 = adequate use; and 2 = good use) |
| 6)        | 1. ADHD rating scale – IV  
2. Social Skills Rating System (SSRS)  
3. Emotion Regulation Checklist (ERC)  
4. Strengths and Difficulties Questionnaire (SDQ)  
5. Icelandic WISC-IV subtests  
6. Lumosity assessment tests (https://www.lumosity.com/) |
| 18)       | 1. Conners Comprehensive Behavior Rating Scale (CBRS)  
2. Conners 3 |
<Table 6·1> Result of the Correspondence Analysis between the Social Skill Training Program and ICR Domain

| Reference | Implementation Format, Implementation Details | Domain of The Social Skill Teaching Program | ICR Domain |
|-----------|-----------------------------------------------|---------------------------------------------|------------|
| 25)       | [Type of class]                               |                                             |            |
|           | · Teachers worked on skills in such domains as recreation skills, emotional skills, and conversational skills. |                                             |            |
|           | · The skills presented in this study are conversational skills and were taught in a large-group instructional format, with the adolescents sitting in a semi-circle facing the lead teacher (first author). |                                             |            |
|           | [Contents]                                    |                                             |            |
|           | · Step1: Maintain eye contact throughout interaction |                                             |            |
|           | The participant's face and body are oriented towards the conversational partner. The participant's eyes are oriented towards the conversational partner for the majority of the interaction, and the participant's eyes never look away from the face of the partner for more than 10 continuous seconds at any time during the interaction |                                             |            |
|           | · Step2: Maintain appropriate distance throughout interaction |                                             |            |
|           | The participant maintains a distance of at least one arm's-length away from the partner and no more than two-arm's-lengths away from the conversational partner during the entire interaction |                                             |            |
|           | · Step3: Maintain appropriate body posture throughout interaction |                                             |            |
|           | The participant maintains an erect and relaxed posture during the entire interaction. The participant does not engage in any distracting behaviors such as rocking, tapping feet, repetitive hand flapping, excessive fidgeting, repetitive manipulation of objects (e.g. twisting or spinning a pencil or paper clip), etc. |                                             |            |
|           | · Step4: Maintain appropriate voice tone and volume throughout interaction |                                             |            |
|           | The participant maintains a positive voice tone during the entire interaction. The volume of the participant's voice is loud enough that the observer and peer can hear each word clearly, but which is not loud enough to cause a reaction from other peers and teachers in the classroom. |                                             |            |
|           | [Effectiveness]                               |                                             |            |
|           | · While no participants fully generalized all of the skills to a more naturalistic setting with a typical peer, the participants did show partial generalization. |                                             |            |
|           | · The teaching interaction procedure was successful in teaching conversational skills in a group-based setting to five adolescents: four on the autism spectrum, and one sibling with ADHD. |                                             |            |
<Table 6-2> Result of the Correspondence Analysis between the Social Skill Training Program and ICR Domain

| Reference | Implementation Format, Implementation Details | Domain of The Social Skill Teaching Program | ICR Domain |
|-----------|-----------------------------------------------|--------------------------------------------|------------|
| 24)       | [Type of class] The participants were at random divided into 2 groups. | Expressing ability | Mental Self-esteem |
|           | [Contents] Cognitive behavior exercises and fairy-tale methods with primary class pupils suffering from AD/HD were chosen in the supplementary education school: the city of pyramids, as two different approaches helping to develop the cognitive, psycho-motoric sphere, social behavior and social adaptation. In order to strengthen educational influence, graphical-logical tasks and relay-races were chosen as supplementary education means in both experimental groups. | Expressing feelings | Writing |
|           | 1. The Fairy-tale Methods on the Basis of Visual Stimulus | Information organization ability | Reasoning |
|           | 1) activate attention, as fairy-tales consist of subject lines that should be followed to meaningfully understand the essence of the fairy-tales; | | |
|           | 2) develop memory, as fairy-tales stimulate memorization of prior events of the plot and associate them with the new ones; | | |
|           | 3) develop thinking and decision making ability—with the help of language of symbols, fairy-tales manifest particular life problems. | | |
|           | 4) fairy-tales creation helps to develop verbal abilities, e.g. language fluency, number of words and sentences, complexity; | | |
|           | 5) help to develop communication abilities, as the situation provided in the fairy-tales makes not only to listen but also to empathize with the problems of fairy-tale heroes. Fairy-tales also help to disclose what values and moral norms help to expect the happy end; | | |
|           | 6) help to disclose the consequences of spontaneous and even aggressive behavior —fairy-tales show that angry behavior, a wish to harm comes to the end, as the one who wanted to harm another will suffer or even disappear from the fairy-tales: only moral and kind heroes will remain; | | |
|           | 2. Cognitive behavioral training | | |
|           | Cognitive behavioral training or cognitive-behavioral techniques are socio-educational means applied both in the school environment and at home. This educational means is grounded by positive environment, maintenance, application of means and methods that help to concentrate attention, assess one’s own behavior and to manage it. | | |
|           | 3. Relay-races (games) in Educational Practice | | |
|           | 4. Graphical—Logical Tasks in Educational Practice | | |
|           | It is important that graphical-logical tasks applied during the educational experiment with the children suffering from AD/HD that are based on “drawing motives”: drawing various lines, zigzags, ornaments, forms, coloring checks. During the educational experiment, graphical-logical tasks for children with AD/HD were applied not only individually, but in pairs and groups. | | |
|           | [Effectiveness] | | |
|           | - They allowed to achieve purposeful changes of cognitive and psycho-motoric spheres. | | |
|           | - Children’s fairy-tales became more fluent. | | |
|           | - Children started using more complex sentences in their fairy-tales. | | |
<Table 6-3> Result of the Correspondence Analysis between the Social Skill Training Program and ICR Domain

| Reference | Implementation Format, Implementation Details | Domain of The Social Skill Teaching Program | ICR Domain |
|-----------|-----------------------------------------------|---------------------------------------------|---------|
| 14)       | [Contents] The Barkley's Parent Training Program for Defiant Children (1987) Educating about ADHD, managing inappropriate public behavior, ignoring minor misbehavior, improving positive attending skills and using token economies at home. | Information on ability Situation organization | Mental Inattention (Attention deficit) Hyperactivity and Impulsivity Daily living Social functioning Communication Learning Listening |
|           | [Effectiveness] - It proved group training was as efficacious as individual family training and the program worked for noncompliant and hyperactive behaviors. - It also improved the behavior of children on medication. - The program did not have a significant effect on classroom behavior | | |
| 10)       | [Contents] - At the beginning of each day, teachers reviewed general classroom rules of behavior. - During positive reinforcement phases teachers rewarded students with small buttons, placed on a displayed chart, each time the child followed established classroom rules. - At the end of each activity, the students were eligible for a large button. If the children accumulated enough large buttons throughout the day, teachers offered inexpensive rewards (crayons, markers, stickers, etc.) before dismissal. - During response cost phases, the chart was full at the beginning of the day and children lost buttons due to misbehavior. - They still needed a specific number of large buttons at the end of the day to receive rewards. - Each time the teachers added or removed a button, they explained the exact reason for their action in the form of praises or reprimands. | Information on ability Situation organization | Mental Inattention (Attention deficit) Hyperactivity and Impulsivity Daily living Social functioning Communication Learning Listening |
|           | [Effectiveness] - Over time, the average frequency of negative social behaviors lessened, despite some daily spikes. - Although the two girls (one was more volatile) tended to have higher scores than the two boys, scores for both components reflected positive improvement, which stabilized toward the end of the experiment. | | |
| 19)       | [Contents] - Instructors used daily report cards, positive verbal reinforcements, time-outs and token economies to manage behavior. - Parents attended group training sessions on behavior management throughout the year. | Information on ability Situation organization | Mental Inattention (Attention deficit) Hyperactivity and Impulsivity Learning Listening |
|           | [Effectiveness] - All who responded rated the program as beneficial with eighty percent declaring it very beneficial for their child. | | |
<Table 6-4> Result of the Correspondence Analysis between the Social Skill Training Program and ICR Domain

| Reference | Implementation Format, Implementation Details | Domain of The Social Skill Teaching Program | ICR Domain |
|-----------|-----------------------------------------------|-------------------------------------------|-------------|
| 22)       | [Contents]
|           | The art therapy technique of directed art activities
|           | - Teacher prompts at the beginning and during the activity are essential to maintain the subject's focus on the feeling.
|           | - After all students have completed their art work, the teacher leads a class discussion by asking each child two questions: "(Child's name), tell us about your (picture)" and "How do you feel about your (picture)?" |
|           | [Effectiveness]
|           | - Although they did not note if the decreased rates of aggression correlated with increased rates of positive peer-initiated or self-initiated interactions. |
| 7)        | [Type of class]
|           | Teachers determined the peer tutoring pairs for all of the students in their classrooms. Students assigned to tutor the children with ADHD were perceived by their teachers to display a high frequency of appropriate behavior in the classroom and to be on grade level in all academic subjects. |
|           | [Contents]
|           | The classwide peer tutoring (CWPT)
|           | - Baseline 1 (typical classroom activities), CWPT 1 (implementation of CWPT in math or spelling), Baseline 2 CWPT 2. Each experimental condition lasted from 1 to 2 weeks. |
|           | [Effectiveness]
|           | - Similar changes in task-related behavior were obtained for most of the peer comparison students, indicating that it is not the disability that is critical, but how an educational environment is arranged.
|           | - It was demonstrated that changes in both classroom behavior and academic performance can be obtained with this intervention in general education settings.
|           | - Both teachers and students reported CWPT to be an acceptable and at least moderately effective strategy for improving both behavior and academic performance for students with ADHD. |
| 8)        | [Contents]
|           | ADHD parenting program
|           | - The recommend a procedure in which a parent sets one or two clear and specific rules for the child, establishes a positive and negative consequences for following the rules, reminds the child right before entering the situation, and administers the appropriate positive or negative consequences afterwards.
|           | - The implementation of a behavioral contract at home and received one additional session in which they were instructed to implement the above-described procedure for managing the children's behavior in out-of-home settings. The settings were limited to a trip to the store (such as a supermarket or a department store), a restaurant (such as McDonald's or similar), religious services, or to visit a friend or a relative (or to have a friend or relative visit the subject's home). |
|           | [Effectiveness]
|           | The treatment group evidenced significant reduction in severity of the children's behavioral problems in the target situations (as tested with the HSQ).
<Table 6-5> Result of the Correspondence Analysis between the Social Skill Training Program and ICR Domain

| Reference | Implementation Format, Implementation Details | Domain of The Social Skill Teaching Program | ICR Domain |
|-----------|------------------------------------------------|--------------------------------------------|------------|
| 20) [Contents] | **The Working Together Program**<br>· For the current study, 10 specific social skills were chosen from this program based on the relevance of the skill in addressing typical problems in social skills and social communication of children with ADHD. The skills selected included: (a) making conversation, (b) introducing yourself, (c) making positive statements to others, (d) speaking assertively, (e) using courtesy words, (f) asking for help, (g) offering and giving help, (h) giving and accepting criticism, (i) joining a play activity, and (j) negotiating conflict.<br><br>A **generalization component**<br>· At the end of each session, parents and teachers were provided with skill information and “way to go” slips that were to be used in the following week to positively reinforce the children for performing the specific skill taught in the session.<br>· The “way to go” slips were collected each week and were exchanged for a celebration party when the sessions were completed.<br><br>[Effectiveness] The Working Together program is a promising social skill intervention for children with ADHD and social skill deficits that can be efficiently carried out in the child's own school with their own peers. | | |
| 3) [Contents] | **The PR Program**<br>· A behavioral teacher program addressing ADHD symptoms in the classroom through a teacher manual not requiring additional expert training.<br>· Administered a universal program encompassing elements such as physical adjustments within the classroom (e.g., table set-up, creating a time-out corner)<br>· Positively formulated classroom rules<br>· Effective teacher instructions<br>· Teacher strategies to reinforce appropriate behavior (such as a universal reward system for the entire classroom).<br>· The individual program involves a Daily Report Card (DRC) in which teacher and student with ADHD symptoms set and evaluate mutually agreed goals (e.g., “stay seated during individual work” or “raise your hand before asking questions”) to alleviate student’s classroom problems.<br>· The individual program consists of three intensity levels, differing in the number of times per day goals are evaluate (once a day in Level 1 and 3 times a day in Levels 2 and 3), and rewards are provided (once a day in Levels 1 and 2, and 2 times in Level 3).<br><br>[Effectiveness] The teachers mainly notice improvements in ADHD symptoms after using the PR program, with some improvements in social functioning. Common elements of those effective programs that were also part of the PR program include psycho-education, the use of classroom management strategies, and the use of a reward and time-out system. Implementation fidelity and satisfaction among teachers was high. The most teachers (98%) reported that they intended to use the program in the future, indicating a high satisfaction rate and perceived effectiveness of the PR program among teachers. | | |
<Table 6.6> Result of the Correspondence Analysis between the Social Skill Training Program and ICR Domain

| Reference | Implementation Format, Implementation Details | Domain of The Social Skill Teaching Program | ICR Domain |
|-----------|------------------------------------------------|---------------------------------------------|-------------|
| 6)        | [Type of class]                                |                                             |             |
|           | · The group of trainers, 2-4 for each course   |                                             |             |
|           | · The group of 6 children (except for one group with 5 children) in each class. |                                             |             |
|           | · Split into two 3-person groups at the beginning of each session |                                             |             |
|           | [Contents]                                     |                                             |             |
|           | The OutSMARTers program                       |                                             |             |
|           | <Session 1-5>                                 |                                             |             |
|           | · The Emotion Station (45 minutes)             |                                             |             |
|           | · The children learned about correctly identifying facial expressions in others, the necessity of sometimes hiding feelings, relaxation and anger management techniques and how to interpret ambiguous situations in a neutral or positive way. |                                             |             |
|           | · The Friendship Station (45 minutes)          |                                             |             |
|           | · This program consisted of discussing and practicing meeting new kids, reading non-verbal messages people send out, compromising, working on a group project, and other similar activities. |                                             |             |
|           | · The Brain Training Station (for 20 minutes)  |                                             |             |
|           | · They practiced solving three executive function tasks on a computer (2 working memory tasks with pictures and letters and 1 Stroop inhibition task, which became increasingly more difficult as the program progressed) |                                             |             |
|           | <Session 6-9>                                 |                                             |             |
|           | · The Stopping Station (45 minutes)            |                                             |             |
|           | · They participated in various fun games intended to help them think before speaking or acting. |                                             |             |
|           | · The Problem Solving station (45 minutes)     |                                             |             |
|           | · The children learned a formula for solving everyday problems that they then use to solve various issues concerning school, friendship and family issues. |                                             |             |
|           | · The Brain Training Station (20 minutes)      |                                             |             |
|           | · At the end of each session the children could shop using their tokens at the OutSMARTers store, where they could buy trading cards, stickers, raffle tickets, and more. |                                             |             |
|           | [Effectiveness]                               |                                             |             |
|           | · The OutSMARTers program was effective for children with ADHD. |                                             |             |
|           | · The children showed decreased ADHD symptoms, improved social skills and better emotion regulation at post-treatment. |                                             |             |
|           | · The impact of the working memory training was however not as clear as had initially been expected. |                                             |             |
|           | 0 The OutSMARTers program effective in treating children with ADHD, resulting in less inattention and hyperactivity/impulsivity symptoms, less emotional symptoms and better social skills. |                                             |             |
Table 6-7: Result of the Correspondence Analysis between the Social Skill Training Program and ICR Domain

| Reference | Implementation Format, Implementation Details | Domain of The Social Skill Teaching Program | ICR Domain |
|-----------|-----------------------------------------------|---------------------------------------------|------------|
| 18)       | [Contents] The social skill training attachment (SOSTRA) trial | Information organization ability | Mental Hyperactivity and Impulsivity |
|           | Opening round—what has happened since the last time?—revision of the previous session; homework from previous session; presentation/education; role play/creative activities; new homework; closing round. | Situation organization | Daily living Communication |
|           | [Effectiveness] In the SOSTRA trial discovered a large effect over time for both the groups together, e.g., the children’s social problems scores, aggressiveness, and hyperactivity scores showed highly significant changes towards fewer symptoms | Emotional management | Learning Speaking |
|           | 2. Area Correspondence Analysis of the Map Program |  | |
|           | Table 7 summarizes the analysis of the practical reports by using the areas of the map program (draft proposal). |  | |
|           | The areas where the corresponding program was located were: “Express feelings” of “3. Expression ability”; and “Situation organization” and “Emotional management” of “4. Information organization ability”. The areas having no corresponding area were: “Time management” and “Schedule management” of “1. Schedule management ability”; “Keep to Listening” of “2. Listening ability”; “Ask a question” of “3. Expression ability”; and “Straighten up personal belonging” of “4. Information organization ability”. |  | |
<Table 7> Correspondence between the Training Program Areas and the Implemented Programs

| Domain of the Training Programs of Social Skill | Program Contents | Reference |
|-------------------------------------------------|------------------|-----------|
| 1. Schedule management ability                  | Time management  | N/A       |
|                                                 | Schedule         | N/A       |
| 2. Listening ability                            | Keep to Listening| N/A       |
| 3. Expression ability                           | Express feelings | 25)       |
|                                                 | · Group teaching  |           |
|                                                 | · Fairy-tale methods on the basis of visual stimulus | 24) |
|                                                 | · Art therapy technique of directed art activities | 22) |
|                                                 | · Working Together Program | 20) |
|                                                 | · A generalization component | 6) |
|                                                 | · OutSMARTers program |   |
|                                                 | Ask a question   | N/A       |
| 4. Information organization ability             | Situation        | 14)       |
|                                                 | organization.    |           |
|                                                 | · Barkley's Parent Training Program for Defiant Children (1987) | 10) |
|                                                 | · Token economy  |           |
|                                                 | · Daily report cards |     |
|                                                 | · Positive verbal reinforcements | 19) |
|                                                 | · Time-outs      |           |
|                                                 | · Token economies |     |
|                                                 | · Classwide Peer Tutoring (CWPT) | 7) |
|                                                 | · ADHD parenting program | 8) |
|                                                 | · Working Together Program | 20) |
|                                                 | · Generalization component | 6) |
|                                                 | · OutSMARTers program | 6) |
|                                                 | Straighten up    | N/A       |
|                                                 | personal         |           |
|                                                 | belonging        |           |
| Emotional management                            | Fairy tale methods on the basis of visual stimulus | 24) |
|                                                 | Cognitive behavioral training |       |
|                                                 | Relay races (games) in educational practice | 10) |
|                                                 | Graphical-logical tasks in educational practice |   |
|                                                 | Token economy    |           |
|                                                 | Classwide Peer Tutoring (CWPT) | 7) |
|                                                 | ADHD parenting program | 8) |
|                                                 | Working Together Program | 20) |
|                                                 | Generalization component | 6) |
|                                                 | OutSMARTers program | 3) |
|                                                 | PR Program       |           |
|                                                 | Social Skills Training Attachment (SOSTRA) trial | 18) |
We searched the practical reports on children with ADHD tendencies in foreign countries by using the ERIC-Institute of Education Science thesis database. In addition, 193 cases were searched by entering the search keyword “ADHD social skill”, but only 23 cases were on practical reports.

In regard to the frequency of practice, all practice programs were conducted at least once a week, thereby suggesting that it is necessary to execute the program at least once a week.

In regard to the format of practice, group or paired activities have also shown an improvement in social activity (Piscalkiene, 2009). Accordingly, it is believed to be necessary to perform as a group or a pair, and to conduct self-evaluation and reflection after each activity.

As for the performance of the guidance program, there were many ambiguous notations that were difficult to interpret, such as “Antisocial behavior has decreased”, and there were many articles that did not describe this explicitly, such as an increase or decrease in specific actions.

There were many programs that used rewards, such as token economy, thereby indicating that a program promoting voluntary activities with a reward is believed to be effective for children with ADHD tendencies. However, the most important in improving the sociality of the children with ADHD tendency was to understand the behavior of the children, and to recognize the coping methods, such as the problem and the solution of the behavior, thereby suggesting that it is important to use a reward as a means, and to encourage the children to voluntarily engage in activities rather than only looking forward to those rewards.

The results of the correspondence analysis with the area (draft proposal) of the Social Skill Training Program showed that the majority of the practical reports dealt with “Express feelings” of “3. Expression ability” and “Emotional management” of “4. Information organization ability”. However, no practical report dealt with “Time management” and “Schedule management” of “1. Schedule management ability”; “Ask a question” of “3. Expression ability”; or “Straighten up personal belongings” of “4. Information organization ability”. Meanwhile, some practical reports on fostering the “Time management” and the “Schedule management” were found in Japan's previous researches. Therefore, it is believed that future researches should be carried out to develop the Social Skill Training Program for an IN-Child with ADHD tendency with reference to the program that is being carried out in Japan.
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