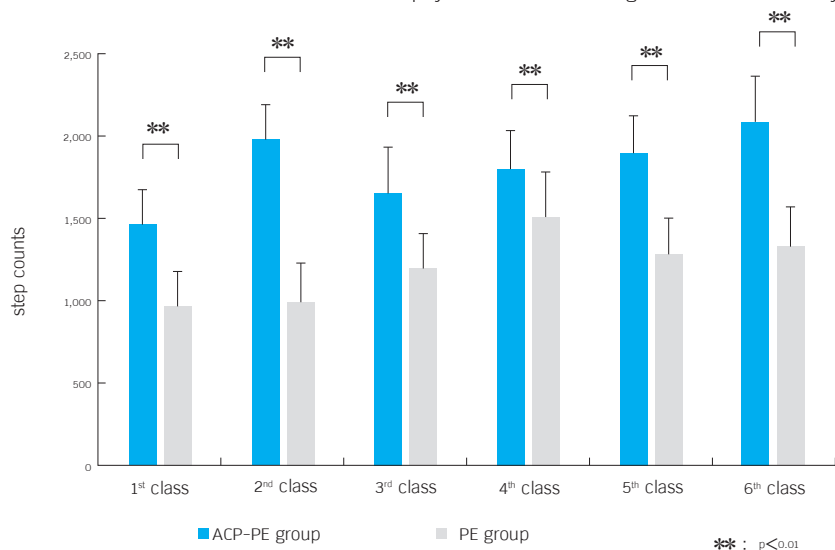


4 Useful information

1. Research Findings in Japan

(1) The effect of ACP on children's amount of physical activity

A study was conducted to identify how physical education (PE) classes that incorporate the ACP concept (Active Child Program) affect children's amount of physical activity, skill development and their perception of physical activity. The subjects were 53 children in the second grade of the public elementary school in Gifu prefecture, Japan. In the study, changes in the amount of physical activity, movement competence and awareness about physical activity were examined in a series of six mat exercise classes - 45 minutes a class. The analysis revealed that the amount of physical activity in the ACP-PE group; 26 children, which participated in ACP activities in all classes, was significantly higher for both exercise intensity and step counts than in the conventional PE group, which participated in conventional PE classes; 27 children. Concerning movement competence, the movement scores for the forward and backward rolls improved significantly in both groups through the classes, but a significant difference between the 2 groups was not observed. The research also demonstrated that children found ACP-PE classes more enjoyable and wanted to continue with them going forward. ACP-PE classes enabled children to engage in physical activity while having fun and helped them increase the amount of physical activity, without any adverse effect on mat exercise as the main exercise. These results demonstrate that ACP-PE is effective as physical education designed for children today.



Kasuga et al., 2020

Figure 1 The step counts in each class.



Lifecorder (LC; SUZUKEN Co.) was used to measure exercise intensity.

Kasuga et al., 2020

Figure 2 Time-series data of exercise intensity

(2) The effect of ACP on children's mental health and sociality

Children's physical activity has been reported to be closely related to sociality such as compassion and cooperativeness. Physical activity has also been demonstrated to help improve children's mental health. Thus, we also need to pay attention to the positive effect that physical activity has on mental health and sociality, as well as on the improvement of Physical Fitness as we discussed earlier in the context of the declining physical fitness of children. In view of this, we designed PE classes that integrated ACP and examined their effects on the mental health and sociality of children. The subjects were 429 children from first grade to sixth grade in public elementary school in Tokyo, Japan. ACP was practiced in a series of three PE classes. Before and after those classes, a total of six questionnaire surveys were conducted. The classes aimed at providing children with opportunities to play harmoniously with their classmates and incorporated physical play designed to encourage physical contact and interaction. The findings showed that for children from the first to fourth grades, their feeling of comfort, sociality and concentration gradually increased through the classes, while the feeling of discomfort gradually declined. For children in the fifth and sixth grades, the feeling of comfort was noted to have increased after each class. Thus, we can conclude that physical play had a positive effect on the children from the first to fourth grades and helped improve their sociality and mental health. For fifth and sixth graders, the study demonstrated that practicing physical play can help refresh their minds as shown in the positive changes after each class.

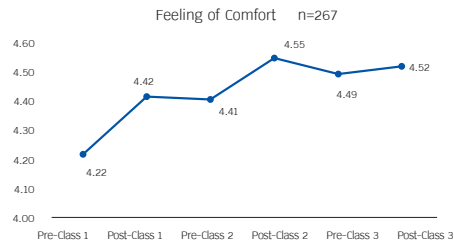


Figure 3 Survey results (first to fourth grade children): feeling of comfort

- ▶ Feeling of comfort increased significantly from pre-Class 1 to post-Class 3 ($p < 0.05$)
- ▶ Baseline level of feeling of comfort gradually increased through the classes ($p < 0.05$)

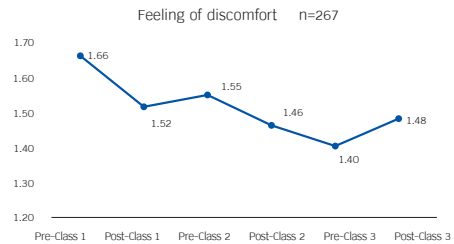


Figure 4 Survey results (first to fourth grade children): feeling of discomfort

- ▶ Baseline level of feeling of discomfort gradually decreased through the classes ($p < 0.05$)

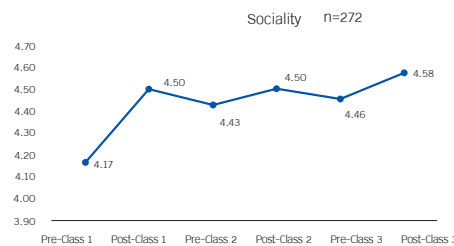


Figure 5 Survey results (first to fourth grade children): sociality

- ▶ Sociality increased significantly from pre-Class 1 to post-Class 3 ($p < 0.05$)
- ▶ Baseline level of sociality gradually increased through the classes ($p < 0.05$)

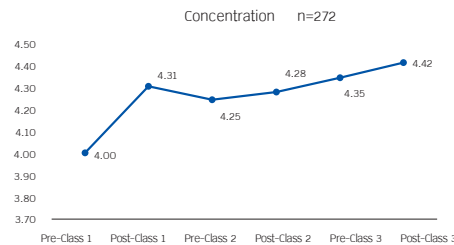


Figure 6 Survey results (first to fourth grade children): concentration

- ▶ Concentration increased significantly from pre-Class 1 to post-Class 3 ($p < 0.05$)
- ▶ Baseline level of concentration gradually increased through the classes ($p < 0.05$)

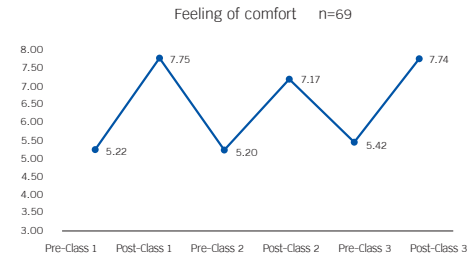


Figure 7 Survey results (fifth and sixth grade children): feeling of comfort

- ▶ Feeling of comfort increased significantly after each class ($p < 0.05$)

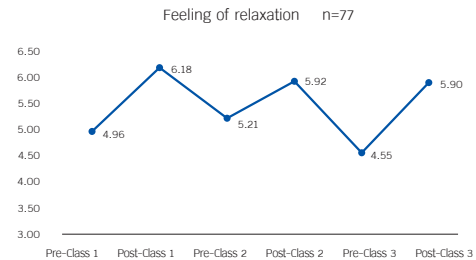


Figure 8 Survey results (fifth and sixth grade children): feeling of relaxation

- ▶ No significant difference in feeling of relaxation ($p < 0.05$)

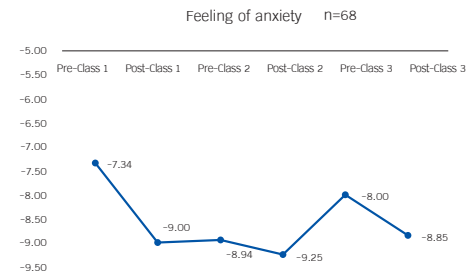


Figure 9 Survey results (fifth and sixth grade children): feeling of anxiety

- ▶ Feeling of anxiety declined significantly after Class 1 ($p < 0.05$)
- ▶ Baseline level of feeling of anxiety gradually decreased ($p < 0.05$)

2. Case Studies in Japan

(1) Board of Education: Motosu City Board of Education (Gifu prefecture, Japan)

The Motosu City Board of Education focuses on developing children's Competences to Learn and Grow in the Future.

The physical strength and motor skills of elementary and junior high school children in Motosu City were found to be below the average national and prefectural levels. The level of motor performance among the city's small children was an issue compared to other cities; the children fell more easily, had more trouble skipping and doing hopscotch steps, and had more awkward body movements.

To address this situation, the city launched the Power to Live Project incorporating the ACP concept, and revamped the guidelines regarding the quantity and quality of daily play practiced at day care-kindergarten facilities*. As a result, children demonstrated improved motor performance; their motor skills improved significantly.

Under the cooperation between preschools and elementary schools, the program has been implemented on a continuing basis. As part of the program, all elementary schools in the city revised physical education classes and introduced additional recess time for the first and second grade students to play. Following these changes, the students are now more willing to prepare for their physical education classes and cleanup themselves, and more cooperative with others. In addition, they now eat more during the school lunch.

*Daycare-kindergarten is a hybrid facility that offers both kindergarten and daycare.



(2) Junior Sport Club: Wakkanai-Nanbu Judo Junior Sport Club(Hokkaido, Japan)

In a corner of a judo dojo, pre-school children are playing hopscotch and tug-of-war, laughing and giggling. Elementary school children are playing Protect the Mouse (*Nezumi Nigashi*) and Pull the Radish (*Daikon Nuki*) games adapted to incorporate judo techniques. The coaches decided to include physical play in judo practice after they learned about ACP through Junior Sport Club workshops. Since introducing ACP, the club has attracted more members, and the number of members who skip practice has decreased.

The club had previously been keen on strenuous training sessions, prioritizing winning matches. However, some members quit as they found it difficult to win matches or felt burnt out. ACP aligned with the shift in coaching policy; the coaches now prioritize motivating children to continue practicing judo for a long time while having fun, rather than winning matches.

ACP is acting as a catalyst in realizing the coaches' passion for motivating children to love sports and continue judo for a long time.



(3) JSPO Sports Festival

The JSPO Sports Festival is an event held on Sports Day to share the fun and joy of sports. Every year, more than 10,000 people participate in this event. As part of the festival, the Japan Sport Association organized and held an ACP event so that parents and children can join and enjoy together. The event was so popular that the number of those who signed up for the event exceeded the planned number; the venue was filled with much excitement.

ACP provides children with opportunities to be physically active while having fun. Physical play lays the foundation for children to grow up to be physically active and sport-loving, while helping them to develop physical fitness, strength and sociality. There are far less opportunities now for physical play to be passed on from generation to generation in communities and schools. Thus, teaching children the kinds of physical play that attract their interest and engagement is of great importance now.



3. Checklist for instructors and parents

This checklist is designed to demonstrate how day-to-day activity in sports club has influenced children's behavior and perceptions regarding physical activity and sports. The findings are to be used to improve teaching and activities in sports club.

Regularly checking the following items will help measure how effective physical activity and sports coaching is in practice, leading to better guidance for activities in sports club.

(1) Assessment of children from observation

Have you noticed any minor changes in children in the following items in sports club and in daily life? Please rate on the scale of 1 to 5 as follows: 1 = Agree, 2 = Somewhat agree, 3 = No differences observed, 4 = Somewhat disagree, 5 = Disagree.

Check		Check	
1	Play outside more	6	Demonstrate more creativity in play
2	Engage in wider varieties of play	7	Engage in group play
3	Play with more concentration	8	Follow rules in play
4	Show more enjoyment while playing	9	Able to move their body with more coordination when running, throwing, etc.
5	More children are actively participating in play	10	Less injuries and falling

Adapted from "A Study on Improvement of Children's Physical Strength and Motor Skills" by the Kanagawa Prefectural Education Center (2008-2009).

For the following questions, please rate on the scale of 1 to 5 as follows: 1 = Agree, 2 = Somewhat agree, 3 = No differences observed, 4 = Somewhat disagree, 5 = Disagree. Review the following checklist regularly, from every six months to one year, and share the findings among instructor, and between instructor and parents to improve the coaching program.

(2) Educational program review checklist for instructor

		Check
1	Do children look happy participating in the program?	
2	Do you introduce exercises to help children acquire diverse movement skills?	
3	Do you work to communicate the coaching aims to parents?	
4	Are you keeping track of how children's movement skills are developing?	
5	Do you ensure the safety of children during the program?	
6	Do you consider your language when speaking with children?	
7	Do you make sure to praise children when you see development in their movement skills or attitudes towards a task?	
8	Do you as an instructor enjoy doing activities with children?	
9	Are older members cooperative in helping pre-school children or younger members participate in activities and guiding them?	
10	Is activity in sports club fulfilling its role in the healthy development of children?	

(3) Checklist for parents

		Check
1	Does your child look happy participating in the program?	
2	Do you talk to your child after each program session and ask about what they did during the session?	
3	Do you engage in and help with activities in sports club?	
4	Are you keeping track of how your child's movement skills are developing?	
5	Do you assist or work together with your child to help review what they learned at sports club?	
6	Do you directly communicate with instructors when you are unsatisfied with or have requests regarding activities in sports club?	
7	Do you make sure to praise your child when you see development in their movement skills or attitudes towards a task?	
8	Are you paying attention to activities in sports club with the understanding that acquiring diverse movement skills is important in childhood?	
9	Do you motivate your child to actively participate in activities through encouragement and praise?	
10	Are activities in sports club fulfilling their role in the healthy development of your child?	

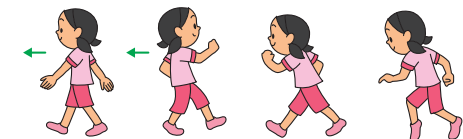
(4) Can you do this movement?

Observe how children move.

By gaining understanding of how children acquire movement skills, that is, the process of acquiring diverse and refined movement skills, instructors can provide programs appropriate for different development stages.

Walking and Running: Can you perform different types of walking and running?

Walking



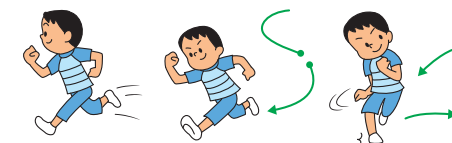
Can you walk looking straight ahead?

Can you walk backward?

Can you walk fast and slow?

Can you walk on your toes and heels?

Running

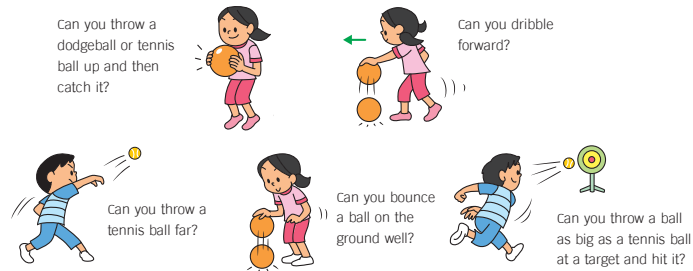


Can you run at top speed looking straight ahead?

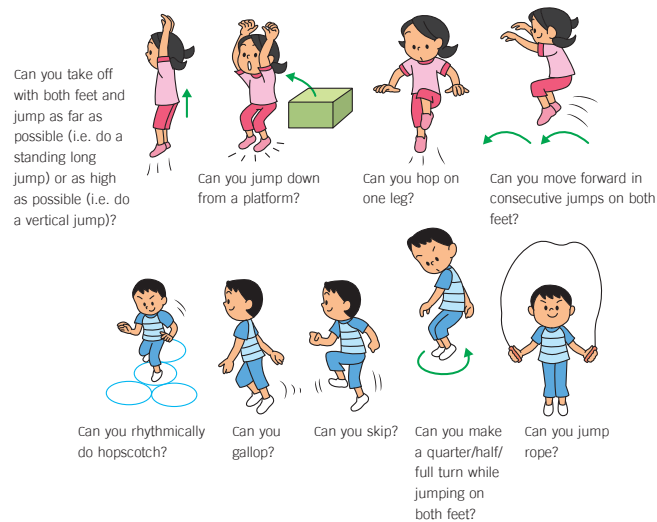
Can you run a winding course or curves well?

Can you quickly change directions while running?

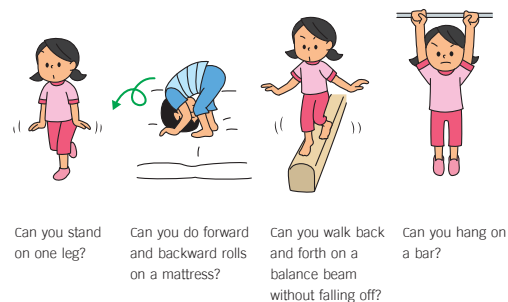
Ball Handling: Can you handle the ball well?



Jumping: Can you perform different jumps?



Balancing Movement and Others: Can you control your body well?



4. FAQ

Q1 Regarding qualitative evaluation of movements, do we set a target level by age group?

A1 The target level by age group for qualitative evaluation of movements is not for assessing the relative merits of physical fitness. Rather, it is to grasp the development stage of each child to determine the kind of movement they are ready for in the next stage.

Q2 What kind of plays improve physical fitness such as instantaneous force, endurance and flexibility?

A2 There is no play that is the most suitable to strengthen a specific physical fitness. Children are stimulated through play in different ways depending on the number of players, duration and space. Therefore, by varying the settings, instructors are expected to observe whether the children are experiencing or repeating the targeted movement and elements of physical fitness.

Q3 We cannot figure out the target age group of the plays introduced in the guidebook.

A3 The plays introduced in the guidebook are not designed for specific age groups. The desirable way of applying or expanding the plays depends more on the development stage and experience of the children than their actual ages. Instructors need to arrange the plays as the situation demands while carefully observing whether the children are enjoying the plays.

Q4 Some of the children do not follow the rules. What should we do?

A4 It is not natural for children to follow the rules. Prior to playing a game, instructors should talk with the children so that they promise to follow the rules. This will ensure safety and security for the children to enjoy the game. Furthermore, if any of them break the rules, the instructor will immediately stop the game, review what they promised in the beginning and find out which rule was violated. Remember that children in early childhood may be unable to follow even a simple rule depending on their development stage. Instructors are advised to embrace this as a learning opportunity for the child to acquire sociality.

Q5

Please introduce some plays that are fun and effective when played by different age groups. And advise us on the essential points and precautions of such plays.

A5

Any kind of play can be played by different age groups of children as long as special consideration is given to rules and settings. When a multiage group of children play together, they may need the instructor's assistance in the beginning. Gradually, however, an older child will become the leader and take care of the younger ones in the play. It is sufficient for the instructors to create an opportunity to start a play involving different age groups.

Q6

How can we get everyone to have a good time?

A6

First of all, instructors should have fun themselves. When instructors play with the children, the children become motivated to beat the adults and try to challenge the instructors more and more as the play proceeds. Children will get more excited if you praise them with enthusiastic remarks for good moves and encourage them when something goes wrong. Always work to create a positive atmosphere.

