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A CASE STUDY FOCUSING ON ENHANCING SOCIAL DEVELOPMENT AND LEARNING OF ELEMENTARY SCHOOL STUDENTS WITH DEVELOPMENTAL DISABILITIES THROUGH SELF-RELIANCE ACTIVITIES IN SPECIAL NEEDS CLASSES

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Abstract. We explored a case study focusing on social development and leaning of elementary school students with developmental disabilities through self-reliance activities in a special needs classes. Before the classes started, we conducted a series of assessment to identify special education needs of the students. Based on the results of the assessment, we set goals of the self-reliance activities for each student, and also considered contents and approaches of the classes. With self-reliance activities including small-group game sessions, the students showed meaningful improvement in their communication and interpersonal behaviors. We examined and analyzed the result of the case study, comparing such factors as student's behaviors, contents and approaches of the self-reliance activities, and sharing information on special education needs of the students before and after the classes.

Keywords: special needs classes, assessment, social development and learning, self-reliance activities.

1. Introduction

Regarding the number of students with special educational needs of compulsory schooling age, according to the Ministry of Education, Culture, Sports, Science and Technology (MEXT), when compared with 2007 figures, the number of such students at special needs schools was 1.2 times greater, the number of such students at elementary and junior high schools was 2.1 times greater, and the number taking special classes was 2.4 times greater [1]. Thus, the number of students receiving special needs education services at elementary and junior high schools is increasing over time. On the other hand, guidance and support for children with special educational needs in elementary and junior high schools are not sufficient in all areas. For example, in mainstream classes in elementary schools, teachers are not able to fully understand the circumstances of children due to their daily responsibilities, and indeed, emphasis is not placed on doing so. In special needs education, it is very important to appropriately grasp the circumstances of children, because the content and methods of instruction employed are considered in accordance with individual needs. In recent years, in addition to the aspect of intellectual development, the importance of assessing behavioral features and social development has been pointed to as a method of understanding the circumstances of children, but there are few objective tools to do this.

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Against this backdrop, there is a need for special needs schools, which have the functions of specialist centers, to enhance support for elementary and junior high schools. For example, there is an opportunity for teachers at special needs schools to advise local elementary and junior high school teachers on how to instruct children with special educational needs by travelling around and engaging in consultations. However, many teachers at special needs schools have never experienced such consultations with other teachers or schools, and therefore provide support to students through trial and error. In addition, even if a homeroom teacher in a mainstream class at an elementary or junior high school receives advice through consultation on teaching individuals only, it cannot be expected to be effective if it is perceived to be difficult to incorporate it into practice. In relation to the above-mentioned problems, the issues of information provision and information sharing between teachers and schools have been noted. For example, information is frequently shared through oral communication in special needs classes in elementary schools. Since the issue of information sharing can be expected to affect cooperation inside and outside of schools, appropriate measures such as the utilization of objective assessment tools are required.

One approach to children with special educational needs is “self-reliance activity.” Self-reliance activity aims to create children who have acquired the knowledge and skills necessary to solve the problems they encounter while learning or during the course of their daily lives. It consists of 6 categories and 27 items [2]. It is used not only in special needs schools but also in special needs classes and support rooms. Inoue *et al*. (2019) conducted a class featuring activities to foster self-reliance aimed at learning sociality and regulating emotions for children in a special needs class [3]. Their paper reports cases in which it becomes easier for children to participate in activities through the leveraging of music in small groups, and improvement was observed regarding their relationships with other children and the regulation of their own emotions.

Children with intellectual or developmental disabilities are more likely to have difficulties with peer relations and adapting to groups if they are not provided with appropriate guidance or support. One approach aimed at alleviating or preventing problems with peer relationships and adaptation is Social Skills Training (SST). SST is an approach that aims to instill in children skills related to sociality and daily life and is also used in classes that feature activities aiming to foster self-reliance.

In this study, instruction was provided as part of a class in self-reliance activity to children enrolled in special needs classes in elementary schools in accordance with their individual educational needs. More specifically, focus was placed on social development through interpersonal relations and communication, and support was provided for a smooth learning experience and the consolidation of content. In addition, the progress of the children and changes they experienced will be reported, and also the content and methods used in the instruction will be discussed.

2. Content

2.1. Methods

2.1.1. Subjects

The subjects of this study were four boys (hereafter referred to as child A, B, C, and D) enrolled in special needs classes at public elementary schools. Child A was a second-grade student with intellectual disabilities. The problems he experienced included difficulty in sustaining concentration, acting impulsively, and difficulty in keeping pace with other children. Child B was a third-year student with Autism Spectrum Disorder (ASD) and Attention

Deficit/Hyperactivity Disorder (ADHD). He faced issues such as caring deeply about winning and losing, a failure to accept his own failings, high impulsivity surrounding his relationships with specific children, and a tendency to become anxious. Child C was a fifth-grade student with ASD. He often caused trouble with his classmates in games, arguing about rules and concerning about winning and losing, often fought with specific classmates, and had hyperacusis, negatively responding to others. Child D was a sixth-grade student with ADHD. He often showed challenging behaviors including awfully grasping his classmates' hands and scratching others. He also had no confidence, finding himself incapable of fulfilling his roles and fighting with specific classmates.

2.1.2. Periods

From October 201x to February 201x+2 years, this study was carried out in classrooms and in multi-purpose classrooms where the children were enrolled at the elementary schools.

2.1.3. Advanced Assessment

The author carried out the assessment of the children through an interview with their homeroom teachers. Formal assessments using the Vineland-II Adaptive Behavioral Scale [4], and Child Behavioral Checklist teacher's edition (TRF) were carried out. Vineland-II is a behavior rating scale for evaluating adaptive behaviors related to daily living and sociality. The TRF measures the psychological difficulties experienced by children by examining their behavior and dividing them into normal, borderline, and clinical ranges so that support methods can be considered. As a form of informal assessment, interviews were carried out with the homeroom teachers of child A, B, C and D. The content of the interview related to the circumstances in the school, circumstances in the home, cooperation with other related organizations, the results of the psychological examination, and other issues. After examining the content of the class and methods used within it and based on the results of the assessment, the author carried out a set of classes featuring self-reliance activities. After the completion of the series of classes, the assessment was carried out again, and the effectiveness of the instruction was evaluated through a comparison of the results before and after.

2.1.4. Results of Advanced Assessment

2.1.4.1. Child A. The total adaptive score of Vineland-II was 64. The scores for the sub-domains were 50 for communication, 84 for daily skills, and 64 for sociality. Overall, his level of adaptation was low, and there was an imbalance between domains. The level of maladaptive behavior was quite high. With the TRF, the total and externalizing scores were in the clinical range, and cognitive problems, attention problems, and delinquent behaviors were in the borderline range.

2.1.4.2. Child B. The total adaptive scores of Vineland-II were 93, and the child's adaptation level was average. The scores for the sub-domains were 71 for communication, 115 for daily skills, and 91 for sociality. Maladaptive behavior was high. With the TRF, anxiety/depression, cognitive problems, and aggressive behaviors were in the clinical range. Withdrawal and social issues were in the borderline range.

2.1.4.3. Child C. The total adaptive score of Vineland-II was 79, and the child's adaptation level was slightly low. The scores for the sub-domains were 85 for communication, 105 for daily skills, and 52 for sociality. Maladaptive behavior was high. With the TRF, the total, internalizing, and externalizing scores were in the clinical range. Delinquent behaviors and aggressive behaviors were also in the clinical range, and anxiety/depression, social issues, and cognitive problems were in the borderline range.

2.1.4.4. Child D. The total adaptive score of Vineland-II was 79, and the child's adaptation level was slightly low. The scores for the sub-domains were 73 for communication, 84 for daily skills, and 92 for sociality. Maladaptive behavior was high. With the TRF, the total,

internalizing, and externalizing scores were in the clinical range. Aggressive behaviors were also in the clinical range, and anxiety/depression, social issues, cognitive problems, attention problems and delinquent behaviors were in the borderline range.

2.1.5. Classes with Self-reliance Activity

Based on the result of the advanced-assessment, the goals for the classes with the children were set (Table 1). Appropriate categories and items were selected from the 6 categories and 27 items surrounding self-reliance, as indicated by the MEXT (2018). The content of the instruction and methods necessary for achieving the goals of the lessons were examined. In accordance with the flow of SST, the following games were planned and implemented; Game 1: A board game where the goal was to reach the end fastest was set up whereby students would engage in tasks while moving through 30-centimeter squares in a grid on the floor. Game 2: The children were given a sheet of paper asking, “What would you do if you were given 100,000 yen?” After filling out and handed in the sheet, the children guessed whose the answer was when a teacher read out. Game 3: The children were divided into two teams: a questioning team and an answering team. The questioning team chose one of the cards on various themes. The answering team asked yes-or-no questions up to ten times and search for the right answer. Game 4: A teacher gave instruction with playing roles in a certain situation or explained with pictures. The children explained the situation and point out the problems. The teacher summarized repertoire of appropriate solutions to the problems. The children role-played. The teacher gave them positive feedback and suggested improvements to their performance.

Child A and B participated in the Game 1, child C participated in the Game2 and 3, and child D participated in the Game 3 and 4.

Table 1. Goals of Teaching and Categories and Items of Self-reliance Activity

	Goals of Teaching	Categories and Items of Self–reliance Activity
Child A	Communicating himself to others with simple gestures.	Communication: Basic Abilities of Communication
	Working with his classmates and teachers in response to their actions, with simple imitative behavior.	Formation of Human Relationship: Basics on interaction with others
Child B	Listening to his classmates and teachers and communicating on appropriate themes.	Formation of Human Relationship: Understanding Intention and Emotion of Others
	Working on activities with ease.	Psychological Stability: Emotional Stability
	Accumulating successful experience thorough activities and building his self-confidence.	Formation of Human Relationship: Self-understanding and Behavioral Regulation
Child C	Leaving his place and communicate himself to teachers when getting irritated and uneasy.	Psychological Stability: Emotional Stability
	Enjoying the game in group, following the rules.	Formation of Human Relationship: Basics on participation in group
Child D	Leaving his place and communicate himself to teachers when getting irritated and uneasy.	Psychological Stability: Emotional Stability

2.2. Results

2.2.1. Performance of the Subjects

Classes with self-reliance activities were carried out three times for child A, four times for child B and C, and five times for child D.

2.2.1.1. Child A. From the first lesson, he participated in the Game 1 and was seen working with teachers on the assignments specified in the square. In addition, he supported other students and received advice from other students while tackling challenges, showing positive behavioral changes in the domains of self-reliance in "communication" and "the formation of human relations".

2.2.1.2. Child B. He did not really participate in the Game 1, sometimes leaving the classroom, sometimes arguing with other children, and sometimes stopping the game. For this reason, we devised explanations of the rules, took measures in deciding the order of participation, and instituted measures to decide how to respond when he left the classroom. Through doing things like stating that "You don't have to come first" and deciding the order by rock paper scissors, changes were found in the self-reliance activity domain of "psychological stability," by ensuring that the student would not give up even if he did not come first.

2.2.1.3. Child C. For the first lesson, he finally participated in the Game 2 with his teacher although he sometimes got irritated and left. From the second to fourth lesson, he participated in the Game 3 with a great deal of interest. He successfully answered the question based on the hints his classmates gave, and also followed the rules he developed with his classmates. Positive behavioral changes were found in the categories of self-reliance activity: "Psychological Stability" and "Formation of Human Relationship".

2.2.1.4. Child D. He enjoyed the Game 3, listening to his classmates and seeking the right answers. He successfully went through the game without getting irritated although he failed several times. In the Game 4, he practiced social skills to stressful situations and explained the situations in a sequential order. It was found that he asked for assistance and explained what happened in orderly sequence when he was in trouble, resulting in almost no troubles with his classmates. He also became self-confident and showed positive attitude in working on his favorite activities, representing improvements in the categories of self-reliance activity: "Psychological Stability" and "Formation of Human Relationship".

2.2.2. Post-Class Assessment Results

Approximately two months after the start of the classes, the same formal assessment as had been carried out prior to commencing classes was carried out again.

2.2.2.1. Results for child A. The total adaptive behavioral score of Vineland-II was 62, communication was 53, daily living skills were 80, and sociality was 64. With the TRF, attention problems, externalizing score, and total score were in the clinical range, and cognitive problems and delinquent behaviors were in the borderline range.

2.2.2.2. Results for child B. The total adaptive behavioral score was 71, communication was 62, daily living skills was 93, and sociality was 70. With the TRF, anxiety/depression, attention problems, aggressive behavior, total score, internalizing score, and externalizing score were in the clinical range, and social problems and delinquent behavior were in the borderline range.

2.2.2.3. Results for child C. The total adaptive behavioral score was 64, communication was 51, daily living skills was 96, and sociality was 56. With the TRF, the total and externalizing score were in the clinical range. Cognitive problems and aggressive behaviors were also in the clinical range, and social issues and delinquent behavior were in the borderline range.

2.2.2.4. Results for child D. The total adaptive behavioral score was 86, communication was 86, daily living skills was 100, and sociality was 79. With the TRF, the total and externalizing scores were in the clinical range. Internalizing scores, cognitive problems, delinquent behavior, and aggressive behavior were in the borderline range.

2.3. Discussion

2.3.1. Understanding the Actual Circumstances of Children through Assessment and Information Sharing

Assessment was carried out in order to understand the educational needs of the children when considering the goals of lessons as well as the content and methods of the instruction used in classes for self-reliance activity. Through multiple formal assessments, such as assessments of adaptive behavior and levels of problematic behavior, it was possible to appropriately understand the various educational needs including the strengths and weaknesses of child A, B, C and D. It was found that the children showed relatively high levels of maladaptive behaviors and they had difficulty in developing relationship with their classmates.

By sharing the information obtained through the assessment with the homeroom teacher, a common understanding on the actual condition of the child was promoted, and it was possible to smoothly advance the examination of the content of instruction and methods used. Since the educational needs of children enrolled in special needs classes vary from person to person, it is necessary to appropriately understand the actual circumstances of children through assessment when considering the content and methods of instruction and support. It is also vital to use objective assessment tools such as Vineland-II and TRF, as implemented in this study, to analyze the actual conditions of children and changes experienced by them, as well as helping to improve the content and methods of instruction and support. After the classes were carried out, formal assessments were performed again to analyze the results of the classes, but there were no significant changes in the children compared with the results of the prior assessment. Possible reasons include the small number of classes and the short period over which the assessment was carried out. In the future, we would like to examine the medium- and long-term effects of social development and learning support through classes featuring activities that foster self-reliance.

2.3.2. Social Development and Learning Support through Self-Reliance Activities

Focusing on children who were enrolled in the special needs classes and had problems with communication and interpersonal relationships, self-reliance activities for the purposes of developing sociality and supporting learning were carried out. Based on the results of the advance assessment, the class goals were set, and game activities were implemented in which the children participated in small groups while moving their bodies. The children participated in the game together with their classmates, with each goal achieved. Each game is considered to have been an activity that aligned with the educational needs of the children. For example, in the board game, it seemed easy for the children to understand the circumstances and movement of both themselves and other children because they moved over the large squares of a grid. Moreover, it was possible to set the tasks in the squares of the grid in accordance with the various educational needs of each child. In addition, because of the large size of the teaching materials, opportunities could be naturally provided for cooperation between classmates, such as preparing and cleaning up after games. It is probable that these conditions provided the impetus for the children to smoothly participate in the game. In addition, during the game, consideration and ingenuity were leveraged in engaging in a manner of instruction that aligned with the educational needs of the children.

3. Conclusion

Originally, the children did not participate in the game or became anxious about their relationships with other children. Therefore, we explained how to understand the rules of the game and collaborate with other children by using example videos and other methods to make it easier for them to understand. Moreover, in order to establish the content to be learned, the class was advanced with reference to the SST procedure. Even in apparently easy-to-understand activities such as games, it may be difficult for children with intellectual or developmental disabilities to understand the rules and participate together with other children. Consideration and ingenuity in guiding the understanding and establishing learning are therefore necessary. In the future, in order to encourage spontaneous communication and positive exchanges between children, it is necessary to consider the composition of the participants when playing games and the timing of when children are divided into teams to play a game. In addition, regarding the content and method of instruction and support for the children, we would like to examine the application and adoption of activities to promote self-reliance to classes for other children in both special needs classes and mainstream classes.

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