Brief Note

Enrollment of Children with Autism and Approaches to Them at Special Needs Schools (Intellectual Disability) in Japan

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This study aims (1) to investigate the enrollment of children with autism and (2) to clarify the situation of approaches to them at each department in special needs schools (intellectual disability). Data were collected by a postal survey (n=490). Compared with the survey in 2004, this study indicated that the enrollment of children with autism was significantly more at the lower secondary and the upper secondary departments. Their degree of intellectual disability was more severe with progression of departments. On the other hand, autistic children with mild intellectual disability were significantly more at the upper secondary departments. We considered the approaches to children with autism at each department. Based on the characteristics of autism, all departments arranged teaching environment. The most common response was “Children with autism can calmly spend time at their schools.” This finding indicated that teachers of each department realized the importance of less anxiety for children with autism. The physical structure was actively conducted at the elementary departments, but structured environment was eased at the upper secondary departments.

Key Words: special needs school (intellectual disability), enrollment of children with autism, educational approach

Introduction

The increasing number of children diagnosed with autism has created a heightened awareness about them in schools and the need to develop appropriate instruction for them. Various guidelines developed in other countries have addressed ethos and strategies for teaching and supporting children with autism. These guidelines provided evidence about the impact of specific educational settings and interventions. For example, the National Autism Center (2015) described 14 established interventions for children, adolescents, and young adults (under 22 years of age) with autism. In particular, behavioral interventions, schedules, scripting, and language training were identified. Strategies from various programs represent a range of techniques, including discrete trials, incidental teaching, structured teaching, “floor time,” and individualized modifications of environment, including schedules (National Research Council, 2001). The Autism Education Trust (2011) emphasized that practitioner understanding of autism is an essential starting point for developing good practice in the education of pupils with autism. The necessities for teaching and supporting to be based on the characteristics and the needs of children with autism have been also recognized in Japan.

In Japan, the start of promoting education for children with autism in special needs schools (intellectual disability) was “The Future Directions for Special Education in the 21st Century: Special Assistance in Response to Each and Every Child's Needs (Final Report)” (Research Cooperation Council for the Future of Special Education in the 21st Century, 2001). This report showed that the teaching strategies for children with intellectual disabilities were not sufficient to provide suitable teaching for children with autism. This report also highlighted that it was necessary to consider the differences between the characteristics of autism and those of intellectual disabilities. The National Institute of Special
Needs Education in Japan and attached Special Needs School for Children with Autism, University of Tsukuba, as well as special needs schools (intellectual disability) were tasked by Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) with considering the curriculum, the setting up autism classes, and planning the teaching content and methods appropriated for the characteristics of autism. As a result, opinions diverged about setting up autism classes and organizing curriculum specified for children with autism, although some schools showed the necessity and the importance of activities to promote independence for children with autism.

Inaba, Goma, and Ushiyama (2013) investigated the connection between setting up autism class and autism education. They involved teachers working in the elementary departments in special needs schools (intellectual disability). Inaba et al. reported that special needs schools, which established autism classes worked on the environment, provided individual instruction and support and emphasized the enhancement of pupils’ skills. Moreover, the researchers showed that teachers devoted considerable attention to children with autism, sometimes at the expense of attention to other children. This was related to low awareness of cooperation among teachers. In contrast, the research reported that schools that composed classes based on development level of the children stressed the importance of interaction and learning between various children with disabilities. Therefore, this research emphasized the building of relationships both between the adults and the children. The National Association for Principals of Special Needs Schools (2016) reported that the ratio of the autism classes established in special needs schools was 2.2% at the elementary departments, 2.4% at the lower secondary departments, and 0.1% at the upper secondary departments. This indicates that autism classes were rarely implemented throughout the country.

Inaba et al. only researched the situation in the elementary departments; the situation in the secondary and upper secondary departments was not investigated. The National Association for Principals of Special Needs Schools (2016) inquired about the presence of setting up autism classes at each department. However, details concerning practice at each department were not reported in that survey. The course of study (MEXT, 2018) has shown the necessity to pay attention to developmental stage of children with disabilities. Each child with autism has a developmental condition and the presentation in any individual will change with age, with some children experiencing periods of rapid improvement (Autism Education Trust, 2011). Revealing the approach of each department stimulated an interest in the teaching and support of children with autism.

The background of these reports was related to the fact that the number of children with autism enrolled in special schools (intellectual disability) had increased. The National Institute of Special Education (1988, 2005) conducted national surveys in Japan. The first survey was conducted in 1986 with 222 special schools for children with intellectual disabilities (kindergarten departments were not included). It was reported that the ratio of children with autism (including children suspected autism) was 29.2% at the elementary departments, 28.7% at the lower secondary departments, and 22.3% at the upper secondary departments. In 2004, a second survey was conducted in 530 special schools (intellectual disability). It was reported that the ratio of children with autism was 69.0% at the kindergarten departments, 47.5% at the elementary departments, 40.8% at the lower secondary departments, and 25.2% at the upper secondary departments. Clearly, the ratio of children with autism enrolled in special needs schools (intellectual disability) increased significantly in 20 years. More recently, the National Association for Principals of Special Needs Schools (2016) conducted a survey of all special needs schools and asked them about the enrollment of children with developmental disabilities. The results indicated that the ratio of autistic children with intellectual disabilities (including children suspected autism), high-functioning autism children or Asperger's children was 48.6% at the elementary departments, 43.7% at the lower secondary departments, and 32.3% at the upper secondary departments. The National Association for Principals of Special Needs Schools (2016) and Muraeda and Hoshikawa (2017) reported that children with autism enrolled in special needs schools of other disability type. As these surveys showed, enrollment of children with autism is approved at a certain rate in not only special needs schools (intellectual disability) but also special needs schools of other types disability. But the exact number of them who are enrolled in special needs schools (intellectual disability) was
not clear in these surveys. It was surmised that the number of children with autism enrolled in special schools (intellectual disability) had increased since the survey in 2004 as noted above. Also, it was indicated that the category of disabilities in special needs schools varied. Furthermore, the number of children with mild intellectual disabilities had increased at the upper secondary departments. Thus, it is speculated that the condition of children with autism enrolled in special needs schools (intellectual disability) is also changing. Eighteen years have passed since “The Future Direction for Special Education in the 21st Century: Special Support based on Each Child’s Needs (Final Report)” was published. Many special needs schools (intellectual disability) have worked to promote appropriate practice for children with autism. However, there is a lack of clarity, at the national level, about the situation of approach to children with autism in special needs schools (intellectual disability), the outcomes, and the issues involved. This study aims (1) to investigate the enrollment of children with autism and (2) to clarify the situation of approach to children with autism at each department in special needs schools (intellectual disability).

Method

Participants
The heads of each department of 610 special needs schools for children with intellectual disabilities were targeted. Special needs schools that do not have multiple departments were excluded.

Procedure
We designed the survey content with reference to the course of study for special needs school, the reports written by the schools involved in the comprehensive promotion project for special needs education by Special Needs Education Division, Elementary and Secondary Education Bureau, MEXT in FY2009–2012 and the investigation by National Institute of Special Education (2005). Second, we interviewed teachers of eight special needs schools (intellectual disability) who had been involved in projects relating to autism education designated by Special Needs Education Division, Elementary and Secondary Education Bureau, MEXT (2011). In cases where the main teachers were absent due to personnel change, other teachers were present in the interview. We considered these schools were not selected from a specific geographical area. A semi-structured interview was conducted to the directors of each department. This method was adopted because we thought that information could be obtained widely by giving a certain leeway to the teachers. We asked about curriculum designed for children with autism, teaching system for children with autism in special needs schools (intellectual disability), the teachers’ perceptions of the difficulties of the approaches. We extracted common and important responses from information obtained by interview. We organized the data obtained from these schools and tentatively designed questionnaire content. Four teachers working at special needs schools (intellectual disability) confirmed the suitability of the questionnaire content and the clarity of the questions.

The main survey was conducted with the cooperation of the National Association for Principals of Special Needs Schools (Department of Education for Children with Intellectual Disability). Samples of the questionnaire and the request documents for this survey were sent to all the Boards of Education in each prefecture and designated cities. We also sent a request letter, the questionnaire for each department and return envelopes to them. We asked to return them after answering the questionnaire. The survey period was from November to December 2016.

Questionnaire Content
We formulated the questionnaire based on the reports by special needs schools for children with intellectual disabilities involved in the field studies (Special Needs Education Division, Elementary and Lower Secondary Education Bureau, MEXT, 2011) and the above preliminary survey. The questionnaire includes (1) the number of all children at each department, (2) the number of children with diagnosed or suspected autism at each department, (3) the number of children with diagnosed autism with medical rehabilitation handbook or mental disability certificate and their degree, (4) the approaches to children with autism, (5) the arrangements for the learning environment based on the characteristics of autism, (6) the reasons of setting up autism classes, (7) the outcomes of approaches to children with autism, and (8) the issues at each department.
Ethical Considerations

This study was approved by the ethics committee of National Institute of Special Needs Education on the covering sheet of questionnaire (acceptance number 30–32). We specified that the data would be analyzed, that schools would not be identified, and that the results would be used solely for the purpose of this study.

Method of Analysis

The ratio in relation to the total number of children enrolled in each department was calculated, regarding the number of children with diagnosed or suspected autism. The results between each department were also compared. The parameter of the kindergarten department was less than those of other departments. It was given only as a real number and was excluded from statistical analysis.

Results

A total of 490 out of 610 schools responded (response rate 80.3%). The response rate for each department was 11 of 16 (68.8%) at the kindergarten departments, 470 of 579 (81.2%) at the elementary departments, 469 of 589 (79.6%) at the lower secondary departments, and 423 of 518 (81.7%) at the upper secondary departments. We removed incomplete data and analyzed the results from 11 schools at the kindergarten departments, 462 schools at the elementary departments, 467 schools at the lower secondary departments, and 421 schools at the upper secondary departments.

Number of Children with Autism in Special Needs Schools (Intellectual Disability)

Table 1 showed the number of children with diagnosed or suspected autism. The number of children with diagnosed autism was 72.4% at the kindergarten departments, 44.8% at the elementary departments, 40.5% at the lower secondary departments, and 30.9% at the upper secondary departments. The number of children with suspected autism ranged from 1.7% to 5.8% across the departments. In total, 43.1% of children in special needs schools (intellectual disability) had diagnosed or suspected autism. The total number of enrolled children with autism decreased, comparing the result of this investigation with it of the survey in 2004. The enrollment of children with autism was found to be significantly different between the departments, $\chi^2(2)=207.020$, $p<.01$. The result of the survey in 2004 indicated that the enrollment of the elementary departments was significantly more. On the other hand, this study revealed that the enrollment of the

| Department          | Kindergarten | Elementary | Lower secondary | Upper secondary | Total |
|---------------------|--------------|------------|-----------------|-----------------|-------|
|                     | (N=58)       | (N=22,810) | (N=19,045)      | (N=32,860)      | (N=74,773) |
| Diagnosed           | 42 (72.4)    | 10,225 (44.8) | 7,709 (40.5)   | 10,178 (30.9)   | 28,154 (37.7) |
| Suspected autism    | 1 (1.7)      | 1,049 (4.6)   | 1,101 (5.8)     | 1,888 (5.7)     | 4,039 (5.4)     |
| Diagnosed+Suspected | 43 (74.1)    | 11,274 (49.4) | 8,810 (46.3)   | 12,066 (36.7)   | 32,193 (43.1)  |

Note. The number in parentheses means ratios.

The parameter of each department is the total number of children, including those with autism.

| Survey's year | Kindergarten | Elementary | Lower secondary | Upper secondary | Total |
|---------------|--------------|------------|-----------------|-----------------|-------|
| 2017          | 43           | 11,274     | 8,810           | 12,066          | 32,193|
|               | -14.270**    | 5,059**    | 9,785**         |                 |       |
| 2004          | 46           | 13,499     | 8,557           | 11,295          | 33,397|
|               | 14.270**     | -5,059**   | -9,785**        |                 |       |

Note. The parameter of each department is the total number of children, including those with autism.

The kindergaten department was excluded from statistic analysis because of the low parameter.

The number below parameter indicate the result of residual analyses.

*p<.01
lower secondary and the upper secondary departments were significantly more (Table 2).

**Number of Children Diagnosed Autism with Certificates**

Table 3 showed the number of children with diagnosed autism with a certificate. The largest ratio was categorized as severe at the elementary (41.3%) and the lower secondary departments (39.0%) in terms of the categories in the mental rehabilitation handbook. In contrast, the ratios for severe (30.3%), moderate (25.7%), and mild (29.7%) were similar at the upper secondary departments. The severity of the intellectual disability in children diagnosed with autism was found to be significantly different between the departments, \( \chi^2(6)=966.015, p<.01 \). Autistic children with severe or moderate intellectual disability were common at the elementary departments. Autistic children with profound and severe intellectual disability were common at the lower secondary departments. Autistic children with profound intellectual disability and with mild intellectual disability were significantly common at the upper secondary departments. Moreover, some of the children with autism in the total number of them enrolled in the lower secondary departments (2.3%, 149 out of 6,373) and the upper secondary departments (2.7%, 218 out of 8,045) also had the certification of mental disability. There was no significant difference.

**Approaches to Children with Autism at Each Department**

Table 4 showed the approaches to children with autism at each department. The following approaches showed a high frequency in all departments; “Arranging the learning environment based on the characteristics of autism” (elementary: 95.7%; lower secondary: 95.3%; upper secondary: 94.3%) and “Using teaching materials and learning tools based on the characteristics of autism” (elementary: 92.4%; lower secondary: 90.4%; upper secondary: 89.3%). In contrast, the following were reported by less than 10% in all departments: “Setting a specific group for children with autism in learning and activities” and “Setting up autism classes.” There was significantly difference between the departments, \( \chi^2(16)=48.443, p<.01 \). The residual analysis was applied. The residue of the elementary departments was significantly positive but not the upper secondary departments were significantly negative concerning “Arranging timetable” and “Setting up autism classes.” The residue of the upper secondary departments was significantly positive concerning “Arranging the learning environment based on the characteristics of autism” and

| Mental rehabilitation handbook degree | Elementary (N=8,543) | Lower secondary (N=6,373) | Upper secondary (N=8,045) | Total (N=22,961) |
|----------------------------------------|----------------------|---------------------------|---------------------------|------------------|
| Profound                               | 953 (11.2)           | 1,006 (15.8)              | 1,155 (14.4)              | 3,114 (13.6)     |
|                                        | -8.199**             | 6.099**                   | 2,583**                   |                  |
| Severe                                 | 3,532 (41.3)         | 2,485 (39.0)              | 2,436 (30.3)              | 8,453 (36.8)     |
|                                        | 10.953**             | 4.241**                   | -15.078**                 |                  |
| Moderate                               | 2,985 (34.9)         | 1,674 (26.3)              | 2,067 (25.7)              | 6,726 (29.3)     |
|                                        | 14.475**             | -6.245**                  | -8.803**                  |                  |
| Mild                                   | 1,073 (12.6)         | 1,208 (19.0)              | 2,387 (29.7)              | 4,668 (20.3)     |
|                                        | -22.520**            | -3.209**                  | 25.825**                  |                  |

| Mental disability certificate grade     | Elementary (N=8,543) | Lower secondary (N=6,373) | Upper secondary (N=8,045) | Total (N=22,961) |
|----------------------------------------|----------------------|---------------------------|---------------------------|------------------|
| Grade 1                                | 0                    | 19 (12.8)                 | 31 (14.2)                 | 50 (13.6)        |
| Grade 2                                | 0                    | 84 (56.4)                 | 132 (60.6)                | 216 (58.9)       |
| Grade 3                                | 0                    | 46 (30.9)                 | 55 (25.2)                 | 101 (27.5)       |

Note. The assessment criteria for mental rehabilitation handbook (including ai no techo) may differ depending on area. The number in parentheses means ratios. The number below parameter indicate the result of residual analyses. **\( p<.01 \)
“Using teaching materials and learning tools based on the characteristics of autism.” Thus, the teachers of the elementary departments paid attention to set a framework. Teachers of the upper secondary departments provided the approaches that directly lead to the learning of children with autism.

### Arranging the Learning Environment Based on the Characteristics of Autism

The departments that responded “Arranging the learning environment based on the characteristics of autism” were asked for details. Table 5 showed the content. The analysis of the responses from all departments produced the following data: “Showing a schedule of the daily activities” (elementary: 95.2%; lower secondary: 94.9%; upper secondary: 92.4%), “Specifying places to hold personal belonging and tools to use” (elementary: 83.3%; lower secondary: 75.4%; upper secondary: 64.8%), and “Having a space for children with autism to calm down” (elementary: 55.8%; lower secondary: 67.5%; upper secondary: 64.6%). There were significant difference between the departments, \( \chi^2(16)=57.266, p<.01 \). The residual analysis was applied. The residue of the upper secondary departments was significantly positive concerning “Showing a schedule of the daily activities” and “Having a space for children with autism to calm down.” In contrast, the elementary departments were significantly negative. On the other hand, the residue of the elementary departments was significantly positive regarding “Using partitions in learning to ease the surrounding stimulation and helping concentration,” “Minimizing display on the board in classes to reduce stimulation,” and “Having specified spaces for playing, eating and other activities” but not the upper secondary departments were significantly negative concerning “Using partitions in learning to ease the surrounding stimulation and helping concentration.” Thus, teachers of the elementary departments emphasized the physical structure.

### Reasons of Setting up Autism Classes

The departments were asked the reasons for “Setting up autism classes.” According to the result,
the most common reasons were “To provide teaching that suit the educational needs of individual children with autism” (elementary: 19 out of 28 schools; lower secondary: 20 of 23 schools; upper secondary: 2 of 4 schools) and “To provide teaching that considered the specified issues of autism” (elementary: 17 out of 28 schools; lower secondary: 16 of 23 schools; upper secondary: 1 of 4 schools).

### Outcomes and Issues of Approaches to Children with Autism

The results of approaches to children with autism were shown in Table 6. The response of “Children with autism can calmly spend time at their schools” was most common at all departments (elementary: 97.4%; lower secondary: 95.7%; upper secondary: 96.2%). On the other hand, “Teachers can continuously monitor the changes of autism children’s situation” (elementary: 31.2%; lower secondary: 31.9%; upper secondary: 26.4%) and “Teachers can teach children with autism systematically” were uncommon at all departments (elementary: 27.1%; lower secondary: 22.9%; upper secondary: 21.6%). Significant difference was not indicated between the departments.

The most common issue of approaches to children with autism was “Teachers tend to correspond/support individually for children with autism” as shown in Table 7 (elementary: 53.0%; lower secondary: 47.5%; upper secondary: 56.5%). Issues of approaches to children with autism were found to be significantly different between the departments, \( \chi^2(16) = 44.143, p < .01 \). The residual analysis was conducted. The residue of the elementary departments was significantly positive concerning “Teachers tend to have strong consciousness as autism for the child,” but not significantly negative regarding “Children with autism tend to relate with specific teachers” and “Children with autism have less opportunities to interact with other children.” The residue of the lower secondary departments was significantly positive concerning “Teachers tend to have strong consciousness as autism for the child,” but not significantly negative regarding “Teachers tend to correspond/support individually for children with autism.”

| Table 5 Arranging the Learning Environment Based on the Characteristics of Autism at Each Department |
|---------------------------------------------------------------|
| **Elementary** (N=462) | **Lower secondary** (N=467) | **Upper secondary** (N=421) |
| **Showing a schedule of the daily activities** | 440 (95.2) | 443 (94.9) | 389 (92.4) |
| | −2.309* | 0.112 | 2.371* |
| **Specifying places to hold personal belonging and tools to use** | 385 (83.3) | 352 (75.4) | 273 (64.8) |
| | 0.539 | 0.115 | −0.704 |
| **Having a space for children with autism to calm down** | 258 (55.8) | 315 (67.5) | 272 (64.6) |
| | −4.434** | 1.703 | 2.974** |
| **Having a specified seating position** | 287 (62.1) | 296 (63.4) | 233 (55.3) |
| | −1.397 | 1.021 | 0.424 |
| **Using partitions in learning to ease the surrounding stimulation and helping concentration** | 285 (61.7) | 216 (46.3) | 155 (36.8) |
| | 3.409** | −1.008 | −2.606** |
| **Minimizing display on the board in classes to reduce stimulation** | 220 (47.6) | 165 (35.3) | 125 (29.7) |
| | 2.815** | −1.161 | −1.803 |
| **Having specified spaces for playing, eating, and other activities** | 215 (46.5) | 156 (33.4) | 119 (28.3) |
| | 3.107** | −1.387 | −1.879 |
| **Taking a treatment for soundproofing for children with hyperacusis** | 129 (27.9) | 125 (26.8) | 97 (23.0) |
| | −0.247 | 0.373 | −0.129 |
| **Other** | 15 (3.2) | 6 (1.3) | 7 (1.7) |
| | 1.776 | −1.478 | −0.347 |

Note. The number in parentheses means ratios.

Multiple answers allowed.

The number below parameter and ratios indicate the result of residual analyses.

**p < .01, *p < .05
Table 6  Outcomes of Approaches to Children with Autism at Each Department

|                              | Elementary (N=462) | Lower secondary (N=467) | Upper secondary (N=421) |
|------------------------------|--------------------|-------------------------|-------------------------|
| Children with autism can calmly spend time at their schools | 450 (97.4)         | 447 (95.7)              | 405 (96.2)              |
| Teachers can establish an environment that suits the characteristics of children with autism | 327 (70.8)         | 288 (61.7)              | 265 (62.9)              |
| Teachers can clarify the learning objectives and content for individual children with autism | 257 (55.6)         | 251 (53.7)              | 218 (51.8)              |
| Teachers can inspire independence of children with autism | 274 (59.3)         | 249 (53.3)              | 188 (44.7)              |
| Teachers can deepen the understanding of autism | 245 (53.0)         | 236 (50.5)              | 194 (46.1)              |
| Teachers can cooperate and coordinate among other teachers | 194 (42.0)         | 206 (44.1)              | 165 (39.2)              |
| Teachers can build trust with children with autism | 219 (47.4)         | 216 (46.3)              | 132 (31.4)              |
| Teachers can teach in accordance with autistic children’s movements and pace | 204 (44.2)         | 187 (40.0)              | 169 (40.1)              |
| Teachers can continuously monitor the changes of autism children’s situation | 144 (31.2)         | 149 (31.9)              | 111 (26.4)              |
| Teachers can teach children with autism systematically | 125 (27.1)         | 107 (22.9)              | 91 (21.6)               |
| Teachers can organize timetables that suit the situation of children with autism | 49 (10.6)          | 48 (10.3)               | 24 (5.7)                |
| Others                       | 4 (0.9)            | 3 (0.6)                 | 7 (1.7)                 |

Note.  The number in parentheses means ratios.  Multiple answers allowed.

Table 7  Issues of Approaches to Children with Autism at Each Department

|                              | Elementary (N=462) | Lower secondary (N=467) | Upper secondary (N=421) |
|------------------------------|--------------------|-------------------------|-------------------------|
| Teachers tend to correspond to support individually for children with autism | 245 (53.0)         | 222 (47.5)              | 238 (56.5)              |
| Children with autism tend to relate with specific teachers | 143 (31.0)         | 188 (40.3)              | 195 (46.3)              |
| Children with autism have difficulty to generalize what is taught | 170 (36.8)         | 193 (41.3)              | 129 (30.6)              |
| Teachers tend to rely too much on visual cues | 125 (27.1)         | 119 (25.5)              | 96 (22.8)               |
| Teachers have difficulty to respond flexibly by too much paying attention to the characteristics of autism | 79 (17.1)          | 80 (17.1)               | 76 (18.1)               |
| Children with autism have less opportunities to interact with other children | 53 (11.5)          | 78 (16.7)               | 69 (16.4)               |
| Teachers tend to set instructive goals and teaching content affected by the characteristics of autism | 52 (11.3)          | 55 (11.8)               | 57 (13.5)               |
| Teachers tend to have strong consciousness as “autism” for the child | 46 (10.0)          | 31 (6.6)                | 21 (5.0)                |
| Other                        | 29 (6.3)           | 21 (4.5)                | 13 (3.1)                |

Note.  The number in parentheses means ratios.  Multiple answers allowed.  The number below parameter and ratios indicate the result of residual analyses.

**p<.01, *p<.05**
The residue of the upper secondary departments was significantly positive concerning “Children with autism tend to relate with specific teachers,” but then was significantly negative about “Children with autism have difficulty to generalize what is taught” and “Teachers tend to have strong consciousness as autism for the child.”

**Discussion**

**Number and Degree of Intellectual Disability of Children with Autism in Special Needs Schools (Intellectual Disability)**

This study aims to investigate the enrollment of children with autism. This study revealed that the rate of children with autism enrolled in special needs schools (intellectual disability) was 43.1%. Comparing with the result of the National Institute of Special Needs Education’s survey in 2004, total enrollment of children with autism decreased. Significant differences were shown as follows. The enrollment significantly decreased at the elementary departments, but it significantly increased at the lower secondary and the upper secondary departments. The increase of the upper secondary departments was the greatest. According to the survey conducted by MEXT (2018), children enrolled in special needs classes for intellectual disability and emotional disturbance/autism, children with autism provided teaching at resource rooms in elementary and lower secondary schools are increasing every year. It was showed that the enrollment of children with autism in special needs schools (intellectual disability) increased as the department progressed. Autistic children with severe intellectual disability enrolled at the lower secondary and the upper secondary departments. The rate of autistic children with mild disability was significantly high at the upper secondary departments. It can be inferred that the reason why the number of autistic children with mild intellectual disability had increased at the upper secondary departments is related to children’s replacement from special needs classes of the lower secondary schools to the upper secondary departments of special needs schools (intellectual disability). However, it is expected that this situation will change because resource rooms in the upper secondary schools have started from 2018. It is predicted that this advanced system will have an impact on the enrollment of children with autism at upper secondary departments of special needs schools and on the severity of the autism of children attending those departments.

**Current Situation of Approaches to Children with Autism in Special Needs Schools (Intellectual Disability) and the Characteristics of Each Department**

The most common approaches to children with autism in special needs schools (intellectual disability) were “Arranging learning environment” and “Using of teaching materials and tools and preparing teaching content” based on the characteristics of autism. The high rate of these responses at all departments suggested that practices considered for children with autism has become common in special needs schools (intellectual disability). Concerning arranging learning environment based on the characteristics of autism, “Showing a schedule of the daily activities” had high rate at all departments. Clearly displaying a schedule for children with disabilities is specified in the course of study for children in special needs education (MEXT, 2018). Mesibov, Howley, and Naftel (2016) described that it was important for children with autism to focus their attention on their daily responsibilities and to also allow them to predict and understand what will be happening to them and in what sequence. This result suggests that this importance is recognized in many special needs schools (intellectual disability).

The most common response at all departments was “Children with autism can calmly spend time at their schools” followed by “Arranging learning environment” and “Using of teaching materials and tools and preparing teaching content” based on the characteristics of autism.” This finding suggested that teachers of each department have realized the importance of the environment for children with autism. Concerning the approaches to children with autism, “Arranging timetable” and “Setting up autism classes” were significant at the elementary departments. And the elementary department conducted “Using partitions in learning to ease the surrounding stimulation and helping concentration,” “Minimizing display on the board in classes to reduce stimulation,” and “Having specified spaces for playing, eating, and other activities” as ways of arranging the learning environment based on the characteristics of autism. These results mean that teachers of elementary departments paid attention to prepare the structured environment so that chil-
Children with autism can stay calm. This result reflected the issue of approaches to them. Teachers working in the elementary departments tended to have a strong awareness of the implication of “autism” for the children. It might be argued that teachers focused on the “disability” rather than “a child” by paying attention to the characteristics of autism. On the other hand, “Arranging timetable,” “Setting up autism classes,” and “Using partitions in learning to ease the surrounding stimulation and helping concentration” were significantly less evident. In contrast, the upper secondary departments conducted positively “Showing a schedule of the daily activities” and “Having a space for children with autism to calm down.” Teachers of the upper secondary departments made active use of schedule that enabled children with autism to understand, to anticipate their daily activities, and to function independently. Using schedules helped to reduce the anxiety for the learners. Teachers of the upper secondary departments established a space to calm down. This suggested that teachers of upper secondary departments emphasized more emotional stability of children with autism. It is assumed that teachers of the upper secondary departments intended to allow children with autism to adjust to places of working experience and environment of their life after school graduation. “Children with autism have difficulty to generalize what is taught” was significantly more at the lower secondary departments. The enrollment of autistic children with profound and severe intellectual disability was significantly more at lower secondary departments. This result suggested that teachers felt their difficulty of generalization more strongly. “Children with autism tend to relate with specific teachers” was noted as the issue in the upper secondary departments. It seems that this result related to the issue of the lower secondary departments as noted earlier. It was presumed that teachers of the upper secondary departments thought that it was necessary for children with autism to broaden their relationships among various people in order to work outside and to take participation in society after school graduation. On the other side, it might be said that teachers felt the difficulty of broadening the relationship with others from a specific person based on the finding which is shown as the issue at the upper secondary departments.

This study indicated that special needs schools (intellectual disability) setting up autism classes were infrequent. This result was consistent with the result of the research by the National Association for Principals of Special Needs Schools (2016). Our study revealed that a major reason of setting up autism classes was “To provide teaching suit the educational needs of individual children with autism.” Inaba, Goma, and Ushiyama (2013) also reported that individualized instruction and support is common at special needs schools with autism classes. This can be considered a merit of autism classes. The reason that special needs schools with autism classes in both previous research (National Association for Principals of Special Needs Schools, 2016) and this study were rare is likely to be a reflection of issues such as reducing interaction with children in other classes and increasing interaction with teachers. This is supported by the result of this study. It might be said that teachers worry the life after children with autism graduate schools. It is assumed that this thing is one factor of less setting up autism classes. This study revealed that even special needs schools (intellectual disability) without setting up autism classes considered the characteristics of autism for children as described earlier. In other words, it is suspected that educational approaches based on the characteristics of autism have been implemented regardless the presence or absence of setting up autism classes in special needs schools (intellectual disability).

Limitations and Directions for Future Research

This study has several limitations. First, this survey focused the enrollment of children with autism in special needs schools (intellectual disability). But enrollment of children with autism is approved at a certain rate in not only special needs schools (intellectual disability) but also special needs schools of other types disability. Further research is needed to investigate the state of teaching and support provided for children with autism enrolled in these schools. Second, this study showed that special needs schools (intellectual disabilities) conducted arranging the learning environment based on the characteristics of autism at a high rate. This indicates that the practices corresponding to the characteristics of autism have been recognized in special needs schools (intellectual
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However, the contents of the approaches taken up in this study were not specialized on autism but included what was necessary for other children. The purpose of this survey was to provide an overview of the current situation of the approaches to children with autism in each department. Therefore, the merit brought for other children was not found.

The Autism Education Trust (2011) proposed a framework for “good practice” in autism education. In particular, the framework showed three tiers as follows: (1) “quality first” good practice for children generally in classroom and school practice, (2) specialist support for many pupils with SEN, and (3) highly specialist approaches that might be required specifically for pupils with autism. They described that “good practice” in autism education will rest on the foundation of “quality first” teaching practice.

Future research should investigate on the approaches required specifically for children with autism. The approaches to children with autism differ in degree of instruction and support depending on each difficulties and needs. A future development could be the development of multiple case studies to illuminate the various forms of effective instruction/support for children with autism. These could then help to refine the provision, curriculum, and methods.

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