

*Brief Note*

## Effects of Teaching Experience and Curriculum on Teachers' Professionalism in Education of Children With Severe and Multiple Disabilities

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The purposes of present study were to analyze the teachers' professionalism in the education of children with severe and multiple disabilities, and to determine effects of teaching experience in special education and curriculum organization on teachers' perception of their professionalism. A teachers' professionalism questionnaire was developed and administered to 361 teachers in special schools for children with physical disabilities. Exploratory factor analysis revealed a 5-factor solution, in which the factors were professional knowledge and skills, understanding of performance, collaboration-based teaching, enthusiasm for education, and children's health care. A 2-way ANOVA pinpointed the 2 main trends. First, all aspects of teachers' professionalism except for "enthusiasm for education" increased with years of experience. Second, teachers in charge of a curriculum aimed at training for independent living (*Jiritsu-katsudo* centered curriculum) had significantly less "understanding of performance" than did teachers of a curriculum designed for children with intellectual disabilities (intellectual disabilities curriculum).

**Key Words:** teachers' professionalism, teaching experience, curriculum, children with severe and multiple disabilities

### Introduction

In Japan in 1979, education in special schools<sup>1)</sup> was made compulsory for children with intellectual disabilities, physical disabilities, or health impairments. Accordingly, the enrollment rate for children with severe and multiple disabilities at special schools increased. Especially, as of 2007, 75.3% of the children at schools for children with physical disabilities were children with multiple disabilities (Ministry of Education, Culture, Sports, Science and Technology, 2008).

Children with severe and multiple disabilities are unique and diverse, and therefore no single prescriptive curriculum could possibly meet their many special needs. In order to secure a quality education for these children, Individualized

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Education Plans (IEPs) have been used widely in the field of special education (Ando, 2000). An IEP is a document that outlines a child's education, based on annual goals, short term objectives, and methods (Nagata & Ando, 1998). Furthermore, the national curriculum for special schools, called *Gakushu shido yoryo* (Ministry of Education, 1999), stated that teachers have an obligation to design IEPs for children with multiple disabilities. However, the national curriculum does not provide any specific guidance or information that can help teachers to set out what should be taught nor does it explain how the material should be taught. Therefore, in the field of education of children with severe and multiple disabilities, teachers are given a great deal of autonomy with respect to educational planning, teaching, and evaluation practices.

Teachers' autonomy depends largely upon their professionalism. Due to the growing autonomy being given to teachers, professionalism has been recognized as one of the most influential attributes in the children's progress.

Professionalism, that is, the extent to which practitioners live up to the expectations of work-related conduct and performance, is a dynamic and contextual concept (Hargreaves, 2000). Goodson and Hargreaves (1996) suggested that teachers' professionalism is what teachers experience it as being, not what others assert that it should become. The practical definition of professionalism depends in large part upon how teachers perceive their work and themselves as teaching professionals (Goodson & Hargreaves, 1996).

Many researchers have studied teachers' professionalism in the field of special education (e.g., Isaka & Kurihara, 2004; Murata & Miyazaki, 1995; Shimizu, 2003). A review of those studies revealed that there are five generally accepted educational principles: teaching practice, professional knowledge and skills, teacher collaboration, collaboration with parents or other professionals, and enthusiasm for education. Teaching practice refers to educational practices that involve planning, teaching, evaluation, and reflection. Professional knowledge and skills pertain to the knowledge and skills required to perform the work effectively. Teacher collaboration includes not only team teaching, but also working collaboratively with the principal, vice-principal, and other teachers. Collaboration with parents or other professionals refers to collaborative relationships with parents, medical doctors, and other related professionals. Enthusiasm for education covers teachers' sense of duty and active participation in in-service teacher education.

However, few studies have been conducted to investigate the professionalism of teachers who were in charge of children with severe and multiple disabilities. In order to improve the quality of education in this field, it must first be determined how teachers perceive their professionalism.

The present study examined two independent variables: teaching experience and curriculum. First, many studies have stressed that teaching experience is an important variable in teachers' professional development (e.g., Burke, Christensen, & Fessler, 1984). Only a few colleges and universities offer pre-service education programs related to severe and multiple disabilities, and therefore it is no exaggeration to say that most teachers begin to learn how to teach such children from their

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own daily experience. Accordingly, in order to improve the present teacher education, it is necessary to focus on the effect of teaching experience.

Second, classes for children with multiple disabilities have two different types of curricula, depending on the degree of disability that the children have. One is a curriculum focused on training for independent living (*Jiritsu-katsudo*<sup>2)</sup> centered curriculum). The other is an adaptation or modification of the curriculum used in schools for children with intellectual disabilities (intellectual disabilities curriculum). The children taught using the *Jiritsu-katsudo* centered curriculum tend to have more severe disabilities. Recently, the number of children requiring medical care has increased.

The purposes of present study were to analyze the teachers' professionalism in the education of children with severe and multiple disabilities, and to determine effects of teaching experience in special education and curriculum organization on teachers' perception of their professionalism.

### Method

#### *Participants and Procedure*

In April 2009, requests to conduct this research were sent to 47 schools for children with physical disabilities. Agreement to participate was received from 32 schools that had a total of 361 teachers in charge of classes for children with multiple disabilities. Data were collected from an anonymous self-administered survey. Questionnaires were mailed to each school, and handed out and collected by the principal or vice-principal. A letter accompanying each questionnaire explained the nature and purpose of the study, stipulated that the teachers were not obliged to participate, and noted that their anonymity was guaranteed. No time limit was imposed for completing the questionnaire. It typically took less than 20 minutes to fill it out. Out of the initial 361 teachers, 323 questionnaires were obtained, a response rate of 89.4%.

#### *Questionnaire*

*Teachers' professionalism questionnaire.* The questionnaire was designed in two stages. In the first stage, a pool of 65 items was created that related to the professionalism of teachers in charge of children with multiple disabilities (that is, physical and intellectual disabilities). These items were identified by the following process: open-ended writings of nine teachers in schools for children with physical disabilities were reviewed by three graduate students majoring in special education, who categorized the items into five dimensions based on previous studies (e.g., Isaka & Kurihara, 2004; Murata & Miyazaki, 1995; Shimizu, 2003). The five dimensions were teaching practice, professional knowledge and skills, teacher collaboration, collaboration with parents or other professionals, and enthusiasm for education.

In the second stage, three graduate students and two special education teachers reviewed each item multiple times, discussing the clarity of meaning and relevance to

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the concept it was designed to measure. Items that were confusing were changed or deleted. Finally, 51 items were selected. The items were rated using a 5-point Likert-type scale ranging from “strongly disagree” to “strongly agree”. Items that were negatively worded were reverse scored.

The classes for children with multiple disabilities have the two types of curricula mentioned above. Respondents answered about teachers’ professionalism in relation to the curriculum that they were currently in charge of.

*General information.* Demographic questions asked respondents to report their gender, age, teaching curriculum, teaching certification for special education, and years of teaching experience.

## Results

Of the 323 questionnaires returned, 19 were excluded from the data analysis because the respondents did not answer the questionnaire completely. The analyses were performed using SPSS for Windows, version 15.

### *Demographics*

The respondents were 304 teachers (96 men, 208 women) who were in charge of classes for children with multiple disabilities. Their mean age was 40.7 years (range, 22 to 59;  $SD=8.3$ ). The mean number of years of teaching experience in special education (including special classes in ordinary schools) was 14.1 years (range, 0 to 35;  $SD=8.3$ ). The mean number of years of experience teaching classes for children with multiple disabilities was 9.2 years (range 0 to 30;  $SD=6.8$ ). The *Jiritsu-katsudo* centered curriculum was taught by 189 teachers (62.2%); the intellectual disabilities curriculum, by 115 teachers (37.8%). A teaching certification for special education was held by 248 of the teachers (81.6%).

### *Factor Analysis of Replies Regarding Teachers’ Professionalism*

In the initial principal-axis factor analysis, items with communalities lower than .30 were deleted. The items with single-factor loadings less than .50, and those with cross-loadings greater than .40, were also eliminated. On the basis of low communalities and cross-loadings, 22 of the original 51 items were eliminated, leaving 29 items. On the basis of the expected correlation of the factors, a promax rotation was used for the exploratory analyses. Those factors with an eigenvalue of 1.0 or greater were selected for extraction and rotation. After exploring each factor structure (from one factor to five factors), it was determined that a five-factor solution was the most appropriate and interpretable. The questionnaire items and factor loadings are presented in Table 1.

The first factor (8 items), “professional knowledge and skills”, includes items that reflect knowledge and skills related to training methods such as *Dohsa-hou*<sup>3</sup>, body movement, *Jiritsu-katsudo*, and curriculum design. The second factor (7 items), “understanding of performance”, refers to the teachers’ understanding of how well

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TABLE 1 Factor Analysis of Questionnaire Scores on Teachers' Professionalism

	I	II	III	IV	V
I have knowledge and skills related to training methods such as <i>Dohsa-hou</i> .	.849	-.090	-.099	-.013	.053
I have knowledge about physical activity and body movements.	.813	.061	.000	.047	-.127
I have knowledge and skills about the curriculum for independent living ( <i>Jiritsu-katsudo</i> centered curriculum).	.789	.044	-.079	.004	.138
I have medical knowledge related to teaching children with disabilities.	.725	-.103	.156	-.045	.056
I have knowledge of curriculum design and organization.	.712	.083	.031	.054	-.113
I have knowledge about children's disabilities.	.663	.024	.033	-.138	.120
I have fundamental psychological knowledge about child development (including children without disabilities).	.636	.064	.079	.038	-.117
I have knowledge about teaching communication.	.560	.166	-.082	.215	.015
#I often have trouble figuring out whether I'm teaching the children well or poorly.	.035	.965	-.257	-.018	.032
#I don't know well whether or not my advice and instructions have been understood by the children.	-.065	.766	.060	-.021	.026
#I often have trouble figuring out what to do in team teaching.	.023	.723	-.086	-.019	.063
I'm able to evaluate my teaching performance based on the children's appearance.	-.048	.697	.053	.095	-.021
I'm able to select appropriate teaching contents and methods according to the children's development.	.172	.572	.092	-.108	.039
I usually know what the children can and cannot do.	.188	.564	.195	-.042	-.116
#I don't know well whether or not the purpose and contents of the IEPs are appropriate for the children's condition.	.004	.525	.133	-.029	-.001
I usually make good use of IEPs in teaching children.	.083	-.156	.780	-.105	.004
I cooperate with the children's parents based on their expectations.	-.001	.036	.697	.004	-.003
I set up a teaching and learning environment that considers the children's education and safety.	-.166	.182	.602	.150	-.095
I understand the children's present problems and outlook for their future.	.111	-.007	.557	.010	.175

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TABLE 1 continued

	I	II	III	IV	V
I frequently exchange information with senior teaching staff and colleagues.	-.144	.010	.552	.145	.056
I understand how much support the children and parents need.	.084	.251	.542	-.018	-.007
I design IEPs based on advice and information from medical specialists.	.260	-.144	.500	-.005	-.022
I am a passionate educator.	-.042	-.003	-.072	.836	.077
I have a strong sense of duty to educate children with disabilities.	.142	-.001	-.081	.696	-.008
I always try to acquire new knowledge and skills.	.051	-.083	.128	.648	-.017
I'm an active participant in training programs relating to knowledge and skills about children education.	-.075	-.008	.125	.569	-.015
#I'm not good at self-feeding and toilet training.	-.053	.087	-.041	.004	.861
#I'm not good at medical care.	.068	-.068	.019	.021	.821
I'm performing well based on the children's health care.	-.031	.100	.247	.032	.559
Factor correlation matrix	II	.561			
	III	.496	.531		
	IV	.336	.371	.449	
	V	.368	.392	.495	.278

*Note.* # indicates reverse-scored item. IEP = Individualized Education Plan.

they are performing their practices, based on their understanding of the children's reactions. The third factor (7 items), "collaboration-based teaching", is composed of the design of IEPs, classroom settings suitable for the children's needs, and collaboration with related people (e.g., teachers, parents, or other professionals). The fourth factor (4 items), "enthusiasm for education", covers the teachers' sense of duty, a mind inquisitive about new knowledge or skills, and active participation in in-service education. The fifth factor (3 items), "children's health care", includes self-feeding, toilet training, medical care, and health management.

To evaluate the reliability of the questionnaire, Cronbach's  $\alpha$  coefficients were calculated for the five factors, with the following results: professional knowledge and skills,  $\alpha = .91$ ; understanding of performance,  $\alpha = .89$ ; collaboration-based teaching,  $\alpha = .84$ ; enthusiasm for education,  $\alpha = .79$ ; and children's health care,  $\alpha = .85$ . Cronbach's  $\alpha$  coefficients ranged from .79 to .91, indicating that the reliability of the five factors was good. The commonly used rule of thumb is that  $\alpha$  exceeding .70 indicates satisfactory internal consistency for a scale (Nunnally & Bernstein, 1978).

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A two-way ANOVA was used to determine if teaching experience in special education and experience with two curricula had an effect on professionalism (five subscales). Based on the legally designated in-service education of the Ministry of Education, Culture, Sports, Science and Technology, the teachers were grouped according to the number of years of teaching experience. This yielded the following groups: 0-5, 6-10, 11-20, and 21 or more years. The number of teachers in each of the four groups was: 53 teachers (0-5 years), 67 teachers (6-10), 102 teachers (11-20), and 82 teachers (21 or more). The results of the two-way ANOVA are shown in Table 2.

Analysis of the "professional knowledge and skills" factor revealed a significant main effect of teaching experience,  $F(3, 295) = 34.09, p < .01$ . Multiple comparisons (Tukey HSD test) revealed that the score on the professional knowledge and skills for the teachers with 0-5 years of experience ( $M = 2.59, SD = .75$ ) was significantly lower than those for the other three groups. The professional knowledge and skills scores for the teachers with 6-10 years ( $M = 2.93, SD = .60$ ) and 11-20 years ( $M = 3.16, SD = .65$ ) experience were not different, and were significantly lower than that for the teachers with 21 or more years of experience ( $M = 3.65, SD = .53$ ).

Analysis of the "understanding of performance" factor revealed a significant main effect of teaching experience,  $F(3, 295) = 17.35, p < .01$ , and curriculum,  $F(1, 295) = 6.05, p < .05$ . Multiple comparisons revealed that the understanding of performance score for the teachers with 0-5 years of experience ( $M = 2.99, SD = .53$ ) was significantly lower than those for the other three groups. Moreover, the understanding of performance score for the teachers with 21 or more years of experience ( $M = 3.74, SD = .57$ ) was significantly higher than that for the teachers with 6-10 years of experience ( $M = 3.47, SD = .63$ ). The understanding of performance score for the teachers in charge of the *Jiritsu-katsudo* centered curriculum ( $M = 3.42, SD = .63$ ) was significantly lower than that for the teachers who taught the intellectual disabilities curriculum ( $M = 3.61, SD = .58$ ).

Analysis of the "collaboration-based teaching" factor revealed a significant main effect of teaching experience,  $F(3, 295) = 8.74, p < .01$ , as well as a significant interaction of teaching experience and curriculum,  $F(3, 295) = 4.69, p < .01$ . The simple main effects analysis of the interaction revealed that for the teachers in charge of the intellectual disabilities curriculum, the collaboration-based teaching score for the teachers with 0-5 years of experience ( $M = 3.23, SD = .67$ ) was significantly lower than those of the other three groups. The collaboration-based teaching score for the teachers of *Jiritsu-katsudo* centered curriculum who had had 0-5 years of experience ( $M = 3.67, SD = .54$ ) was significantly higher than that for the teachers who taught the intellectual disabilities curriculum ( $M = 3.23, SD = .67$ ).

Analysis of the "enthusiasm for education" factor revealed a significant main effect of teaching experience,  $F(3, 295) = 3.33, p < .05$ . Multiple comparisons revealed that the enthusiasm for education score of the teachers with 6-10 years ( $M = 3.75, SD = .52$ ) and 11-20 years ( $M = 3.79, SD = .54$ ) experience were not different, and

TABLE 2 Effects of Teaching Experience and Types of Curriculum on Teachers' Professionalism (*M* and *SD*)

	<i>Jivitsu-katsudo</i> centered curriculum					Intellectual disabilities curriculum					<i>F</i>
	0-5 <i>n</i> =35	6-10 <i>n</i> =44	11-20 <i>n</i> =67	Over 21 <i>n</i> =43	0-5 <i>n</i> =18	6-10 <i>n</i> =23	11-20 <i>n</i> =35	Over 21 <i>n</i> =39	Exp	Cur	
Professional knowledge and skills	2.65 (.71)	2.97 (.58)	3.21 (.67)	3.60 (.69)	2.49 (.82)	2.85 (.64)	3.05 (.60)	3.71 (.62)	34.09**	n.s.	n.s.
Understanding of performance	2.96 (.55)	3.34 (.58)	3.54 (.61)	3.67 (.58)	3.06 (.51)	3.73 (.67)	3.60 (.42)	3.82 (.55)	17.35**	6.05*	n.s.
Collaboration-based teaching	3.67 (.54)	3.56 (.50)	3.79 (.48)	3.88 (.36)	3.23 (.67)	3.78 (.62)	3.62 (.42)	3.91 (.39)	8.74**	n.s.	4.69**
Enthusiasm for education	4.02 (.53)	3.78 (.46)	3.82 (.60)	3.69 (.56)	4.07 (.38)	3.68 (.62)	3.74 (.41)	3.94 (.67)	3.33*	n.s.	n.s.
Children's health care	3.33 (.94)	3.34 (.75)	3.80 (.82)	3.82 (.57)	2.89 (.68)	3.42 (.73)	3.69 (.48)	3.74 (.74)	11.39**	n.s.	n.s.

*Notes.* Numbers in parentheses indicate *SD*. Exp=teaching experience; Cur=curriculum; Int=interaction.

\*\* $p < .01$ , \* $p < .05$

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were significantly lower than that of the teachers with 0–5 years of experience ( $M = 4.04$ ;  $SD = .48$ ).

Analysis of the “children’s health care” factor revealed a significant main effect of teaching experience,  $F(3, 295) = 11.39$ ,  $p < .01$ . Multiple comparisons revealed that the children’s health care scores for the teachers with 0–5 years ( $M = 3.18$ ,  $SD = .88$ ) and 6–10 years ( $M = 3.36$ ,  $SD = .74$ ) experience were not different, and were significantly lower than those of the teachers with 11–20 years ( $M = 3.76$ ,  $SD = .72$ ) and 21 or more years ( $M = 3.78$ ,  $SD = .65$ ) experience.

## Discussion

### *Factor Analysis of Teachers' Professionalism*

A five-factor solution was deemed to be the most appropriate in the present study (Table 1). In order to clarify the specific character of teachers’ professionalism for children with severe and multiple disabilities, the present results were compared to the five generally accepted educational principles.

The “professional knowledge and skills” and “enthusiasm for education” were similar to the educational principles. On the other hand, the other three factors (collaboration-based teaching, understanding of performance, and children’s health care) were partially different.

First, “collaboration-based teaching” covers three dimensions of the educational principles: teaching practice, teacher collaboration, and collaboration with parents or other professionals. A team teaching approach is the most common method in classes for children with multiple disabilities (e.g., the design of IEPs) and teachers are required to collaborate with parents, medical doctors, nurses, and other professionals (e.g., on medical care). From the results on this factor, it can be inferred that “teaching practice” in the education of children with severe and multiple disabilities is based on collaboration with various related people.

Second, “understanding of performance” is associated with evaluation and reflection, which are parts of the “teaching practice” of the educational principles. However, this appeared in the present study as a separate dimension. Despite the difficulty of understanding children with severe and multiple disabilities, limited objective tools are available for assessment. Teachers have to rely greatly on their own observations, so that it is very difficult for them to determine how well they are performing. Because of this, it was decided that it was appropriate for the present study to retain this factor as a separate dimension, rather than as a part of another dimension.

Third, “children’s health care” is an unavoidable problem for these children’s participation in school activities. Kawasumi, Ishikawa, and Gokami (2002) stated that health education and management of children with severe and multiple disabilities is an important content for *Jiritsu-katsudo*. Thus, this factor is a professional issue related to assistance practice for supporting children’s school activities, as well as to teaching practice.

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It is a commonly held view that teaching experience has a positive effect on teachers' professionalism. In the present study, apart from the "enthusiasm for education" factor, strong support relations were found between teaching experience and the other aspects of professionalism. In other words, except for "enthusiasm for education", all other aspects of teachers' professionalism increases with years of experience.

More concretely, the score on "professional knowledge and skills" of the teachers with 0-5 years of experience were significantly lower than the other groups with respect to "collaboration based teaching" and "understanding of performance". Also, the teachers with 0-5 and 6-10 years of experience scored significantly lower than the other groups with respect to "children's health care". These results indicate that novice teachers (0-5 years of experience) are more likely to feel that their professionalism is inadequate. To put it another way, these results could mean that it takes approximately five years for newly appointed teachers at special schools to feel a significant increase in their professionalism with respect to teaching children with severe and multiple disabilities (for the children's health care factor, this is 10 years).

In contrast, with respect to the "enthusiasm for education" factor, the teachers with 0-5 years of experience scored significantly higher than those with 6-10 and 11-20 years of experience. In other words, novice teachers are likely to be more highly motivated to teach the children in their classes and to learn new knowledge and skills. According to Matsuzaki's (2003) study, most of the newly appointed teachers at every type of special school reported that they were satisfied with being a teacher and wanted to get better at teaching, irrespective of whether or not they had majored in special education. Accordingly, it can be inferred that many novice teachers have had high levels of enthusiasm for education from the beginning of their career. This enthusiasm is associated with teachers' job satisfaction (including social status).

Next, apart from "understanding of performance", no main effect of curriculum was significant. Contrary to our expectations, the type of curriculum taught did not have a strong effect on teachers' professionalism.

In regard to the "understanding of performance" factor, the teachers in charge of the *Jiritsu-katsudo* centered curriculum had significantly less understanding, that is to say, they were more likely to feel that it was difficult to understand whether or not they were performing their duties well, compared with teachers of the intellectual disabilities curriculum. As mentioned previously, those children being taught the *Jiritsu-katsudo* centered curriculum tend to have more severe disabilities (including need for medical care). Teachers of the *Jiritsu-katsudo* centered curriculum have to learn a variety of knowledge and skills (e.g., about medical treatments). Therefore, a lack of knowledge and skills can cause them difficulty in determining how well they are performing in their practice. Also, it is not easy for teachers to understand the reactions of children with severe and multiple disabilities, even when the teachers have the necessary knowledge and skills.

The present study has several limitations. First, many teachers had experience

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teaching both curricula. Several teachers reported that it was difficult for them to answer the questionnaire after differentiating between the two types of curricula clearly. This may be one reason why a strong association between curriculum and teachers' professionalism was not observed. More studies are needed to investigate the effect of curriculum after controlling for this, in order to ascertain whether or not the present results are accurate.

Second, the present study cannot explain what generated the high level of enthusiasm among the novice teachers, and what had helped them overcome "reality shock" (Veenman, 1984). Reality shock is the result of teachers' realization about the difficulties of their duties and their lack of professionalism. Therefore, it can be expected that novice teachers of children with severe and multiple disabilities face more unpredicted difficulties in their practices, and that such problems could affect their enthusiasm. More studies are needed to identify the specific character of those novice teachers of children with severe and multiple disabilities who have high levels of enthusiasm, and the impact of their enthusiasm on their professional development.

### Endnotes

- 1) Japan has five types of special schools: schools for children who are blind, for children who are deaf, for children with intellectual disabilities, for children with physical disabilities, and for children with health impairments.
- 2) *Jiritsu-katsudo* is a specialized subject area in the national curriculum for special schools that has the objective of helping the children with disabilities to be independent in their studying and living. The area is composed of six topics with respect to basic human behavior: health maintenance, psychological stability, formation of interpersonal relationships, understanding of the environment, body movement, and communication. The area has no grade-level content standards in the national curriculum. Teachers are supposed to design Individualized Education Plans (IEPs) for each child, including specific objectives and contents.
- 3) *Dohsa-hou* is a psycho-rehabilitation training method originated in the 1960s by Prof. Gosaku Naruse of Kyushu University.

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