



TEACHER'S IMAGE ON INCLUSIVE EDUCATION: CLASSIFICATION USING CONJOINT ANALYSIS

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This study was to clarify the features of teacher's image of inclusive education. The extent of understanding by teachers on inclusive education would affect the effective education practice. 150 teachers participated in our study. We used a questionnaire with 11 items for conjoint analysis. 138 questionnaires were analyzed with conjoint analysis and the profiles of participants were divided into six types. Generally, respondents had held the image of inclusive education in association with the size and form of learning group. The result indicated not a small number of teachers had image of inclusive education as style and place of educational practices. That implied they had not the correct image on inclusive education. Teacher's image on inclusive education very varied from person to person. Some teachers had their image of inclusive education like as just locational integration. Some denied all segregated settings, including individual teaching, as inclusive education. We concluded that we should provide some in-service training courses for teachers about the idea and key concepts of inclusive education as soon as possible in Japan. And, also we should clarify whether teachers have the correct knowledge and image of inclusive education or not, not only in Japan but also in other countries.

Keywords: Inclusive Education, Conjoint analysis, Teacher's image.

Introduction

In the special needs education feeds, ever since Salamanca statements (1994), the idea, concept, policy, and practice on inclusive education was widely to spread. There are many papers and books that mentions about inclusive education. We could even find a few books about inclusive education before Salamanca statements (e.g. Mason, 1992). The growth of interest in inclusion has been landmarked by a number of key events (Garner, 2009). Then, we have got quite many publications after Salamanca statements (e.g. Ainscow,1994; Valachou,1997; Ballard and MacDonald,1999; Ainscow, Booth and Dyson,1999; Wearmouth,2001; Ainscow, 2002; Dyson and Millward,2002; Farrell and Ainscow,2002; Hornby,2002; Tod, 2002, Carson,2002; O'Brien,2002; Rose and Howley,2002; Clough and Corbett,2002; Dorries and Haller,2005; Rieser,2005; Schnorr, Matot, Paetow and Putnam,2005; Kane,2005; Osler and Osler,2005; Dyson,2005; Maguire, Macrae and Milbourne,2005; Wain and Cook,2005; Slee and Allan,2005; Ruth,2007; Ekins and Grimes,2009; Loreman, Deppeler and Harvey,2010; Hanks,2011; Armstrong, Armstrong and Spandagou,2011; Westwood,2013 etc.)

Sanagi (2011) defined the key essence of inclusive education as “expanding process of including diversity of educational needs.” We could find many definitions of inclusive education around the world. Although false definition regarding inclusion as just “locational integration” had become fewer, it seems that there are still non-corrective definition about inclusive education. For constructive and effective practice on inclusive education, we should share appropriate concept on inclusive education.

Among the reasonable definitions on inclusive education, we could find common elements in these definitions - “including diversity” and “expanding process”. These keywords symbolize that the existence of special education settings (e.g. special schools, special class or units, resource room) could not denied (e.g. DfE, 2001). We could justification various kind of educational setting. However, someone strongly deny any kind of special setting as segregation. Needless to say, no one could be allowed to declare discrimination. It is not the matter of “regular” or “special.” We use these term for discussion as relative meaning. However, it is not intended alternative school system. We mean we should seek and create new school system that schools will not divided into “two” kind of schools in the future. For such a future, the important thing we should recognize is that all children are included “substantially” in educational opportunity. Namely, “Substantial participation” must be guaranteed. And, for such a future, accurate and appropriate understanding of teacher about inclusive education is essentially important, because the adequacy of their knowledge to determine the substantial success of inclusive education. For example, if all teachers in a school have only belief on inclusive education as just providing one educational setting for all children regardless of substantial participation of pupils, then, some of pupils may be segregated and discriminated in their school, because their educational needs would not be included.

On the other hand, teachers who well recognized the emphasized substantial participation for including each pupil’s educational needs can certainly provide reasonable and effective educational provision. Teacher’s recognition about inclusive education is essential for good practice. Sanagi (2014) conducted an investigation in Japan and pointed out that many teachers had inclusive education regard as “type of group (group organization)” and “size of group”, though these factors were not directly related to the concept of inclusive education.

The purpose of this study is to clarify teacher's image on inclusive education in detail.

Method

150 teachers were participants of this study in Japan.

We used the questionnaire consisted of eleven items by conjoint analysis that was same as Sanagi (2014). We set four factors – factor 1: Inclusivity Image; factor 2: Group Organization; factor 3: Group Size; factor 4: Diversity Image. Factor 1 and 4 were closely related on inclusive education image. On the other hand, factor 2 and 3 were not directly related on inclusive education image. These factors were on special settings for pupils with special educational needs and/or general school environment. The reason why we mixed these factors related to inclusive education image or not was that it is good way to clarify whether teacher’s image on inclusive education is appropriate or not. That is, if teachers would answer their image on inclusive education as factor 2 and 3 like as Sanagi (2014), we will have the result that teachers have not appropriate image on inclusive education. We made our research plan also in Japan, so it is easy to expect the same result as Sanagi (2014). However, this study project would seek to analyze in detail.

Table 1. Factors and Levels for questionnaire

Factor 1	(level 1) put a pupil into a mainstream
(Inclusivity Image)	(level 2) expanding environment includes a pupil

Factor 2 (Group Organization)	(level 1) repudiation of separated learning opportunity (level 2) resource room system (level 3) homogeneous group setting
Factor 3 (Group Size)	(level 1) individualized lesson (level 2) a small group (level 3) a large group
Factor 4 (Diversity Image)	(level 1) pupil with disability in a group (level 2) various attribution in a group

We analyzed the result of conjoint analysis with cluster analysis and cross tables. We show factors and each factor levels as Table 1.

Total number of factor levels was 10 (= 2 factor1 level + 3 factor 2 level + 3 factor 3 level + 2 factor 4 level). In the full concept method on conjoint analysis procedure, each items for questionnaire should be combined factor levels from those four factors. That is, $2 \times 3 \times 3 \times 2 = 36$ combination. We used orthogonal layout and finally 11 question items were extracted for questionnaire.

Result

138 questionnaires were analyzed.

The result of conjoint analysis was shown as figures below.

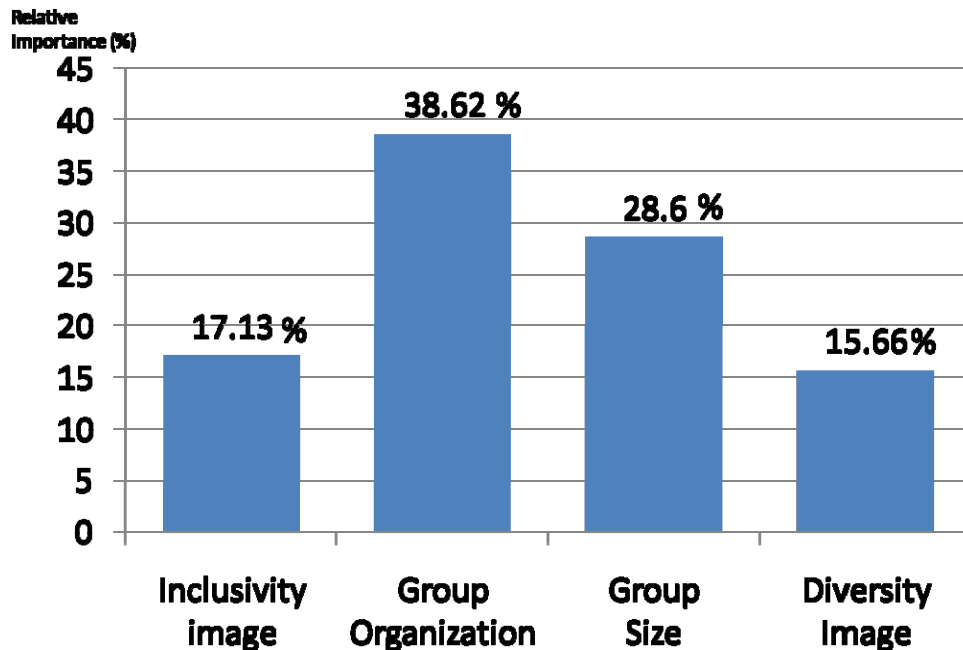


Figure 1. Subfile Summary (Conjoint Analysis)

Subfile summary of conjoint analysis (fig.1) shows that teachers on our study tended to have images on inclusive education by factor 2 and 3. Each score on fig.1 was relative, and total score of fig.1 was 100(%). Then, we could make it clear what factor was evaluated as most related to the image of inclusive education by teachers.

Relative importance of each factors were 17.13, 38.62, 28.60, and 15.66.

It was clarified that teacher's image on inclusive education were most influenced by “group organization” (factor 2) and “group size” (factor 3). On the other hand, the image of inclusive education was not so influenced by “inclusivity image” (Factor 1) and “diversity image” (factor 4). Generally, respondents had held the image of inclusive education in association with the size and form of learning group.

It became obvious that although teachers had appropriate image on “inclusivity” and “diversity” factors (see Figure 2), they made their image on inclusive education not by “inclusivity” and “diversity” but mainly by image of group settings.

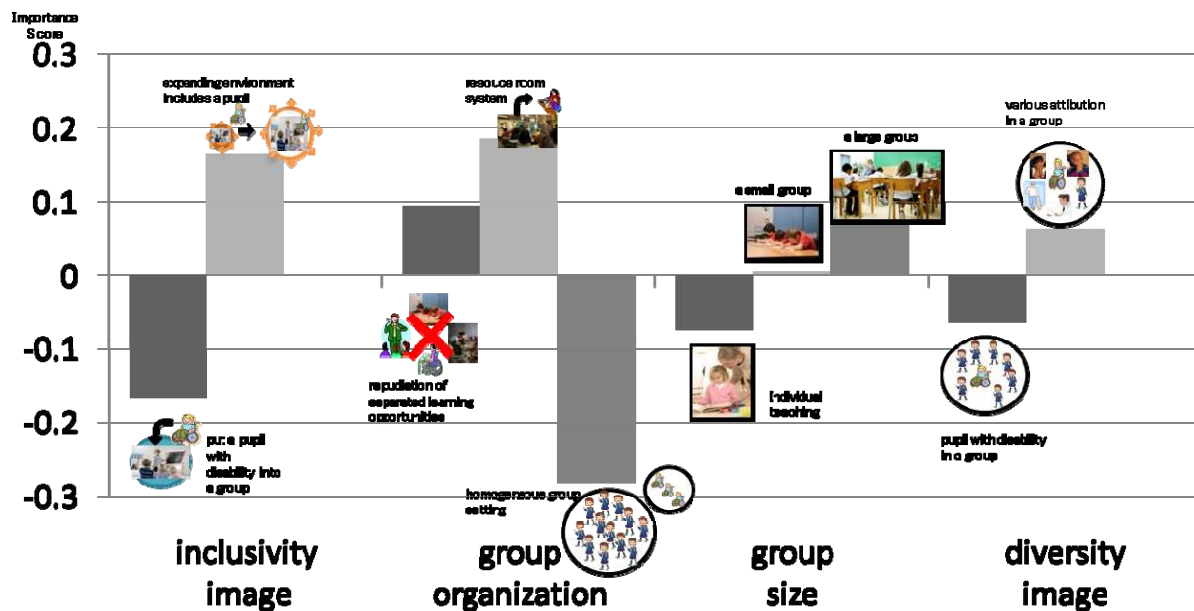


Figure 2. Average Relative Importance and Utility Score

Figure 2 shows Utility Score of conjoint analysis. Each utility score belonging four factors showed the extent that factor level was related to image on inclusive education. For example, teachers had notion on “an expanding environment include a pupil” as the image on inclusive education in inclusivity image (factor 1). On the other hand, they did not think “homogeneous group setting” was not their image on inclusive education. It showed many teachers denied certainly that kind of group setting as inclusive education.

We could also find some feature from figure 2. Many teachers had image on inclusive education as “resource room setting (factor 2)” and “large group size” of their lessons (factor 3).

For detailed analysis, we used cluster analysis method to the data on “relative importance” and “utility scores” of each teacher. Then, we could divide into three types on relative importance and two types on utility scores. And, 3 x 2 cells contingency table was made by these two cluster analysis as below:

Table 2. Contingency table on relative importance and utility score

CONTINGENCY TABLE Relative Importance & Utility Scores		Cluster by Relative Importance			
		1	2	3	
Cluster by Utility Scores	1	Type A (41) •strongly regards image on large learning group size as inclusive education •deny segregated setting and homogeneous group setting •appropriate image on factor 1 and 4 (expanding environment / diversity), however less emphasized than factor 2 and 3	Type B (20) •something similar to Type A, but teachers regards image on the style of teaching as inclusive education •strongly deny not only segregated setting but also resource room style and homogeneous group setting •take a few account of expanding image of environment •appropriate image on diversity	Type C (15) •regards image on including diversity of needs as inclusive education •highest relative importance score of inclusive education concept •deny individual and segregated setting and homogeneous group setting •large learning group size oriented	76
	2	Type D (14) •regards group size factor, especially individual or small size setting, as deciding image of inclusive education •also regards resource room setting as symbol of the inclusive education •deny large classroom setting •inclusion is close image to locational integration of children with and without disability	Type E (36) •strongly has image of inclusive education as providing resource room, individual setting and small group setting •deny large learning group size •take little account of exact inclusive concept (just imaged inclusive education as group organization and group size)	Type F (12) •has almost no inclusivity image •inclusion is close image to locational integration of children with and without disability •resource room and small size group oriented •deny large size group and homogeneous group setting	62
		55	56	27	n = 138

Table 2 shows we could divide 138 teachers into six types. We described the features of each type in brief. Type C (n=15) teachers seemed to have more appropriate image on inclusive education though only 15 teachers of 138 were belonged in this type. Figures on these six types will be shown for more easily understanding each type.

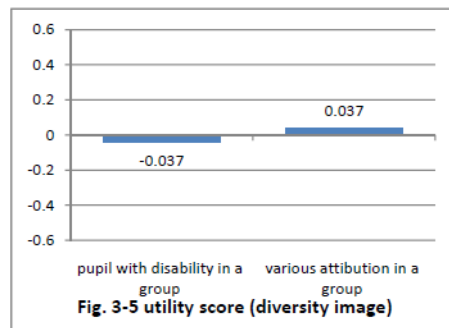
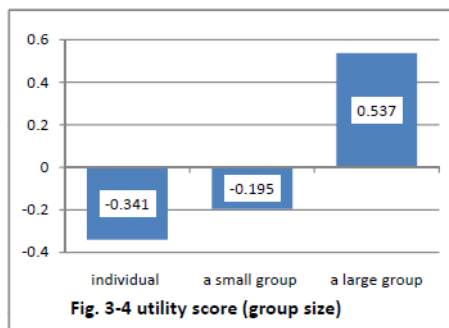
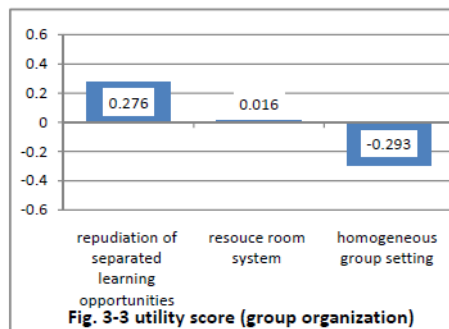
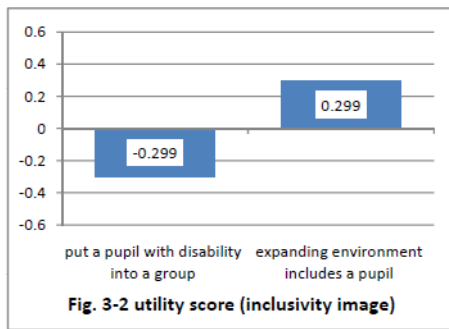
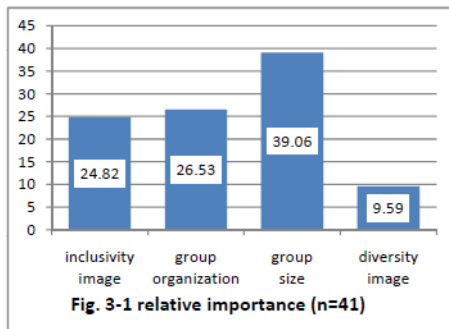


Fig. 3-1 to 3-5 shows relative importance and utility scores on factor 1 to 4 of Type A. (Fig.3-1: relative importance; Fig.3-2: factor 1; Fig.3-3: factor 2; Fig.3-4: factor 3; Fig.3-5: factor 4)

This type was characterized as:

- strongly regards image on large learning group size as inclusive education
- deny segregated setting and homogeneous group setting
- appropriate image on factor 1 and 4 (expanding environment/diversity), however less emphasized than factor 2 and 3

We named type A as “strongly large learning group oriented type” from Fig.3-1 and Fig.3-4.

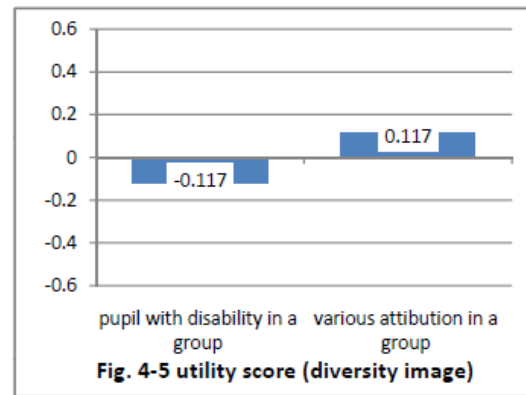
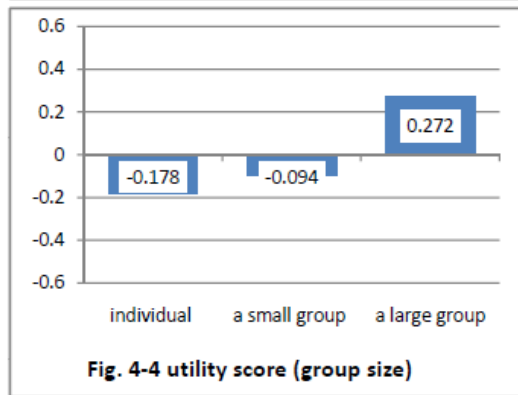
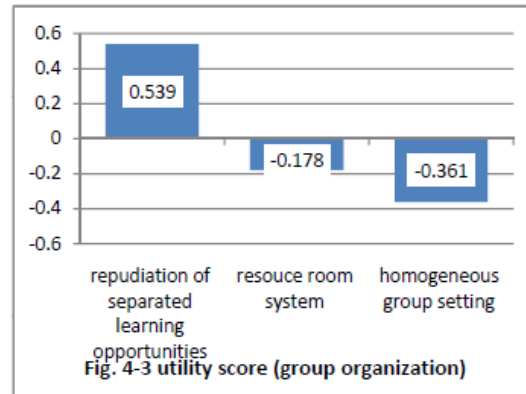
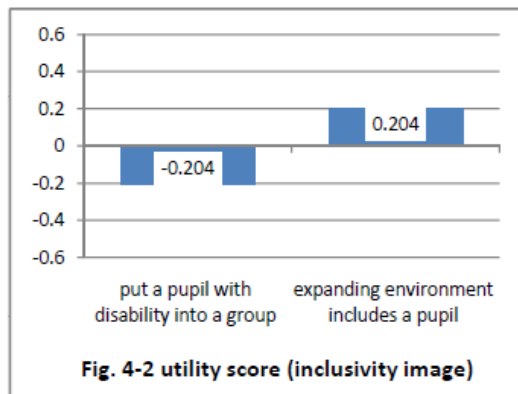
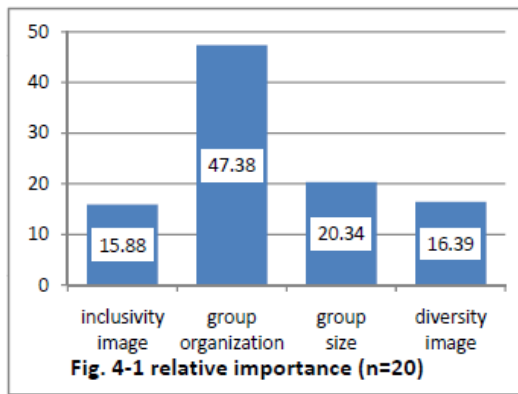


Fig. 4-1 to 4-5 shows relative importance and utility scores on factor 1 to 4 of Type B. (Fig.4-1: relative importance; Fig.4-2: factor 1; Fig.4-3: factor 2; Fig.4-4: factor 3; Fig.4-5: factor 4).

This type was characterized as:

- something similar to Type A, but teachers regards image on the style of teaching as inclusive education
- strongly deny not only segregated setting but also resource room style and homogeneous group setting
- take a few account of expanding image of environment
- appropriate image on diversity

We named type B as “strongly denying separated learning opportunity type” from Fig.4-1 and Fig.4-3.

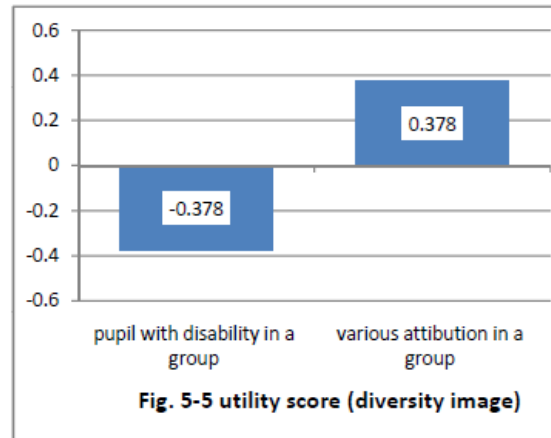
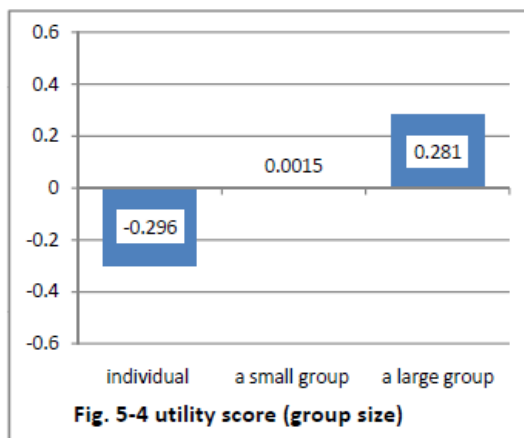
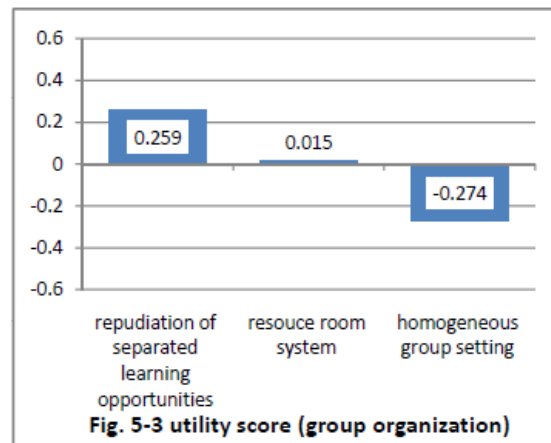
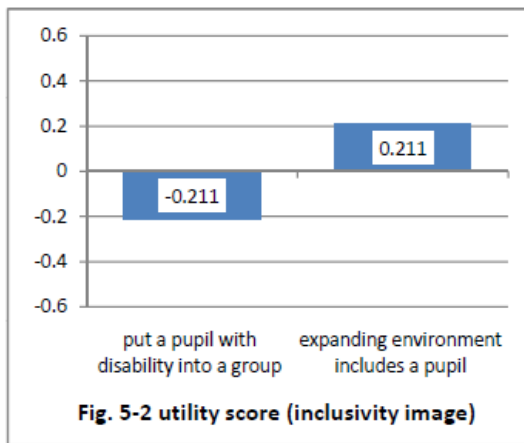
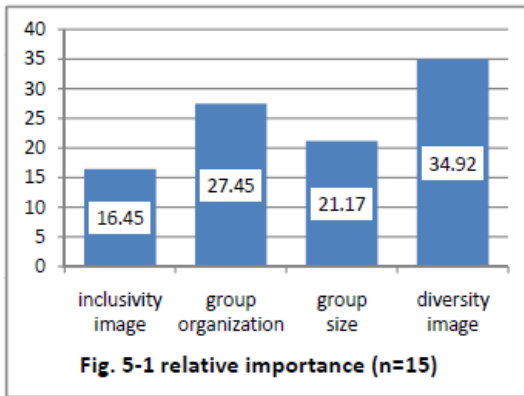


Fig. 5-1 to 5-5 shows relative importance and utility scores on factor 1 to 4 of Type C. (Fig.5-1: relative importance; Fig.5-2: factor 1; Fig.5-3: factor 2; Fig.5-4: factor 3; Fig.5-5: factor 4)

This type was characterized as:

- regards image on including diversity of needs as inclusive education
- highest relative importance score of inclusive education concept
- deny individual and segregated setting and homogeneous group setting
- large learning group size oriented

We named type C as “strongly diversity oriented type” from Fig.5-1 and Fig.5-5.

The number of this type was small, however they seemed to have had most appropriate inclusive education image as making their attention to diversity aspect.

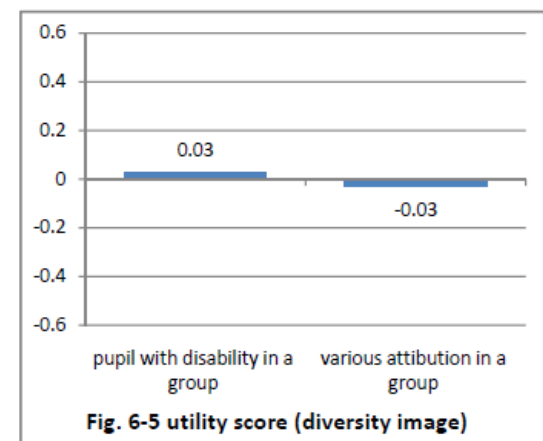
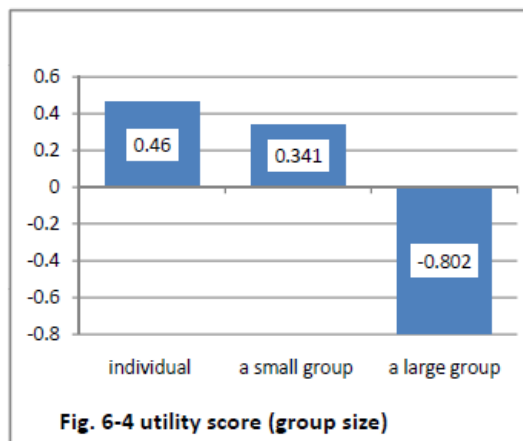
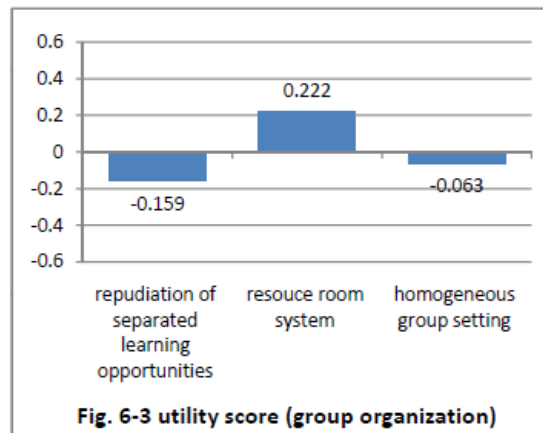
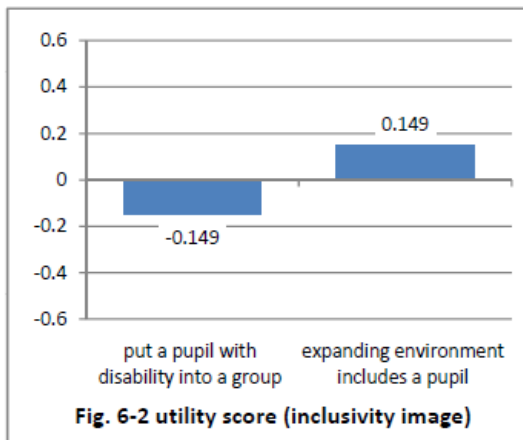
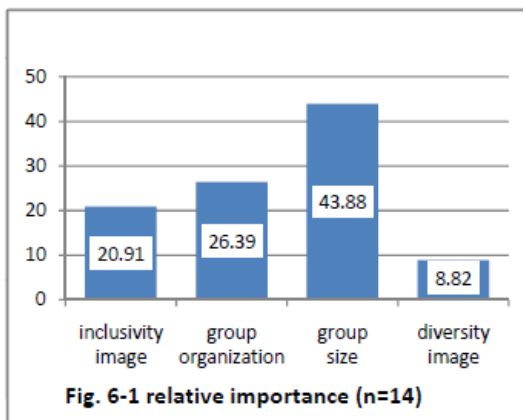


Fig. 6-1 to 6-5 shows relative importance and utility scores on factor 1 to 4 of Type D. (Fig.6-1: relative importance; Fig.6-2: factor 1; Fig.6-3: factor 2; Fig.6-4: factor 3; Fig.6-5: factor 4)

This type was characterized as:

- regards group size factor, especially individual or small size setting, as deciding image of inclusive education
- also regards resource room setting as symbol of the inclusive education
- deny large classroom setting
- inclusion is close image to locational integration of children with and without disability

We named type D as “strongly denying large learning group type” from Fig.6-1 and Fig.6-4.

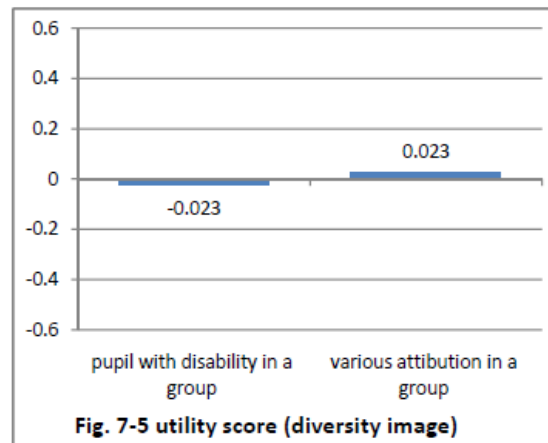
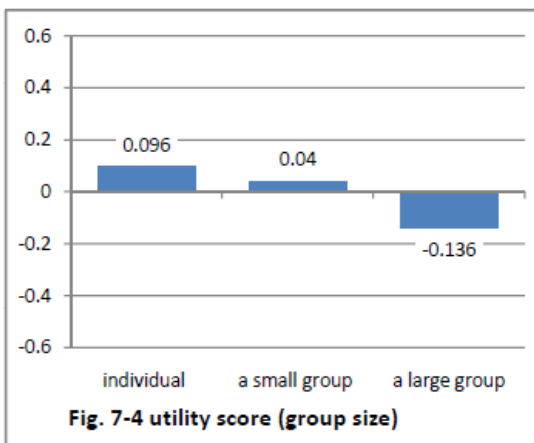
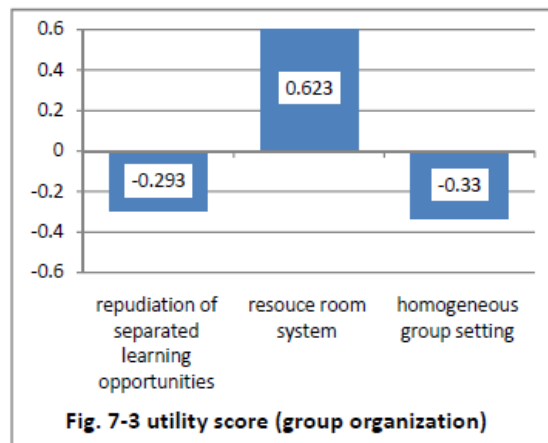
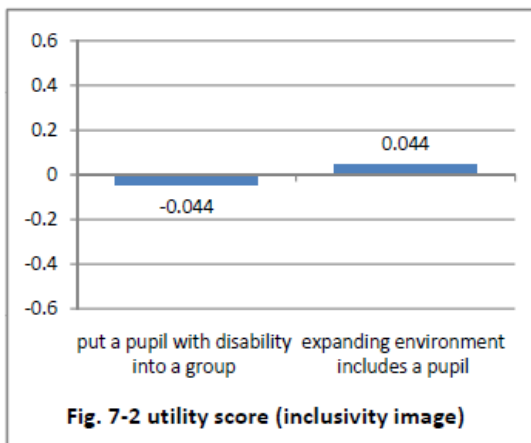
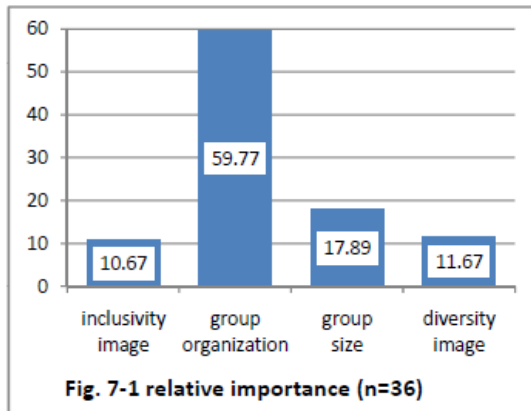


Fig. 7-1 to 7-5 shows relative importance and utility scores on factor 1 to 4 of Type E. (Fig.7-1: relative importance; Fig.7-2: factor 1; Fig.7-3: factor 2; Fig.7-4: factor 3; Fig.7-5: factor 4)

This type was characterized as:

- strongly has image of inclusive education as providing resource room, individual setting and small group setting
- deny large learning group size
- take little account of exact inclusive concept (just imaged inclusive education as group organization and group size)

We named type E as “favouring resource room type” from Fig.7-1 and Fig.7-3.

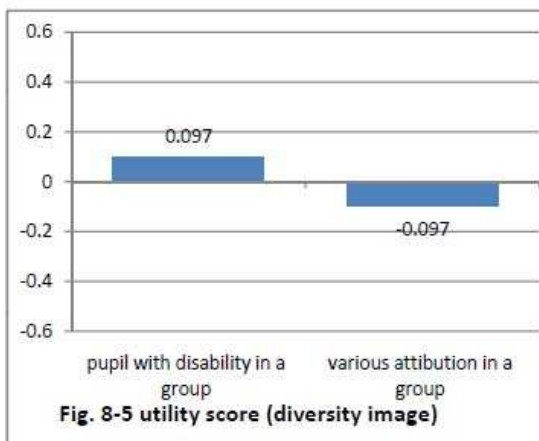
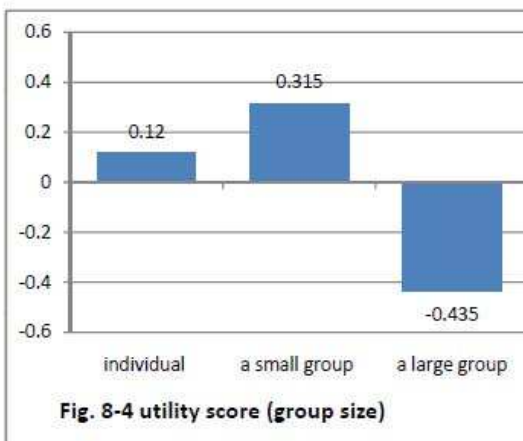
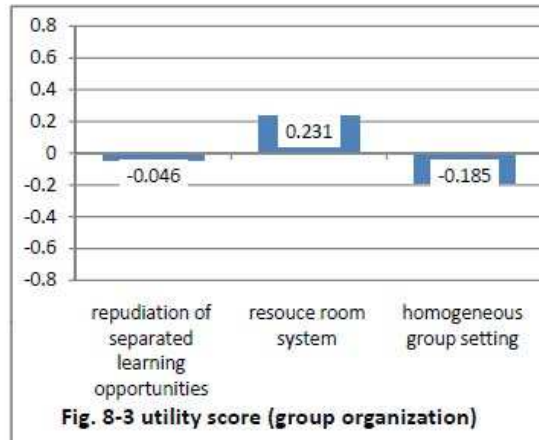
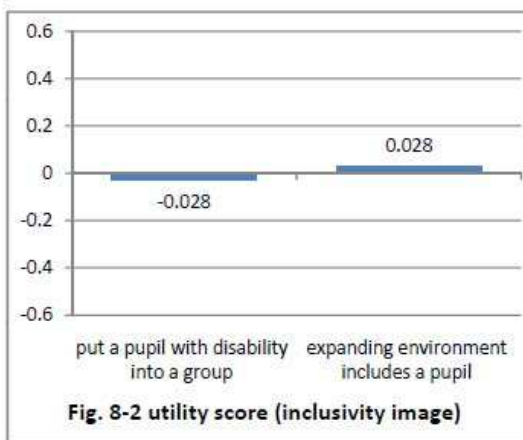
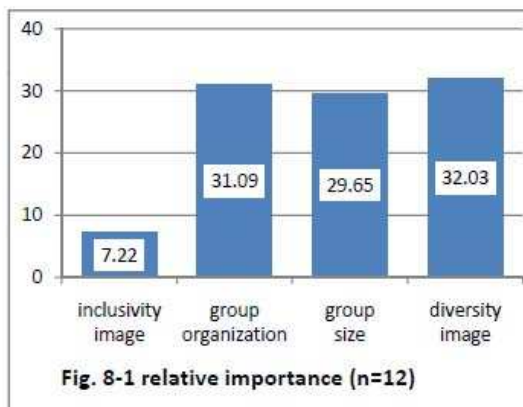


Fig. 8-1 to 8-5 shows relative importance and utility scores on factor 1 to 4 of Type F. (Fig.8-1: relative importance; Fig.8-2: factor 1; Fig.8-3: factor 2; Fig.8-4: factor 3; Fig.8-5: factor 4)

This type was characterized as:

- has almost no inclusivity image
- inclusion is close image to locational integration of children with and without disability
- resource room and small size group oriented
- deny large size group and homogeneous group setting

We named type F as “small group and disability oriented type” from Fig.8-4 and Fig.8-5.

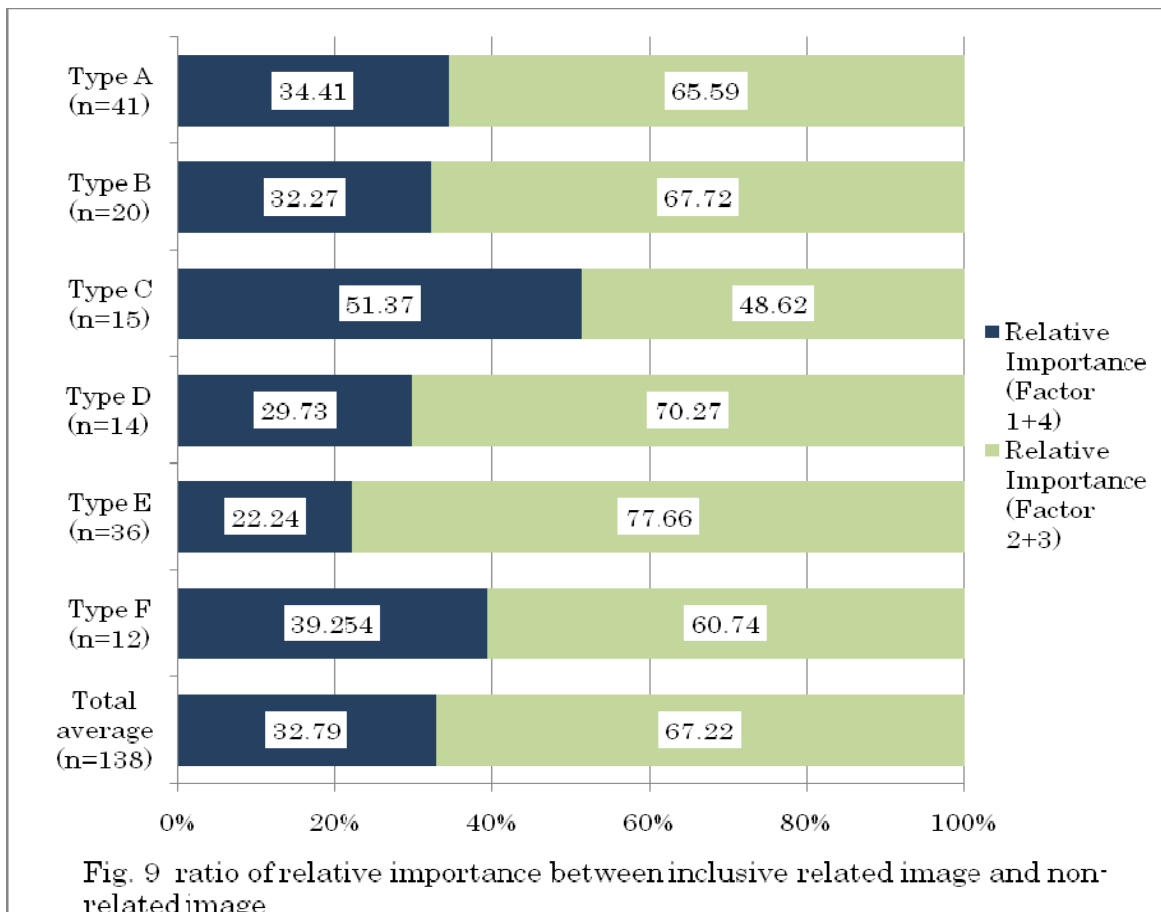


Figure 9 shows the ratio of relative importance between on inclusive related factors (factor 1 &4) and non-related factors (factor 2 &3). As on the figure and mentioned, type C was the group which had more appropriate image on inclusive education than others. However, even though, it seemed that teachers of type C were influenced by factor 2 and 3. It means teachers still should learn and have more understanding on concept of inclusive education.

Discussion

It is reasonable to assume that teacher's image on inclusive education was constructed not from the perspective of “inclusivity” and “diversity”, but from viewpoint of “group organization” and “group size” because a lot of explanation on policy and practice of inclusive education in Japan had got along with discussion on “integration of pupils with disabilities in mainstream schools”. It has long been recognized

that the issue of integration is assimilation of pupils with disability to mainstream curriculum, mainstream teaching method, and mainstream goal. In this context, it was for this reason that teachers understood "special needs education" as to provide special provision like as individualized teaching, resource room, and specialist teacher etc. As a result, it follows many teachers have the image of inclusive education influenced by "group organization" factor.

As we mentioned at beginning part, the concept of inclusive education symbolically expressed as extending process which includes diversity of pupils' educational needs. Then, it seems clear that we should have an image of inclusive education as "inclusivity image" and "diversity image" properly.

On the contrary, in Figure 2, it showed that teachers thought resource room and a large group setting as close image to the inclusive education. What was the reason of that? It may be that inclusive education in Japan imaged as a large and organized classroom teaching in mainstream schools.

We would emphasize our opinion about inclusive education concept as that the important is not on including pupils, but on including pupil's educational needs. In so doing, we will include "pupils" in whole education system as a result. If pupils are included in mainstream classroom without reasonable and effective provision, they may be excluded in the mainstream. It is essential that we certainly provide suitable environment for inclusive practice with correct understanding the policy.

Teacher's image can be regard as an environmental factor. Sanagi (2007) propose an interactive model of special educational needs concept as developed the model of Gulliford (1971). In his perspectives, special educational needs constructed by the interaction of individual factors and environmental factors. If teacher's image on inclusive education is not appropriate, pupil's special educational needs will become worse by low-quality environment. Appropriate teacher's image on inclusive education can be said to be essential for reasonable and effective practice for inclusive education.

In this study, we only made clear and classify of teacher's image on inclusive education and get six type of image with conjoint analysis. (Type A: "strongly large learning group oriented"; Type B: "strongly denying separated learning opportunity"; Type C: "strongly diversity oriented"; Type D "strongly denying large learning group"; Type E: "favouring resource room"; Type F: "small group and disability oriented")

There were no statistically significant difference among these six types on teaching experience and school types (mainstream or special). It is necessary to gain understanding of the reason why teacher's image had been constructed. And, we also should clarify whether teachers have the correct knowledge and image of inclusive education or not, not only in Japan but also in other countries.

We concluded that we should provide some in-service training courses for teachers about the idea and key concepts of inclusive education.

Acknowledgment

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