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Children with Disability and Communicational Development Support through Dousa-hou

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Ⅰ. Introduction

Communication involves listening, speaking, gesturing, reading, and writing. Communication abilities help children to learn, form social relationships, express feelings, and participate in everyday activities. Some children, due to cognitive and/or physical impairments, may have difficulty expressing themselves clearly or understanding what is being said to them (Reinhartsen & Pierce, 1994). People with disability and serious mental illness have tremendous improvements through the psychological interventions in last three decades. Psychologists have contributed to programs that are helping people change their feelings, emotions, and behavior instead of just suppressing symptoms. In particular, a number of treatment programs are drawing on the work of psychologists and their method encourages people to learn about their own body and mind and demonstrate social skills that allow them to function in a community.

Children with cerebral palsy improve control of their behavioral activities, bodily movements, and posture, reduce anxiety and depression caused by their disabilities using Dousa-hou (Ohba, 1992; Ogawa, 1987; Saito, 2002), and socially interact more with others (Naruse, 1985, 1992; Harizuka, 1992; Konno, 1993b; Kumar & Harizuka, 2001, Tokunaga, 1996, 2002; Tsukada, 2001). Dousa-hou is a psychological rehabilitation process for the children and adults with disabilities, to improve their education, health, and psychological care (Naruse, 1973, 1985, 1992). Dousa means a process of motor action which consists of the inner psychic activities and of a bodily movement. When we intend to move some parts of body, we make striving to realize the bodily movement according to our own intention. If the striving is appropriate to the movement, the intended movement can be realized. The striving which has an exact intention to move one's parts of body is called as a 'goal directed striving'. If intended movement coincides with the goal directed striving, Dousa appears as bodily movement, but it has the inner psychological activities like as an intention and a striving. Thus, the process of Dousa can be divided into mainly two processes; one is a psychological process like as the intention and the

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striving, another one is a physiological process like as the bodily movement. But we can't divide an actual motor action of human being. Psychologists, teachers and parents treat Dousa process for the improvement of motor action. In other word, Dousa helps in the expression of psychological and physical states of a person. Further, a control of Dousa is self-control of our psychological and physical activities. Thinking about the children with cerebral palsy, their disability of motor action is not due to only the stiffness or muscle hypertension of their body, but their unlearning how to strive to realize the appropriate bodily movement.

Psychotherapy may be able to improve body sensing, alleviate stress, balance the nervous system, and mobilize posture. Psychotherapy works with ascertain a more satisfying experience with trainer and patient. During the therapy, therapists work verbally with their patients and support patient's dynamic bodily experience. These experiences include breathing patterns, sensation, posture, and movement. Therapist also works with body image, symbol, or even through touch when it is required. Psychotherapists work with different life challenges or issues such as, abuse, trauma, anxiety, depression, grief, psychosomatic issues, life transitions and personal and spiritual growth. A psychologist may use body-oriented and/or movement-oriented approach to create a therapeutic environment that attends to the whole being. Motor action oriented psychotherapy is used to make possible exploration and expression, to build up self-awareness, self regulation and a feeling of strength and aliveness and helps to deepen the sense of connection to others.

Mothers and first-degree relatives of the child with disabilities received more social support through Dousa-hou therapy than usual social interactional activities of Dousa-hou during a one-week camp. In one-on-one training process of Dousa-hou, a patient experiences objective judgment of body movements and develops communication skills for responding to a trainer in attempting a desired body movement task with self-awareness and acquires behavior modifications. Relaxation, movements of body parts, and *Tate* (holding straight body postures during sitting, kneeling, and standing) training are the three main training processes of Dousa-hou (Naruse, 1997a, 1997b). In this, a patient with disabilities performs trainer guided body movement tasks in different postures of *agura zai* (sitting), *hizatachi* (kneeling), *ritsui* (standing) and *houkou* (gait) by himself/herself under supervision of a supervisor. This has been noticed that patient gets relatively better support to improve in social skills interaction with others during Dousa-hou training sessions (Kim & Kumar etc., 2004, 2006, Tokunaga, 2002). Side bias were found in the children with autism and cerebral palsy for handedness and footedness for acting on certain daily living activities (Kumar, Harizuka, Mandal, 2012). The Dousa-hou was found useful for the children with mental retardation to provide awareness of body images, control of bodily movements or motor functions, social awareness,

maintenance of self and self-decision, and health care to support the intellectual and psycho physiological needs.

Language communication is critical in the development of young children. Speech and language deficiencies and delay were common among individuals with mental retardation. Such kinds of delay and impairments have been evident for years (Tredgold and Soddy, 1956). A person may be capable of producing speech but still have difficulty in generating, transmitting, and understanding linguistic communications. Much of our early learning is dependent on verbal mediation by caregivers (Baroff, 1999). Children need a rich and responsive language environment and important is to have adults provide a predictable and comprehensive comprehensible communication environment, in which language is used to convey information with new material and skills. Children's development depends on exposure to common and day-to-day experience and general stimulation (Ramey and Ramey, 1992). Family background, living environment, family size, religion, gender, ethnicity, and socio-economic status are some cultural factors those also effect the development of a child (Blacher, 2001). Psychological Rehabilitation is the helping methods dedicated to assisting people-individuals, family members, and caregivers, who are struggling with the effects of a disability, and are seeking to restore hope and meaning to their lives. Disability refers to a limitation in physical, sensory, cognitive, or emotional functioning. A disability can affect a person′s capacity to work, to learn, to manage personal or family responsibilities, to maintain relationships, or to participate in recreational activities. Psychological rehabilitation is the application of psychological knowledge and understanding on behalf of individuals with disabilities and society through such activities as research, clinical practice, teaching, public education, development of social policy and advocacy. Although the process of rehabilitation has traditionally been viewed as 'physical' in nature, it is now considered a multi-faceted process involving not only the services of surgeons, occupational therapists, physiotherapists, and speech therapists but also exercise scientists, dieticians, and psychologists.

The effectiveness of psychological rehabilitation technique, in terms of posture and communication development, for the children with disabilities at cross-cultural level was examined in this study. Improvements of developmental changes occurred in body control, volunteer body movements, health maintenance, initiative and appearance, speech and communication, social interaction, emotion expressional factors, were measured by the Questionnaire for Developmental Changes (QDC).

Ⅱ. Method

1. Participants

Thirty one children with autism, down syndrome, mental retardation, behavior

disorder, cerebral palsy disabilities (N = 15, M age = 16.1 yr. M education = 10.2 yr.) studying in Seri Mengasih Center and Tawau Institute for Deaf, 15 special educators as trainers, parents, 4 supervisors and some volunteers as sub-trainers participated in the psychological rehabilitation camp for 3-days at each place. Subjects were specified as to their disabilities only. Disabilities ranged from mild to severe; none were profoundly disabled.

2. Materials

English version of 24-item Questionnaire for Developmental Changes (*see Appendix- I*) to measure the developmental changes of children occurred by Dousa-hou training method was developed by the researchers and was administered among the trainers and mothers. The items selected in the questionnaire were from seven areas of development as: I. Behavior Control (*item* 1, 2), II. Speech & Communication (*item* 3, 4), III. Emotion Expression (*item* 5, 6, 7, 8, 9), IV. Volunteer Body Movements (*item* 10, 11, 12, 13), V. Initiation and Appearance (*item* 14, 15, 16, 17, 18), VI. Social Interaction, (*item* 19, 20, 21), and VII. Health Maintenance (*item* 22, 23, 24).

3. Procedure

Children with autism, down syndrome, mental retardation, behavior disorder, cerebral palsy disabilities, special educators as trainers from Seri Mengasih Center and Tawau Institute for Deaf, parents (mostly mothers), supervisors, and sub-trainers participated in a 3-days psychological rehabilitation camp of Dousa-hou organized in Kota Kinabalu and Tawau, Malaysia. Dousa-hou training activities were organized in small groups of five to six trainer-trainee pairs under a supervisor, three times a day and for one hour each time. Recreational activities were organized involving active interplay of trainers, trainees, mothers, siblings, supervisors, and sub-trainers. English, and Malay languages were the medium of instruction during Dousa-hou training.

Main Dousa-hou tasks for children with disabilities were practiced depending upon the type and level of disability as follows.

① Relaxation tasks in twisting trunk activities and by active horizontal relaxation.

② Sitting crossed legs (*Zai*) tasks for relaxation, bending forward, and return straight at straightening the curvy back portions.

③ Kneeling tasks for balancing and body images.

④ *Shisei* (posture making) for attainment of straight and stable sitting, kneeling, and walking with coinciding images of the patient himself and in others' perception.

⑤ Arm uplifting Dousa-hou exercises in lying down and sitting posture.

Therapist (trainer) kept in mind the patient's needs, with concrete planning to support the patient's needs. The Dousa-hou activities were selected accordingly. All the activities were performed with slow pace because by speedy movements the patient feels difficulty to judge and cope up with the information of body movements, how his body parts are moving, and how he is striving to create a desired movement. Relaxation tasks performance in lying down positions through twisting trunk, active horizontal relaxation, and uplifting the arms upward, downward and in directions.

English version of 24-item Questionnaire for Developmental Changes (QDC) to measure the developmental improvements of children facilitated by Dousa-hou training method were administered on the last camp day of Dousa-hou training among the trainers and mothers. To measure the posture and communication training effects on trainee and the training effects noticing skills of trainers, the data was collected from the trainers and mothers.

Ⅲ. Results and Discussion

Total scores of QDC on seven factors (*see Table 1*) of trainers were analyzed using one-way analysis of variance using SSPS for windows (Kinnear & Gray, 2000) for the prediction of Dousa-hou effectiveness on posture and communication development of the children with disabilities. It showed that QDC's total scores of seven factors (*between-groups*) as group effect of trainers, differed significantly (F 1,6 = 30.2, $p < .001$). The trainers found their trainees to maintain normal health in certain body postures during training activities; and on clear understanding of the exhibited emotion expressions of their trainees in the sessions.

The *Table 1* also showed that the developmental changes in children to have communication with their trainers, supervisors, parents, other children, and other parents most through the Dousa-hou activities of body movements (*mean rating* 4.0) followed by behavior control (*mean rating* 3.5), physical appearance (*mean rating* 3.3), speech and communication (*mean rating* 3.2), social interaction (*mean rating* 3.1) and emotion expression (*mean rating* 2.7).

〈Table 1〉 MEAN SCORES AND STANDARD DEVIATIONS OF QUESTIONNAIRE FOR DEVELOPMENTAL CHANGES ON SEVEN FACTORS (N = 15)

Factors	Behavior Control (I)	Speech and Communication (II)	Emotion Expression (III)	Volunteer Body Movements (IV)	Initiative & Appearance (V)	Social Interaction (VI)	Health Maintenance (VII)	Total	$F(1,6)$ 30.2 **
Mean	6.9	6.8	13.7	15.15	17.95	8.8	14.32	12	–
Mean Rating	3.5	3.2	2.7	4.0	3.3	3.1	4.8	3.5	–

Note:- ** = $p < .001$; Total no. of items in QDC were 24.

The above data analyzed results clearly gave a direction to know the communication developmental changes of the children with disabilities that children got benefit by the psychological rehabilitation method Dousa-hou. The trainers who participated in training camps get skilled to notice the small developmental changes and outcomes by the practiced training activities with selection and emphasis on a particular Dousa-hou activity to produce a desired change of posture and communication development.

To consider the training effects on communication development, the trainees who participated could improve very well on volunteer movement of body, and behavior control factors. Such as how to involve in play with others, volunteer movement of hands, legs, fingers, neck and other body parts, could gain on how to initiate a talk with others or to act on his role in recreational activities or when playing with others; and taking care of his own appearance and interaction with other using verbal, non-verbal and emotional expressions. It means that the trainee could take care of himself with awareness as a social manner not to be looked awkward or dull. The trainee was found to produce body movements better and correct than earlier in different situations while involving in different social activities of daily living. The trainee could communicate his feelings better to their trainer using words in the training context and to respond on the given body movement tasks. It was also emerged that a trainee could control the own behavioral activities with awareness by this method. It can also be concluded that the trainee got more chance to get social interaction with other persons including his trainer and was found involved from sometimes to usual states. In the last, it reflected from the results that trainee was not significantly able to produce facial emotion expressions in training activities. There may be chances that the trainer could not catch the produced emotional expressions at right time due to paying much attention to support the body movement tasks.

Overall, it can be concluded by the QDC results, that the psychological rehabilitation method Dousa-hou could supports and promotes most the posture and body movements, behavior control, speech and communication skills, initiative & appearance, social interaction, and the emotion expression through Dousa-hou training method of psychological rehabilitation.

For further study, it is our aim to compile the trainers' and mothers' data of three countries of Japan, Malaysia, and India in next publication to generalize the posture and communication development effectiveness of the psychological rehabilitation method Dousa-hou for the benefit of the children with disabilities in respective and other countries.

References

Baroff, G. (1999) *Mental retardation: Nature, cause, and management* (3rd ed.).Philadelphia:Bruner,Mazel.

Blacher, J. (2001) Transition to adulthood: Mental retardation, families, and culture. *American Journal on Mental Retardation*, 106, 173-188.

Harizuka, S. (1992) Dousa-Hou for making a sitting posture with legs crossed. *The Journal of Rehabilitation Psychology*, 19, 27-33.

Kim. Y. S. & Kumar, S. (2004) Cross-cultural examination of social interactions during a one-week Dousa-hou (Japanese Psycho Rehabilitation) camp. *Psychological Reports,* 95, 1050-1054.

Kinnear, P. R. & Gray, C. D. (2000) *SPSS for windows made sample: Release 10*. East Sussex: Psychology Press Ltd.

Konno, Y. (1993b) Kinkincho no relaxation keiken to tasha ninchi to no kankei [The relation between the experience of muscular tension, tension-relaxation, and perception of other person]. *In Proceedings of the 57th Annual Convention of the Japanese Psychological Association*. P. 235.

Kumar, S. & Harizuka, S. (2001) An introduction of Dousa-hou: Japanese Psycho-rehabilitation process for children with cerebral palsy. *Korean Journal of Rehabilitation*, 2, 1-10.

Kumar, S., Kim, Y. S., Oh, K. S. (2006) Development of a social interaction questionnaire for the trainers and mothers of children with disabilities participating in Dousa-hou (Japanese Psycho-rehabilitation) camps. *Psychological Reports*, 99, 591-598.

Kumar, .S., Harizuka, S., Mandal, M. K. (2012) Side bias in Autism: Handedness and footedness. *The Journal of Rehabilitation Psychology*, 38(2), 15-19.

Murphy, K. R. & Davidshofer, C. O. (2001) *Psychological Testing: Principles and Applications*. New Jersey: Printice Hall, Inc.

Naruse, G. (1973) *Shinri rehabilitation* [*Psychological rehabilitation*]. Tokyo: Seisin Shobo.

Naruse, G. (1985) *Dousa kunren no riron* [*Theoretical approach to Dousa-training*]. Tokyo: Seishin Shobo.

Naruse, G. (1992) Recent development of Dousa-Hou in Japan. *The Journal of Rehabilitation Psychology*, 19, 7-11.

Naruse, G. (1997a) The clinical Dousa-hou for cerebral palsied persons. *The Journal of Rehabilitation Psychology*, XXV, 1-7.

Naruse, G. (1997b) The clinical Dousa-hou as psychotherapy. *The Journal of Rehabilitation Psychology*, XXV, 9-16.

Ogawa, Y. (1987) A case study of Dousa therapy for a patient of masking depression. In G. Naruse (Ed.), *Dousa therapy*. Fukuoka: The Clinical Institute of Disabled Children. Pp. 87-94.

Ohba, N. (1992) An application of Dousa-hou to the anxiety neurosis patient. *The Journal of Rehabilitation Psychology*, XVII, XVIII, XIX, 179-186.

Ramsey, C. T., & Ramsey, S. L. (1992). Effective early intervention. *Mental Retardation*, 30, 337-345.

Reinhartsen, D., & Pierce, P. (1994) Developing Communication Abilities. In P. Pierce (Ed.), *Baby Power: A Guide For Families For Using Assistive Technology With Their Infants and Toddlers*. Raleigh, NC: NC Department of Health and Human Services.

Saito, F. (2002) Relations between the body sway and the trait-state anxiety in the standing posture. *The Journal of Rehabilitation Psychology*, 30, 85-92.

Tokunaga, Y. (1996) Dousa-hou for children with special educational needs to improve communication skills in pre-language stage. *The Journal of Rehabilitation Psychology*, 26, 35-43.

Tokunaga, Y. (2002) An approach to establish the interactions between caregivers and children with profound and multiple disabilities based on Japanese psychological rehabilitation (Dousa-hou). *The Journal of Rehabilitation Psychology*, 30, 75-84.

Tredgold, R. F., & Soddy, K. (1956) *A textbook of mental deficiency*. Baltimore: Williams & Wilkins.

Tsukada, M. (2001) Development of infants' response during interactions with mothers: The transition from dyadic to triadic interactions. The Japanese Journal of Developmental Psychology, 12(1), 1-11.

Appendix- I

Questionnaire for Developmental Changes (QDC

(For Trainers/ Mothers)

Demographic data:

Trainer/ Mother Name:_____ Age:_____

Trainee's Education:_____ Sex of Trainee:_____

Date:_____

Please mark 1 if your answer is ***never****, 2 for* ***occasionally****, 3 for* ***sometimes****, 4 for* ***usually*** *and 5 for* ***almost always***

Did you notice any change in the child on the following aspects:

1. Child could concentrate on a given body movement task	1	2	3	4	5
2. Child was found controlling the temper during training activities	1	2	3	4	5
3. Child talked with the therapist in training	1	2	3	4	5
4. Child was actively and frequently responded to the therapist	1	2	3	4	5
5. Did you notice *joy* on the child's face	1	2	3	4	5
6. Did you notice *sadness* on the face of child	1	2	3	4	5
7. Did you notice *anger* on child's face	1	2	3	4	5
8. Did you notice *rejection* of the activities by the child	1	2	3	4	5
9. Did you notice *fear* on the child's face	1	2	3	4	5
10. Child was able to produce desired movement of hands	1	2	3	4	5
11. Child was able to produce desired movement of legs	1	2	3	4	5
12. Child was able to produce desired movement of fingers	1	2	3	4	5
13. Child was able to produce desired moments of neck	1	2	3	4	5
14. Child was having the feelings of happiness	1	2	3	4	5
15. Child was participating in play with other children and parents	1	2	3	4	5
16. Child took initiative to talk with others	1	2	3	4	5
17. Child was looking fresh in the camp	1	2	3	4	5
18. Child was looking dull in the camp	1	2	3	4	5
19. Child voluntarily participated in recreational activities	1	2	3	4	5
20. Child tried to act on his role in a play with others	1	2	3	4	5
21. Child was found to play with others using a ball or toy	1	2	3	4	5
22. Child's body temperature was normal	1	2	3	4	5
23. Child's heart rate was normal	1	2	3	4	5
24. Child's breathing was normal	1	2	3	4	5

Is it your first or second or ( ) times to participate in Dousa-hou camp? Mark the suitable one.

Thanks for your cooperation.

Note.- Items were rated on a 5-point scale using anchors of 1 = never and 5 = almost always. Items for Factor I = 1, 2: Behavior Control; Factor II = 3, 4: Speech and Communication; Factor III = 5, 6, 7, 8, 9: Emotion Expression; Factor IV = 10, 11, 12, 13: Volunteer body movements; Factor V = 14, 15, 16, 17, 18: Initiative and Appearance; Factor XI = 19, 20, 21: Social Interaction; and Factor VII = 22, 23, 24: Health Maintenance.

Children with Disability and Communicational Development Support through Dousa-hou

KUMAR Surender, CHO Joohee and OH Kunseok

The results of Questionnaire for Developmental Changes showed that the psychological rehabilitation method Dousa-hou could support and promote most the body posture and communication related factors as volunteer body movements, behavior control, health maintenance, emotion expression, initiative & appearance, speech and communication, and social interaction factors by the practice of Dousa-hou training in 3-days long camps in Malaysian context.

key words : Dousa-hou, Children with Disability, Communicational Development

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Installation Standards and Actual Conditions of Convenience Facilities for the Transportation Vulnerable -with the passenger facilities of Y city-※

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Ⅰ. Introduction

1. Necessities and Purposes of Research

All the people should have equal consideration and respect regardless of presence or absence of their disability and all the people with disabilities should be guaranteed for their social participation beyond social integration. Recently, concepts of rights including right to live, work or access for the disabled and Affirmative Action have been globally emphasized and efforts to look for its sources from Constitution, international rules and regulations of human rights have been actively made. But, in spite of such international efforts, there are social restraints and barriers to their social participation and integration due to restriction of environmental access for the disabled (Kim Yong Deuk, Kim Mi Ok, 1995).

For the complete social integration of the disabled, interaction between the disabled themselves and their social environment is required because it cannot be achieved only by their own will or family support. However, as social environment is based on general public, it has been an obstacle not to be overcome by the disabled. So the obstacles in our environment should be removed to make them lead a convenient life and social environment should be improved for securing safe access and mobility to necessary facilities and space (Kim Gi Young, 2005). As concerns on the convenience facilities for the disabled have been enhanced, 『Act on the Promotion and Guarantee of Access for the Disabled, the Aged, and Pregnant Women to Facilities and Information』 was enacted in 1997 and executed in 1998 for enforcing practice and legal binding force of convenience facilities for the disabled. But, transportation, passenger facilities and roads have the limitation for social participation by the transportation vulnerable due to insufficient infrastructure.

In consideration of such a trend, 『Act on Promotion of Mobility Convenience for the Transportation Vulnerable』 (enacted on Jan. 27, 2005 as Law No. 7382 and

※ This thesis is revised and complemented from the research on convenience facilities for movement and access of the physically disabled by KIM Jeongran(2012)

enforced on Jan. 28, 2006) which strengthened the regulations of barrier-free facilities for passenger facility and road of 『Act on the Promotion and Guarantee of Access for the Disabled, the Aged, and Pregnant Women to Facilities and Information』 in January of 2005 and defined newly the contents of transportation, special transportation and walking environment was enacted and enforced since January of 2006. This act was enacted to support expansion of transportation and passenger facilities and improvement of walking environment for establishing advanced traffic system by converting the conventional vehicle-centered traffic policy into human-centered traffic one policy (Kim Gang Hee, 2010).

Accessibility for the transportation vulnerable means that they can be provided opportunity to take part in social activities including cultural, economic and social information as well as physical environment such as buildings and external environment. Physical environment such as buildings or external environment has mutual connectivity and secures easy mobility and good accessibility with a good quality of service. For the accessibility for the disabled, distribution of convenience facilities should be a priority from its narrow sense of their easy mobility and access, but in a broader sense, it should be equipped with the foundation for providing them with information, culture and opportunity. Problems in accessibility of the disabled include safety, difficulty, and stress in their mobility, limitation of activity space and mobility connection. Proper installation of convenience facilities for enhancing accessibility in such an environment makes the disabled feel less restricted in their accessibility and mobility (Kim Young In, 2002).

In particular, since the physically disabled are the transportation vulnerable who have the difficulty in their mobility due to physical handicap, the security of access right is essential to achieve their social participation and integration (Cho Hong Joong, et al, 2009). Although security of access right for the physically disabled is the most fundamental condition for them to take part in and be integrated into society, physical barrier has been a problem.

Therefore, this study aims to examine the actual conditions of medium facilities, interior facilities and sanitary facilities of six passenger facilities in Y city including airport, railroad stations, bus terminal, and ship terminal.

2. Research Problems

Concrete research problems for accomplishing the purposes of this research are as follows.

First, what are the actual conditions of the medium facilities of airport, railroad station, bus terminal and ship terminal in Y city?

Second, what are the actual conditions of interior facilities of airport, railroad

station, bus terminal and ship terminal in Y city?

Third, what are the actual conditions of sanitary facilities of airport, railroad station, bus terminal and ship terminal in Y city?

Ⅱ. Research Methods

1. Subjects

This study selected six passenger facilities which should be equipped with mobility convenience facilities prescribed in asterisk 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』 of convenience facilities of the physically disabled in Y city, Jeonnam.

The survey of actual conditions was conducted by making necessary checklist based on "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in asterisk 1 of Art. 2, Sec. 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』 and using field investigation, measurement and photographing the six passenger facilities.

2. Research Methods

1) Research Areas and Evaluation Items

Sub-areas and evaluation items of investigation with the six passenger facilities used in this research included three sub-areas including medium facilities, interior facilities and sanitary facilities in reference to "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in asterisk 1 of Art. 2, Sec. 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』". Evaluation items in the area of medium facilities consisted of 3 middle classifications and 13 detailed indices, interior facilities were evaluated with 4 middle classifications and 20 detailed indices and sanitary facilities with 3 middle classifications and 11 detailed indices.

The survey of actual conditions was conducted with total 3 large classifications, 11 middle classification and 44 sub-classifications as shown in <Table 1>. Evaluation items of this survey were based on 『Complete Research Report of Convenience Facilities for the Disabled for 2008』 published by Ministry of Health, Welfare and Family Affairs and each detailed index of medium facilities, interior facilities and sanitary facilities was evaluated by four stages, 'good', 'average', 'poor' and 'uninstalled'.

〈Table 1〉 Research Areas and Evaluation Items

Large Classification(3)	Middle Classification(11)	Sub-classification (44)	Item (44)
1) Medium Facilities	(1) Access road by pedestrian	effective width, ramp, floor surface finishing, height difference	4
	(2) Main entrance	effective width, effective distance, threshold, type of door, handle	5
	(3) Handicapped Parking Area	safe walking passage, parking space, pavement marking and guide sign, parking capacity	4
2) Interior Facilities	(4) Passage	effective width, height difference, effective height and barrier, handrail	3
	(5) Ramp	effective width, height, activity space and floor surface finishing, ramp, handle	5
	(6) Elevator	front activity space, size, effective entrance width, operation facility, control system	5
	(7) Escalator	installation place, effective width, handle	3
	(8) Stairs	effective width, step board and riser, horizontal handle, material and finishing	4
3) Sanitary Facilities	(9) Closet Bowel	partition, activity space, effective width, type of door, type of closet bowel, horizontal handle, cleaning equipment	7
	(10) Urinal	horizontal handle, vertical handle	2
	(11) Basin	installation height, mirror	2
Total			44

※ Classification of sub-areas into large, middle and sub classifications follows classification manual of complete enumeration of convenience facilities by the Ministry of Health and Welfare (2009).

2) Evaluation Standards

Evaluation items of this survey were based on "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in Art. 2, Sec. 1, Asterisk 1 of 「Act on Promotion of Mobility Convenience for the Transportation Vulnerable」. Concrete evaluation standards of three sub-areas are shown in <Table 2>, <Table 3>, and <Table 4>.

<Table 2> Evaluation Standards of Medium Facilities

Large Classifi-cation	Middle Classification (3)	Sub-classification (13)	Evaluation Standard
Medium Facilities	(1)Access road by walking	① Effective Width	Over 1.2m of effective width of walking should be secured for wheelchair users.
		② Ramp	Ramp of sidewalk should be less than 1/18.
		③ Floor Finishing	Floor surface should be finished with non-slippery materials.
		④ Height Difference	In case of height difference in access road by walking, slipway or elevator should be installed.
	(2) Main Entrance	⑤ Effective Width	Effective width of entrance should be over 0.9m and its effective height be over 2.1m.
		⑥ Effective Distance	Effective distance at the front and rear should be over 1.2m.
		⑦ Threshold	There should not be threshold or height difference at the floor of entrance.

		⑧ Door Type	Hinged door with easy door check to use or light sliding door
		⑨ Handle	Its center should be between 0.8m~0.9m from the bottom (lever type, horizontal, vertical bar type)
	(3) The Handicapped Parking Area	⑩ Safe Walking Passage	Safe walking passage to main entrance (or elevator) should be secured (no stepped pulley, over 1.2m of effective width)
		⑪ Parking Space	One parked car should have over 3.3m of width and over 5m of length (in case of parallel parking, over 2m of width and over 6m of length should be secured)
		⑫ Pavement Marking & Guide Sign	Indication of the handicapped parking area or guide sign should be properly installed at the ground.
		⑬ Parking Capacity	Parking capacity of the handicapped parking area (in case of outdoor parking lot, one section of the handicapped parking area per 50 cars should be installed) related to Art. 1, Sec. 1 of Parking Lot Low

Source : "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in asterisk 1 of Art. 2, Sec. 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』.

〈Table 3〉 Evaluation Standards of Interior Facilities

Large Classifi-cation(1)	Middle Classifica-tion (5)	Sub-classification (20)	Evaluation Standard
2) Interior Facilities	(1) Passage	① Effective Width & Floor Space Finishing	Effective width of passage should be over 2m and floor surface should be finished with non-slippery materials.
		② Height Difference	Height difference of floor surface should be below 2cm, but in case of height difference, ramp should be installed.
		③ Effective Height, Barrier and Handrail	Upper part of passage should secure effective height over 2.1m from the floor surface and in case of obstacles within 2.1m, handrail or barrier should be installed.
	(2) Ramp	④ Effective Width	Effective width of ramp should be over 2m.
		⑤ Height	Threshold over 1.5m should be installed to take a rest at intervals of 0.75m from the floor surface.
		⑥ Activity Space and Floor Finishing	Floor surface of ramp should not be slippery and activity space at the beginning and end of ramp over 1.5m×1.5m should be secured.
		⑦ Ramp	Slope of ramp should be below 1/12.
		⑧ Handle	Handle should be installed at the both sides of ramp in case of its length over 1.8m and its height over 0.15m.
	(3) Elevator	⑨ Front Activity Space	Activity space of 1.5m×1.5m at the front of elevator should be secured.
		⑩ Size	For more than 15 or more capacity, effective floor space should have width over 1.1m and depth over 1.4m.
		⑪ Effective Gate Width	Effective width of entrance should be over 0.8m.
		⑫ Operating Facility	Height of all switches should be between 0.8m~1.2m from floor space (button type).
		⑬ Control System	Control system for wheelchair users should be installed at the height of 0.85m from the floor space.
	(4) Escalator	⑭ Installation Standard	Up and down escalator over 1 or more should be installed at all stairs.
		⑮ Effective Width	Escalator with effective width over 0.8m should be installed.
		⑯ Handle	Horizontal handle of 1.2m or more should be installed at both ends of escalator.
	(5) Stairs	⑰ Effective Width	Effective width of stairs and threshold over 2m should be secured.
		⑱ Step Board and Riser	Riser should be installed and step board should be over 0.28m, riser height be below 0.18m, and nosing of step board with riser height below 0.18m and riser over 60° should be installed.
		⑲ Horizontal Handle	Extended horizontal handle should be installed at 0.3m of beginning and end of stairs.
		⑳ Material and Finishing	Nosing should be finished with non-slippery materials such as rubber (it is not applied to the case finished with non-slippery materials for the whole floor surface.)

Source : "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in asterisk 1 of Art. 2, Sec. 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』.

〈Table 4〉 Evaluation Standard of Sanitary Facilities

Large Classification (1)	Middle Classification (3)	Sub-classification (11)	Evaluation Standard
3) Sanitary Facilities	(1) Closet Bowel	① Partition	Width should be over 1.4m and depth be over 1.8m.
		② Activity Space	Effective width for access to side of wheelchair should be over 0.75m and wheelchair rotation space should be 1.4m×1.4m.
		③ Effective Width	Effective width of entrance should be over 0.8m.
		④ Type of Entrance	Hinged or sliding door with inner space should be installed.
		⑤ Type of Closet Bowel	The height of closet bowel should be over 0.4m and below 0.45m from the floor space.
		⑥ Horizontal Handle	Horizontal handle should be installed on both sides of closet bowel.
		⑦ Cleaning Equipment	Cleaning equipment of closet bowel should be photo sensor, press button, and lever type.
	(2) Urinal	⑧ Horizontal Handle	Height should be between 0.8m and 0.9m, length be within 0.55 and handle interval be within 0.6m.
		⑨ Vertical Handle	Height should be between 1.1m and 1.2m and width be within 0.25m from the wall.
	(3) Basin	⑩ Installation Height	Space for upper height below 0.85m and bottom height over 0.65m should be secured.
		⑪ Mirror	Bottom height of mirror should be within 0.9m and vertical length of mirror should be over 0.65m.

Source : "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in asterisk 1 of Art. 2, Sec. 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』.

3. Research Procedures

This study was carried out on the basis of "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" at Art. 2, Sec. 1, Asterisk 1 of 「Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable」. Research subjects were medium facilities, interior facilities and sanitary facilities of total six passenger facilities including 1 airport, 3 railroad stations, 1 bus terminal and 1 ship terminal in Y city, Jeonnam and actual measurement and photographing with the design analysis were also conducted.

4. Analysis Methods

This study used the following analysis methods.

First, the medium facilities of 6 passenger facilities in Y city were analyzed with 3 middle classification items and 13 sub-classification items.

Second, the interior facilities of 6 passenger facilities in Y city were analyzed wit

5 middle classification items and 20 sub-classification items.

Third, the sanitary facilities of 6 passenger facilities in Y city were analyzed with 3 middle classification items and 11 sub-classification items.

3 large classification, 11 middle classification and 44 sub-classification items were divided on the basis of the regulations of installing asterisk 1 of 「Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable」 and evaluation method by 3 large classification items was analyzed by dividing it into fit, average, insufficient and no classification with reference to 『Report of Complete Research of Convenience Facilities for Persons with Disability in 2008』 published by the Ministry of Health, Welfare and Family in 2009.

Ⅲ. Research Results

1. Summary of Six Passenger Facilities

Summary of six passenger facilities including 1 airport, 2 railroad station buildings, 1 bus terminal and 1 ship terminal in Y city is presented below.

Y airport was remodeled in January of 2006. It is located at 979 Sinpung-ri, Yulchon-myeon, Y city and has lot area of 83,814m². Its construction area is 9,500.81m² in two-storied building. Its parking capacity is 570 blocks for general use, 14 blocks for the handicapped and 3 blocks for the pregnant women. It has 16 urinals and 39 closet bowels, and 4 toilets for the disabled.

YE railroad station building was newly constructed in October of 2009. It is located at 61 Deokchoong-dong, Y city and its construction area is 3,547.69m² in one-story building. It has the parking capacity of 78 parking blocks for general use and 10 for the handicapped. It has 6 urinals, 17 closet bowels and 2 toilets for the disabled.

YC railroad station building was newly constructed in July of 2011. It is located at 900-32 Yeocheon-dong, Y city and has lot area of 10,424m². Its construction area is 739.79m² in one-story building. It has parking capacity of 63 blocks for general use and 8 for the handicapped. It has 3 urinals and 9 closet bowels and 2 toilets for the disabled. It has 2 urinals, 8 closet bowels and 2 toilets for the disabled.

D railroad station building was newly constructed in July of 2011. It is located at 1488-1 Deokyang-ri, Sora-myeon, Y city and has lot area of 9,954m². Its construction area is 1,026.54m² in one-story building. It has parking capacity of 37 blocks for general use, and 3 for the handicapped.

Y Bus Terminal was newly built in February of 1982. It is located at 390 Orim-dong, Y city and has lot area of 8,727m². Its construction area is 152.82m² in one-story building. It has parking area for the general public and the handicapped.

It has 6 urinals, 16 closet bowels, and 2 toilets for the disabled.

Y ship terminal was remodeled in October of 2010. It is located at 682-1 Gyo-dong, Y city and has lot area of 7,740m². Its construction area is 1,770.19m² in one-story building. It has parking capacity of 42 blocks for general use and 4 blocks for the handicapped. It has 6 urinals, 20 closet bowels, and 2 toilets for the disabled.

2. Research Results of Medium Facilities, Interior Facilities and Sanitary Facilities at 6 Passenger Facilities

First, the results of research on the medium facilities of 6 passenger facilities in Y city were shown in <Table 5>. it was found that medium facilities of Y airport showed proper installation according to the regulations of medium facilities on 13 sub-classification items including ① effective width, ② gradient, ③ floor finishing, ④ height difference, ⑤ effective width, ⑥ effective distance, ⑦ threshold, ⑧ type of door, ⑨ handle, ⑩ safe walking passage, ⑪ parking space ⑫ pavement marking and guide sign, and ⑬ parking capacity according to 3 middle classification items of (1) access road by walking, (2) main entrance, and (3) the handicapped parking area, but it was found that ⑩ safe walking passage of (3) the handicapped parking area was insufficient in light of the regulations of installation by asterisk prescribed in the regulations of installation at asterisk 1 of 「Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable」 because safe walking passage from parking lot to main entrance was partially installed.

It was found that medium facilities of YE railroad station building showed proper installation according to the regulations of medium facilities on 13 sub-classification items including ① effective width, ② gradient, ③ floor finishing, ④ height difference, ⑤ effective width, ⑥ effective distance, ⑦ threshold, ⑧ type of door, ⑨ handle, ⑩ safe walking passage, ⑪ parking space ⑫ pavement marking and guide sign, and ⑬ parking capacity according to 3 middle classification items of (1) access road by walking, (2) main entrance, and (3) the handicapped parking area, but it was found that ⑩ safe walking passage of (3) the handicapped parking area was insufficient in light of the regulations of installation by asterisk prescribed in the regulations of installation at asterisk 1 of 「Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable」 because safe walking passage from parking lot to main entrance was partially installed.

It was found that medium facilities of YC railroad station building showed proper installation according to the regulations of medium facilities on 13 sub-classification items including ① effective width, ② gradient, ③ floor finishing, ④ height difference, ⑤ effective width, ⑥ effective distance, ⑦ threshold, ⑧ type of door, ⑨

handle, ⑩ safe walking passage, ⑪ parking space ⑫ pavement marking and guide sign, and ⑬ parking capacity according to 3 middle classification items of (1) access road by walking, (2) main entrance, and (3) the handicapped parking area, but it was found that since ④ height difference was 4cm not 2cm prescribed in (1) access road by walking and ⑩ safe walking passage of (3) the handicapped parking area was partially installed, they were insufficient in light of the regulations of installation by asterisk prescribed in the regulations of installation at asterisk 1 of「Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable」.

It was found that medium facilities of D railroad station building showed proper installation according to the regulations of medium facilities on 13 sub-classification items including ① effective width, ② gradient, ③ floor finishing, ④ height difference, ⑤ effective width, ⑥ effective distance, ⑦ threshold, ⑧ type of door, ⑨ handle, ⑩ safe walking passage, ⑪ parking space ⑫ pavement marking and guide sign, and ⑬ parking capacity according to 3 middle classification items of (1) access road by walking, (2) main entrance, and (3) the handicapped parking area, but it was found that ⑩ safe walking passage of (3) the handicapped parking area was insufficient in light of the regulations of installation by asterisk prescribed in the regulations of installation at asterisk 1 of「Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable」because safe walking passage from parking lot to main entrance was partially installed.

It was found that medium facilities of Y bus terminal showed proper installation according to the regulations of medium facilities in ③ floor finishing of (1) access road by walking, but height difference was not suitable because it was 3cm not 2cm prescribed and ① effective width didn't follow the regulation because it was 1m not 2m, and ② gradient was not suitable as 1/4 not 1/18 prescribed. ⑤ effective width, ⑥ effective distance, ⑦ threshold, and ⑨ handle of (2) main entrance was installed according to regulations, but ⑧ door type was installed with general handle not hinged door with door check. ⑪ parking space, ⑫ pavement marking and guide sign, and ⑬ parking capacity of (3) the handicapped parking area were not installed.

It was found that medium facilities of Y ship terminal showed proper installation according to the regulations of medium facilities in ① effective width, ② gradient, and ③ floor finishing of (1) access road by walking, but height difference was not suitable because it was 3cm not 2cm prescribed. ⑤ effective width, ⑥ effective distance, ⑦ threshold, ⑧ door type and ⑨ handle of (2) main entrance was installed according to regulations. ⑪ parking space, ⑫ pavement marking and guide sign, and ⑬ parking capacity of (3) the handicapped parking area were installed. according to regulations, but ⑩ safe walking passage of (3) the handicapped parking area was

insufficient in light of the regulations of installation by asterisk prescribed in the regulations of installation at asterisk 1 of「Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable」because safe walking passage from parking lot to main entrance was partially installed.

According to the research results of six passenger facilities in Y city, it was found that the medium facilities of Y airport and 3 railroad station buildings were installed in accordance with the regulations, but ⑩ safe walking passage of (3) the handicapped parking area at Y airport, YE railroad station building and D railroad station building, (1) height difference of access road by walking and ⑩ safe walking passage of (3) the handicapped parking area at YC railroad station building, and ① effective width and ② gradient of (1) access road by walking at the medium facilities of Y bus terminal were not properly installed in light of the regulations, and ⑩ safe walking passage, ⑪ parking space ⑫ pavement marking and guide sign, and ⑬ parking capacity of (3) the handicapped parking area were not installed. Y bus terminal showed proper installations of all medium facilities except for ⑩ safe walking passage of (3) the handicapped parking area.

〈Table 5〉 Research Results of Medium Facilities of 6 Passenger Facilities in Y City (○:proper, □:average, △:insufficient, ×:uninstalled, -n/a)

Middle Classification	Sub-classification	Y Airport	Railroad Station Building			y Bus Terminal	y Ship Terminal
			YE station	YC station	D station		
(1) Access Road by Walking	① Effective Width	○	○	○	○	△	○
	② Gradient	○	○	○	○	△	○
	③ Floor Finishing	○	○	○	○	○	○
	④ Height Difference	○	○	△	○	□	□
(2) Main Entrance	⑤ Effective Width	○	○	○	○	○	○
	⑥ Effective Distance	○	○	○	○	○	○
	⑦ Threshold	○	○	○	○	○	○
	⑧ Door Type	○	○	○	○	□	○
	⑨ Handle	○	○	○	○	○	○
(3) Handicapped Parking Area	⑩ Safe Walking Passage	△	△	△	△	×	△
	⑪ Parking Space	○	○	○	○	×	○
	⑫ Pavement Marking & Guide Sign	○	○	○	○	×	○
	⑬ Parking Capacit	○	○	○	○	×	○

※ 3 middle classification and 13 sub-classification of medium facilities were evaluated as good, average, insufficient, and uninstalled according to the classification of Complete Research Report of Convenience Facilities for 2008』 published by Ministry of Health, Welfare and Family Affairs.

Second, the results of research on the interior facilities of 6 passenger facilities including Y airport, YE railroad station building, YC railroad station building, D railroad

station building, Y bus terminal, and Y ship terminal in Y city were shown in <Table 6>. It was found that interior facilities of Y airport showed proper installation of ① effective width and floor finishing, ② height difference, and ③ effective height and barrier handrail of (1) passage, ⑨ front activity space, ⑩ size, ⑪ effective width of gate, ⑫ operating facilities, ⑬ control system of (3) elevator, ⑭ installation standard, ⑮ effective width, ⑯ handle of (4) escalator, ⑰ effective width, ⑱ step board and riser, ⑲ horizontal handle, and ⑳ materials and finishing of (5) stairs according to the regulations of interior facilities, but, (2) ramp was not needed.

It was found that interior facilities of YE station building showed proper installation of ① effective width and floor finishing, ② height difference, and ③ effective height and barrier handrail of (1) passage according to the regulations of interior facilities, but (2) ramp, (3) elevator, (4) escalator, and (5) stairs were not needed.

It was found that interior facilities of YC station building showed proper installation of ① effective width and floor finishing, ② height difference, and ③ effective height and barrier handrail of (1) passage, ⑨ front activity space, ⑩ size, ⑪ effective width of gate, ⑫ operating facilities, ⑬ control system of (3) elevator, ⑭ installation standard, ⑮ effective width, ⑯ handle of (4) escalator, ⑰ effective width, ⑱ step board and riser, ⑲ horizontal handle, and ⑳ materials and finishing of (5) stairs according to the regulations of interior facilities, but, (2) ramp was not needed.

It was found that interior facilities of D station building showed proper installation of ① effective width and floor finishing, ② height difference, and ③ effective height and barrier handrail of (1) passage according to the regulations of interior facilities, but (2) ramp, (3) elevator, (4) escalator, and (5) stairs were not needed.

It was found that interior facilities of Y bus terminal showed proper installation of ① effective width and floor finishing, ② height difference, and ③ effective height and barrier handrail of (1) passage according to the regulations of interior facilities, but (2) ramp, (3) elevator.

It was found that interior facilities of Y ship terminal showed proper installation of ① effective width and floor finishing, ② height difference, and ③ effective height and barrier handrail of (1) passage and ⑰ effective width, ⑱ step board and riser, ⑲ horizontal handle, and ⑳ materials and finishing of (5) stairs according to the regulations of interior facilities, but, (2) ramp, (3) elevator, and (4) escalator were not needed.

Therefore, it was found that the interior facilities of six passenger facilities in Y city showed proper installation according to the regulations or needed no installation on the interior structure of the building.

〈Table 6〉 Research Results of Interior Facilities of 6 Passenger Facilities in Y City (○:proper, □:average, △:insufficient, ×:uninstalled, -n/a)

Middle Classification	Sub-classification	Y Airport	Railroad Station Building			y Bus Terminal	y Ship Terminal
			YE Station	YC Station	D Station		
(1) Passage	① Eeffective width floor finishing	○	○	○	○	○	○
	② Height difference	○	○	○	○	○	○
	③ Effective height and barrier handrail	○	○	○	○	○	○
(2) Ramp	④ Effective width	-	-	-	-	-	-
	⑤ Height	-	-	-	-	-	-
	⑥ Activity space and floor finishing	-	-	-	-	-	-
	⑦ Gradient	-	-	-	-	-	-
	⑧ Handle	-	-	-	-	-	-
(3) Elevator	⑨ Front activity space	○	-	○	-	-	-
	⑩ Size	○	-	○	-	-	-
	⑪ Effective width of gate	○	-	○	-	-	-
	⑫ Operating facilities	○	-	○	-	-	-
	⑬ Control system	○	-	○	-	-	-
(4) Escalator	⑭ Installation standard	○	-	○	-	-	-
	⑮ Effective width	○	-	○	-	-	-
	⑯ Handle	○	-	○	-	-	-
(5) Stairs	⑰ Effective width	○	-	○	-	○	○
	⑱ Step board & Riser	○	-	○	-	○	○
	⑲ Horizontal handle	□	-	○	-	□	○
	⑳ Materials and finishing	○	-	○	-	○	○

※ 5 middle classification and 20 sub-classification of interior facilities were evaluated as good, average, insufficient, and uninstalled according to the classification of 『Complete Research Report of Convenience Facilities for 2008』 published by Ministry of Health, Welfare and Family Affairs.

Third, research results of the sanitary facilities of six passenger facilities in Y city were shown in <Table 7>. It was found that 10 of 11 sub-classification items of ① partition, ② activity space, ③ effective width, ④ door type, ⑤ closet bowel type, ⑥ horizontal handle, ⑦ cleaning equipment, ⑧ horizontal handle, ⑨ vertical handle, ⑩ installation height, and ⑪ mirror except for ⑦ cleaning equipment of (1) closet bowel in bus terminal and ship terminal showed proper installation according to the regulations of middle classification items of (1) closet bowel, (2) urinals, and (3) basin.

Therefore, while the sanitary facilities of six passenger facilities in Y city followed their installation regulations, those of two passenger facilities including Y bus terminal and Y ship terminal showed proper installation in total 11 sub-classification items related to (1) closet

bowel, (2) urinals, and (basin) except for ⑦ cleaning equipment of (1) closet bowel.

〈Table 7〉 Research Results of Sanitary Facilities of 6 Passenger Facilities in Y City (○:proper, □:average, △:insufficient, ×:uninstalled, -n/a)

Middle Classification	Sub-classification	Y Airport	Railroad Station Building			y Bus Terminal	y Ship Terminal
			YE Station	YC Station	D Station		
(1) Closet Bowel	① Partition	○	○	○	○	○	○
	② Activity space	○	○	○	○	○	○
	③ Effective width	○	○	○	○	○	○
	④ Door type	○	○	○	○	○	○
	⑤ closet bowel type	○	○	○	○	○	○
	⑥ Horizontal handle	○	○	○	○	○	○
	⑦ Cleaning equipment	○	○	○	○	△	△
(2) Urinal	⑧ Horizontal handle	○	○	○	○	○	○
	⑨ Vertical handle	○	○	○	○	○	○
(3) Basin	⑩ Installation height	○	○	○	○	○	○
	⑪ Mirror	○	○	○	○	○	○

※ 3 middle classification and 13 sub-classification of sanitary facilities were evaluated as good, average, insufficient, and uninstalled according to the classification of 「Complete Research Report of Convenience Facilities for 2008」 published by Ministry of Health, Welfare and Family Affairs.

Consequently, it was found that six passenger facilities of Y airport, YE station building, YC station building, D station building, Y bus terminal and Y ship terminal showed proper installation of sanitary and interior facilities, but their medium facilities didn't follow the proper facility regulations. Y airport, YE station, YC station building, D station building, Y bus terminal and Y ship terminal showed insufficient convenience facilities in ⑩ safe walking passage of (3) the handicapped parking area.

Ⅳ. Discussion and Conclusion

First, as a result of the research on six passenger facilities of airport, railroad station building (3), bus terminal and ship terminal in Y city, the following views were obtained.

According to research results of 13 detailed classification with medium facilities of six passenger service facilities, it was found that medium facilities of Y Airport and three railroad stations were installed in accordance with related regulations, but safe walking passage of the handicapped parking area at Y Airport, YE Station and D Station was partially installed not to cover from parking lot to main entrance and height difference of access road by walking to YC Station was 4cm not 2cm prescribed by related regulations and safe walking passage of the handicapped parking area was also partially installed not to cover from parking lot to main entrance. Effective width of access road by walking to Y

Bus Terminal was 1m not 2m prescribed by related regulations, its gradient was also 2m/8m not 1m/18m prescribed by related regulations, which didn't meet the requirements of related regulations, and total items of sub-classification including safe walking passage, parking area, pavement marking and guide sign, and parking capacity of the handicapped parking area were not installed. It is because Y Bus Terminal was built in 1982 and there was no obligatory regulation to install the handicapped parking area. Besides, safe walking passage of the handicapped parking area at Y Ship Terminal was partially installed not to cover from parking lot to main entrance.

According to the research results of medium facilities of six passenger facilities, it was found that safe walking passage of the handicapped parking area among six passenger facilities needed to be improved. Safe walking passage of the handicapped parking area was insufficient at five passenger facilities and there was no safe walking passage at one passenger facility. In addition, medium facilities of Y Bus Terminal had more problems to be improved in access road by walking and the handicapped parking area than five others.

Second, as a result of examining the interior facilities of six passenger facilities including airport, railroad station building, bus terminal, and ship terminal, the following views were obtained.

According to research results of 20 sub-classification items of interior facilities in six passenger facilities of Y city, the interior facilities of Y airport and YC station building showed proper installation of passage, elevator, escalator and stairs following the related regulations and the interior facilities of the ramp were not needed to be installed because of its interior structure. It was also found that the interior facilities of YE station building and D station building including ramp, elevator, escalator and stairs except for passage needed no installation on its interior structure. Interior facilities of Y bus terminal showed proper installation of passage and stairs and those of ramp, elevator and escalator needed no installation on its interior structure. Interior facilities of Y ship terminal showed proper installation of passage and stairs and those of ramp, elevator and escalator needed no installation on its interior structure.

As a result of examining the interior facilities of six passenger facilities including airport, railroad station building, bus terminal and ship terminal, it was found that the interior facility of D station building needed no installation because it was designed with one-story building, that of YE station and Y bus terminal was used as staff accommodations or staff office, and that of Y airport and YC station building needed no installation on its interior structure.

Third, as a result of examining the sanitary facilities of six passenger facilities including airport, railroad station building, bus terminal, and ship terminal, the following views were obtained.

The research results of 11 sub-classification items of the sanitary facilities in six passenger facilities of Y city showed that the sanitary facilities of Y airport, YE, YC and D station buildings, Y bus terminal and Y ship terminal followed their regulations, but those of Y bus terminal and Y ship terminal were insufficient in light of the regulations because their cleaning equipment of closet bowel was side lever type not photo sensor, and other sub-classification items were properly installed.

Therefore, as a result of examining actual conditions of six passenger facilities in Y city, their interior facilities followed the related regulations best, followed by the sanitary facilities, and their medium facilities had most improvement problems.

On the one hand, 3 station buildings and 1 airport of six passenger services in Y city followed the related regulations best, but bus terminal and ship terminal needed to be improved. These results suggested that the older the convenience facilities are, the more improvements they needed, and newly built or remodeled facilities follow the related regulations well.

First, it was found that the convenience facilities of passenger service facilities need concerns on safe walking passage of the handicapped parking area in the medium facilities. The convenience facilities of six passenger services followed the regulations of parking space for the handicapped parking area, pavement marking and guide sign, and parking capacity strictly, but six passenger service facilities neglected the safe walking passage of the handicapped parking area. As Cho Hong Joong and et al. (2009) pointed out, people with physical disabilities and their mobility helper should not have stress in mobility and be secured with safe, efficient and comfortable mobility for the purpose of improving the quality of their life. Convenient tool for achieving traffic barrier free mobility for people with physical disabilities is car. Therefore, improvement of safe walking passage at the handicapped parking area which has been a major traffic barrier for the people with physical disabilities can be very urgent and important for the security of the physically disabled people's right to access. The physically disabled people's right to access is the right to enhance the right of freedom and it is also request right to demand social benefits by enhancing social rights.

Second, it was found that the convenience facilities of passenger service facilities showed necessity of improvement in Y ship terminal and Y bus terminal compared to Y airport and 3 station buildings. Y ship terminal and Y bus terminal needed to be improved in that they are convenience facilities used frequently by the transportation vulnerable. The handicapped parking area in Y bus terminal which was found as having most improvement problems was not applied to 『Act on the Promotion and Guarantee of Access for the Disabled, the Aged, and Pregnant Women to Facilities

and Information』 was enacted in 1997 because it was built in 1982, the medium facilities including the handicapped parking area needed more space than other interior facilities and sanitary facilities, and the security of medium facilities such as the handicapped parking area needed much budget because of rapid increase of surrounding land price. Therefore, improvements of the whole facilities in the present conditions seem to be impossible and taking a site accommodating the medium facilities which can be connected to airport and railroad station as a priority alternative will be desirable.

References

Art. 3 of Act on Promotion of Mobility Convenience for the Transportation Vulnerable (partially revised on Dec. 29, 2009 as Law No. 9868).

Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in asterisk 1 of Act 2, Sec. 1 of Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable (partially revised on Mar. 29, 2011 by Decree of Ministry of Land, Transport and Maritime Affairs No. 346).

Facilities equipped with Mobility Convenience Facilities in asterisk 1 of Art. 11 of Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable (partially revised on Jun. 30, 2010 by Presidential Decree No. 22238).

Kim Gang Hee (2010). A study on the methods of enhancing the promotion of mobility convenience for the transportation vulnerable. Master's Thesis of Graduate School, Korea Univ.

Kim Gi Young (2005). Effects of the physically disabled person's lifestyle using sports facilities on their behavior intention. Journal of Korean Special Physical Education Society. 13(3). 23-33.

Kim Yong Deuk, Kim Mi Ok (1995). Current Status and Task of Welfare for the Disabled. Understanding of Korean Social Welfare. Dongpung.

Kim Young In (2002). A study on the accessibility to urban walking convenience facilities by the physically disabled. Master's Thesis of Graduate School, Cheongju University.

Ministry of Health, Welfare and Family Affairs (2009). Complete Research Report of Convenience Facilities for 2008. Ministry of Health, Welfare and Family Affairs

Art. 4 of Act on the Promotion and Guarantee of Access for the Disabled, the Aged, and Pregnant Women to Facilities and Information (Law No. 11443, partially revised on May 23, 2012).

Cho Hongjoong, Bang Guhle, Lee Sanghee (2009). Parking Space for the Disabled from the View of Universal Design. Research of People with Physical and Multiple Disabilities, 52, (3),91-112.

Installation Standards and Actual Conditions of Convenience Facilities for the Transportation Vulnerable

-with the passenger facilities of Y city-

KIM Jeongran

This study selected six passenger facilities which should be equipped with mobility convenience facilities prescribed in asterisk 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』 of convenience facilities of the physically disabled in Y city, Jeonnam.

The survey of actual conditions was conducted by making necessary checklist based on "Detailed Standards of Structure and Materials of Mobility Convenience Facilities" in asterisk 1 of Art. 2, Sec. 1 of 『Enforcement Regulations of Act on Promotion of Mobility Convenience for the Transportation Vulnerable』 and using field investigation, measurement and photographing the six passenger facilities.

key words : Convenience Facilities, passenger facilities, Installation Standards

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Case Study on Small Group Art Therapy for Social Skill Improvement of Children with Developmental Disability

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Ⅰ. Introduction

Any person wishes to be happier and live a comfortable, pleasant and satisfying life. But to this end, it is essential that the person nurtures the skill to cooperate with others in a society, or sociality. One's social skills develop naturally after birth. A person becomes interested in other people and objects and learns interaction by building relationships. He or she experiences and build up understandings on socially accepted behavioral manners, attitudes and values by observing other people's behavior in a social context (Kim, So-jeong, 2002). Children experience their first social interaction in the relationship with their parents and as they grow up they naturally socialize with peers. And in the process of growing as an adult, children acquire social behaviors and further develop sociality. (Heo, Ji-hee, 2005). But in this process, if a child fails to acquire a proper social skill in the relationship with others for any reason, the child cannot engage in good interaction. Such a child may poorly adjust to toe society and this could have a negative effect on independent living. Therefore, the need to build a good social relationship is essentially require to every child including children with development disorders as well.

Children with developmental disability have a significant weak point in developing their sociality. They cannot well socialize with other people and build relationships nor express good feeling and tend to hate physical contact. Such children are hardly or never interested in making a friend. If interested at all, they usually do not understand basic social practices of interaction. They cannot share pleasure, interest and success with others and are lack of social and emotional communication.

They also do not understand their sisters', brothers, or other children's needs and are not interested in pain. Such serious social defects are exacerbated because of their language problems. Any human being needs a tool to communicate. If a person cannot use a socially accepted and effective tool of communication to express one's demands, needs, thoughts, feelings, etc. he or she may do inappropriate behaviors. In most cases, children with developmental disability also have language problems. Their

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failure to communicate needs or discomforts leads to tantrum and this, in turn, results in depression. To break this negative cycle, We can teach them how to express needs or feelings. In this aspect, art therapy is one of the safest ways to do this.

Diverse art media and techniques give non-coercive but direct stimulations to such handicapped children's cognition, sense organs and non-emotional reaction and encourage interactions to make a natural contact with others. Fine art has the value of an important medium that helps children properly understand the relationships between myself and others or other objects around me and express my thoughts and accept others'.

To participate in art activities can treat children with developmental disability. Such a possibility of art activities as a therapy is generated due to its nature of creativeness and expressiveness. (Hurwitz & Day, 2001) For children who have lower ability of linguistic expression and tend not to show themselves for frequent failures, fine art activities can be an essential tool of self-expression. And its diverse materials and expression techniques are expected to help reveal and sublimate their feelings suppressed by sub consciousness. Indeed, recently more and more people are paying attention to the possibility of visual art as a tool to facilitate development of such challenged children globally, Korea also sees increasing number of cases that applied art therapy programs to children with developmental disability.

In this context, this study seeks to find out what kind of effects small-group art therapy has on the social skill development of children with developmental disability. Specific research agenda is as follows:

First, understand the effects of small-group art therapy on the cooperative skill improvement of children with developmental disability

Second, identify the effects of small-group art therapy on the self-expression skill improvement of children with developmental disability

Third, understand the effects of small-group art therapy on the self-control skill improvement of children with developmental disability

Ⅱ. Preceding Researches

The purpose of art therapy for children with developmental disability is not to make them good at painting nor making works of art. It is to help them fulfill their potential through art activities and enjoy a normal life in a society. Fine art can serve as an important medium for such challenged children to express their anger and stress in subconscious as well as self-simulative stereotyped behaviors, impulsiveness, irritation, stubbornness, and improper way of thinking so that they can

develop sensational, cognitive and operational skills. For children with developmental disability, group art therapy seems the best method to experience various media and techniques, restore self-esteem which fell due to mistakes and express themselves creatively without any limitation. In addition, fine art itself is not an ultimate purpose but its fundamental purposes are to let them interact with group members, experience and understand diverse feelings and situations for enhanced social adaptability. Of the studies on art therapy for children with developmental disability, Yang, Eun-joo (2002) says in the study that autistic children improved their ability of play and relationship between their friends and parents after treated in art therapy. Park, Sun-young (2002), reported that small-group art therapy was found to have enhanced basic social skills, personal relationship skills and behaviors. In a research by Han, Young-hee (2003), art therapy encouraged the ability of self-expression of children with developmental disability. Lee, HYang-mok (2003) found that peer group-led art activities improved the social interaction and participation in social activities of mentally challenged children and children with general developmental disability. Kim, So-young (1999) says in the study on the effects on autistic children's sociality that those children expanded their cognitive ability on objects and movement while they were painting and improved playing participation, personal relationships and behaviors, enhancing general sociality. Another fundamental study is Han, Eun-young's research (2004) which presented various art materials and expressive activities to children with developmental disability in a non-directed manner, they restored autonomy during art play. The researcher added that by making them do exploring activities to recognize an object and express themselves proactively, she found children tried to build a relationship on their own initiation and came to tell their good points by seeing themselves objectively. Also those children became able to make their own opinions and appropriately participate in school and home activities, proving positive effects of art therapy on sociality skill improvement at home and in school. Kim, Hyeon-sook (2005) applied collective art therapy to mentally challenged children and reported positive effects on their peer group interaction, stability, inner-control and other sociality skills and linguistic skills. Bae, Jeong-eui (2007) applied art therapy to improve autistic children's' social adaptability and reduce problematic activities in a manner of small group therapy that accompanied individual treatment and found their problematic behaviors lowered and social adaptability enhanced. Park, Yun-ji (2008) reported that art therapy was effective in treating non-linguistic social behaviors and linguistic social behaviors. Son, Hee-kyoung (2011) found that art therapy improved the interaction in a peer group of children with developmental disability. It was shown that the therapy positively influenced subareas of social and mental development such as inner control,

interaction with peer group, stability in activities, motivation, and curiosity. Initially children could not focus on the program activities, tended to act insecurely and showed no interest in others at all, but in the mid stage, they found stability, focus and interest in friends and followed and accepted what others did in an interactive way.

Considering these research findings, art therapy deems a very effective treatment method for children with developmental disability to naturally express themselves, feel achievement, engage in mutual interaction, generate activities in peer relationships, and control themselves, thus enhancing their social adaptability.

III. Research Method

1. Research subject

Children subject to this study are 1 male child and 1 female child among those with development disorders who used the Children with Disabilities Day Care Center and wanted the art therapy. Subjects were selected among those who, first, were diagnosed with development disorder; second, were in similar ages in terms of their chronological age (CA) and social age (SA); third, were recognized as having slight autism by the Childhood Autism Rating Scale; forth, had a basic art ability and interest in fine art activities; and fifth, with relatively fewer problematic behaviors such as stereotyped behaviors. Table 1 describes the selected children's age, gender, preliminary test results and others.

<Table 1> Background of Children subject to Therapy

	A	B
Gender	Male	Female
Chronological age (CA)	8.0	7.6
Social age (SA)	5.40	6.00
Social quotient (SQ)	67.5	78.9
Childhood Autism Rating Scale (CARS)	34	32
Social Skills Rating System (SSRS)	11 in total	15 in total

2. Research Tools

The Social Skills Rating System or SSRS was designed by Gresham & Elliott to examine a student's social behaviors such as relationship with a professor, ability to learn and the acceptance of peers by using sub-measurements as cooperation, self-assertion and self-control. The operational definitions of these are as follows:

First, cooperation is to help others, share objects and follow rules or directions. Second, self-assertion refers to initiating a behavior, knowing to ask others and

reacting to a friend's suppression. Third, self-control is to appropriately react to conflictive situation or bullying by others. Each measurement criteria is given scales of never, occasionally, and frequently which are scored as 0, 1, and 2, respectively. The reliability coefficient of this scale is very high in cooperation, self-assertion and self-control with all being at 0.80 or over. Therefore these sub-measurements criteria were found to have higher internal consistency and it deemed appropriate to use the sum of them as variables.

3. Research Process

1) Research Location

The study was performed at an art therapy room of the Children with Disabilities Day Care Center A in B city. In the front of the room, there is an art work display platform and the other walls of the room were surrounded by lockers which can hold diverse art media. Necessary art media were prepared and placed appropriately in advance of every round of experiment. Children can sit down on the floor and do art activities comfortably and depending upon a situation, they can also use a chair.

2) Research Period and Process

Research plan for this study was established during April 2011 based on previous studies and carried out 28 rounds of 50-minute experiments from May to December of the year on a weekly basis.

As for preliminary tests, the researchers of this study performed the Social Maturity Scale (SMS), Childhood Autism Rating Scale (CARS), Ewha Checklist for Autistic Children (E-CLAC), Social Sills Rating System (SSRS), and House-Tree-Person Test (HTP Test); and selected one male and female kids each who met the criteria for art therapy program.

Each session lasted 50 minutes and 5 minutes before the session were used for explaining art program of the day, greeting each other and listening to what had happened for the week. Five minutes before finishing the class were for exhibiting their painting or work and sharing each other's feelings and thoughts about it. The Social Skills Rating System (SSRS) was conducted as a post-test in December when the program was over.

This study's experiments were designed in two folds - prior and post tests- with an independent variable being small-group art activity program and a dependent variable being children's social skill improvement. This study applied small-group art therapy programs to children with developmental disability and compared the results with their status before the program.

4. Collective Art Therapy Program

In this study, 28 rounds of small group art therapy sessions were carried out. And each round of experiment was structures with introduction phase, initial phase, adaptation phase, change phase, and closing phase. Han, Eun-young (2004); Park, Yun-ji (2008), Son, Hee-kyoung (2011)'s researches were referred to for small-group art therapy program for this study. And The Status of Art Therapy in Helping Child Development by Lee, Geun-mae and Choi, Eui-sun was cited for operating the therapy program made by this study researcher.

In the introduction stage, simple orientation for the session was conducted so that the researchers and subject children could greet, introduce and build trust each other and children can better understand the program. Children were made to make a name tag.

In the initial phase, children observed an object as if they were playing by utilizing physical activities and physical contacts. They were encouraged to develop their interests in art and experience stability. In the 3rd round, children explored 2-dimensional dry materials and in the 4th round, 2-dimensional wet materials - that is, color paints were mainly explored. In the 5th experiment, 3-dimensional wet materials of diverse clays were given. Children played with soap bubbles in the 6th round and paper clay in the 7th round. Decalcomanie was taught in the 8th session to ease their feelings and let them have a pleasant experience of expressing themselves.

In the adaptation phase, accidental effect was the theme in programming so that children could maintain interests and find and recognize causal relationship gradually. They painted with rollers in the 9th session, candle drippings in the 10th experiment, beads in the 11th, sponge stamping in the 12th, cotton in the 13th, stamps in the 14th, and with painting rollers in the 15th session. In the 16th round, they did frottage; in the 17th, plaster paining and in the 18th, salt dying. During these sessions, the purposes were to help children release their feelings, control their need in a sound manner, express feelings with languages and improve self-initiation. In the change phase, they learned finger painting in the 19th class, palm stamping in the 20th round, and made pattern of human body in the 21st round. The programming purpose of this phase was to encourage them to more proactively participate in activities which improve abilities to objectively recognize human body and themselves and develop better interaction skills while asking a friend to do some art activities. From the 22nd to 25th sessions, paper clay, i clay, angel clay and form clay were used to nurture their awareness on others through joint activities. Through cooperation programs, children learned how to care for other and work together and they were also required to ask help for friends or accept a friend's request to

exercise control over own behaviors for cooperation. In the closing phase, programs were designed for children to finish their works from previous classes and involve in more social behaviors to improve their personal skills and feel the sense of achievement. The 26th session was to make party food where children talked about their party plan and who they wanted to invite. The 27th session was to give a gift to a friend and express what they were so grateful about for the friend. The 28th round was an exhibition of their previous works to watch together and have some cookies together.

5. Date Processing

During the program, observation log was written to record detailed children activities and reactions of each session. The Social Skills Rating System (SSRS) was conducted as a prior- and post-test to compare the change before and after the program. Ewha Checklist for Autistic Children (E-CLAC) was performed before and after the therapy to see any change in their social adaptability.

This research was designed in pre- and post-plot with its independent variable being small-group art therapy programs and a dependent variable being the improvement of sociality of children with development disorders. This study applied small-group art therapy program to children with developmental disability and compared the result before and after the therapy.

IV. Research Findings

1. Change in social skills of children with developmental disability

1) Child A's social skill improvement

<Table 2> Child A's social skill change

	Sub-criteria	Social skill before art therapy	Social skill after art therapy	Change
Child A	Cooperation	3	8	+5
	Self-assertion	3	7	+4
	Self-control	5	10	+5
	Total	11	25	+14

Child A experienced changes in social skill sub-categories such as, first, in his cooperation ability, his point before the art program was 3 and this jumped to 8 after the program. The child showed improvement specifically in utilizing time appropriately while waiting for others, putting back art media after class, cleaning his desk without extra notice, etc. After the program Child A became more attentive to a therapist, and more easily adapted to changed theme or activity in the middle of

working, showing enhanced social skills.

In the self-assertion criterion, he scored 3 before the therapy and this rose to 7 after the program. Initially, he was not interested in friends and tried to focus only on what he liked but as the program went on, he greeted friends first and showed activities appearing to soothing a grumbling friend though not a clear expression of an opinion. He also tried to help on his own initiation even without a therapist's direction.

In the self-control, his score rose to 10 from 5, after the program. At the beginning of the program, he tended to insist strongly and act as he wished in case of different opinions, but later on he followed friends' opinions in many cases. Rather than involving in fights or conflicts, he yielded to friends and thumbed up to a friend who did well or reached out his hand for high-five.

2) Child B's social skill improvement

<Table 3> Child B's social skill change

	Sub-criteria	Social skill before art therapy	Social skill after art therapy	Change
Child B	Cooperation	5	13	+8
	Self-assertion	6	13	+7
	Self-control	4	10	+6
	Total	15	36	+21

Child B, cooperation ability was recorded at 5 before the therapy and rose to 13 after the small-group art therapy program. Specifically she showed improvement in organizing things used during the class, and helping others after a course was over. She also appropriately used the time while she waited for others, placing back art media after class, cleaning her desk even without an extra notification, etc. She became more attentive to the teacher after the therapy and easily adapted herself to changed theme or activities in the middle of working compared to her tendency before the therapy, representing enhanced social skills.

In self-assertion, the pre-test score of 6 rose to 13 afterward. At the beginning of the program, she hardly talk to a friend first and greeted to a friend only after being directed so. But later she changed to greet even unknown person first. Also at first, Child B cut in friends' speaking to talk about her own words but as she learned the program more, she said hello to friends first sometimes and tried to communicate, though not clear. In case of unfair event, she tended to make an assertion improperly, if she recognized it, but later she showed more proper attitude in making an assertion. As the program neared to closing, she developed to talk about her good points proudly or ask friends to joint an activity with her.

In self-control, her score rose to 10 from 4 after the therapy. During the initial

stage, she was strong in making her assertions and tried to do what she wanted rather than listening to friends, but later on, she took care of friends first and showed tolerance to a friend who said no.

2. Qualitative Change in Social Skills by Phase

1) Introduction Phase (1st ~ 2nd sessions)

During the 1st session, program orientation was conducted to briefly introduce about art therapy and the purpose, schedule, method and rule of the program. The two children were asked to show positive reactions to each other and participate proactively in the program.

A basic HTP test was performed and during the test, the atmosphere was generally uneasy and stiff. Child A, especially, tried to go out and Child B was unpleasant about his acts and talked frequently to the researcher. In the 2nd session, children were directed to put a nickname to each other so that they can become familiar and made name tags. Child A said his nickname was Thomas, and Child B said a doll princess for her nickname and had a good time.

2) Initial Phase (3rd ~ 8th sessions)

Children were directed to explore media first, in a manner of playing involving physical activities and physical contacts so that they could develop interests in fine art and experience stability. In the 3rd session, 2-dimensional dry materials were learned and in the 4th session, 2-dimensional wet materials were explored. In the 5th session, 3-dimensional wet material of diverse clays was given. Child A showed very positive reaction to media exploration and scribbling with diverse media. The researchers showed them media and let them choose on their own and after the 6th session, they answered they liked paints when asked what their favorite was. Child B, too, liked media exploration and as paints were added, she enjoyed color change. But still Child A was unfocused and tried to move out suddenly. Child B became unstable by Child A's such activities.

3) Adaptation Phase (9th ~ 18th sessions)

In the adaptation phase, programs were designed for children to enjoy accidental effects. To keep up their interest and help them gradually find and recognize causal relations, programs were built to let them express and release their feelings and control soundly. Programs were operated to encourage children to use languages more in expressing their feelings so that they could improve linguistic skills as well autonomy. Children A and B enjoyed the program and was excited by works which were made without special process. Child A's act to move out was much reduced

and started to show efforts such as holding Child B's hand or talking to her.

4) Change Phase (19th to 25th sessions)

In this change stage, children were desired to participate in activities to improve their awareness on their body and identity objectively on their own and ask friends to join art activities. Via joint activities, this phase focused on improving their awareness on others. Cooperative activities were included for their ability to care for other and cooperate. They were made to ask help for other during the class or accept friends' opinions to exercise self-control. Children A and B enjoyed painting trees with fingers or palms. During body pattern making session, they tried to make their own body pattern at first but later Child A yielded to Child B.

5) Closing phase (26th ~ 28th sessions)

In this stage, all participants had a party to finalize all the previous works and efforts and exchanged gifts to feel the relationship with other people and socialize naturally. Children A and B enjoyed party planning and talking about who to invite as if they planned for a real party. They also showed great interest in painting with candle dripping and after the session, one of the children waited for the other to go out of the therapy room together, representing a huge development in their relationship. In the last 28th session, they expressed sadness for saying goodbye and wanted to meet again each other later on. Child A invited Child B to his home which signaled a big difference from their initial encounter where the two could not even greet naturally.

V. Conclusion and Suggestions

This research is to verify the small group art therapy program for social skill improvement of children with development disorders and studied one male and female child each from May to December 2011 for 28 rounds of sessions. Test tools were Gresham & Elliott's Social Skills Rating System (SSRS) (1987) and compared change results before and after the therapy program. The findings are as follows:

First, small group art therapy activities were found to have positive effects on the cooperation skill improvement of children with developmental disability. Child A's test result was rose to 8 from 3 after the therapy. The child showed improvement specifically in utilizing time appropriately while waiting for others, putting back art media after class, cleaning his desk without extra notice, etc. After the program Child A became more attentive to a teacher, and more easily adapted to changed theme or activity in the middle of working, showing enhanced social skills. Also,

Child B"s cooperation ability was recorded at 5 before the therapy and rose to 13 after the small-group art therapy program, showing a greater change then Child A's. Specifically she showed improvement in organizing things used during the class, and helping others if she finished earlier than the other, representing elevated cooperation skills.

Second, small group art therapy activities were found to have positive effects on the self-assertion skill improvement of children with developmental disability. In the self-assertion criterion, he scored 3 before the therapy and this rose to 7 after the program. Initially, he was not interested in friends and tried to focus only on what he liked but as the program went on, he greeted friends first and showed activities appearing to soothing a grumbling friend though not a clear expression of an opinion. He also tried to help on his own initiation even without a therapist's direction. Child B's the pre-test score of 6 rose to 13 afterward. At the beginning of the program, she hardly talk to a friend first and greeted to a friend only after being directed so. But later she changed to greet even unknown person first. Also at first, Child B cut in friends' speaking to talk about her own words but as she learned the program more, she said hello to friends first sometimes and tried to communicate, though not clear. In case of unfair event, she tended to make an assertion improperly, if she recognized it, but later she showed more proper attitude in making an assertion. As the program neared to closing, she developed to talk about her good points proudly or ask friends to joint an activity with her.

Third, small group art therapy activities were found to have positive effects on the self-control skill improvement of children with developmental disability. In the self-control, his score rose to 10 from 5, after the program. At the beginning of the program, he tended to insist strongly and act as he wished in case of different opinions, but later on he followed friends' opinions in many cases. Rather than involving in fights or conflicts, he yielded to friends and thumbed up to a friend who did well or reached out his hand first for high-five. Child B's score also rose to 10 from 4 after the therapy. During the initial stage, she was strong in making her assertions and tried to do what she wanted rather than listening to friends, but later on, she took care of friends first and showed tolerance to a friend who said no, signaling improved self-control skills.

As shown above, the research findings indicate small group art therapy is effective in improving social skills of children with developmental disability. Based on these findings, the researchers view future purposes of this study as follows:

First, since this study examined two children with developmental disability, it is limited in being broadly generalized. Therefore, to improve the art therapy's effect and feasibility, more studies on the same theme are necessary with a control group

being used together.

Second, diverse media used for the program could vary depending on a child's status, symptoms, age, etc. However, there have been not enough previous studies on identifying such media's area-specific, character-specific and element-specific strong points. We need more studies on the development of art therapy media. Since such media is essential for practical art therapy program operation, in-depth studies are more than required to improve media application.

Third, schools pursue integrated education for the social adaptability of children with developmental disability. However, integrated therapies for children with developmental disability are insufficient, which are performed together with normal children. There should be more integrated therapy programs to find out a more desirable treatment method for children with developmental disability.

Forth, to maximize the therapy effect of social skill enhancement, follow-up measures are important such as individual child consultation, parents and family member consultations and school consultations altogether. Fifth, to stimulate studies on social skill development for children with developmental disability, it is more than necessary to design sociality measurement tools suitable for the characteristics of each different disorder.

References

American Psychiatric Association. (1994). *Diagnostic and Statistical Manuals of Mental Disorder, 4rd ed.* Washington. D.C. : Âmerican Psychiatric Association.

Bae, J. E(2007). A Small Group Art Therapy Focused on Individuals to Improve Social Adaptability and Problem Behavior of Autistic Children. Master Thesis, YeungNam University.

Baron-Cohen, S. (1990). Autism : A Specific Cognitive Disorder of "Mind-Blindness". *International Jounnal of Psychiatry,12.*

Gresham, F. M., & Elliott, S. N. (1987). Social skill deficits of learning-disabled students: Issues of definition, classification, and assessment. *Reading, Writing, and Learning Disabilities*, 3, 131-148.

Han, E. Y(2004). The Effect of Art Activities on Self-Concept and Social Skills of Children with Developmental Disability in a Non-instructive Environment Using Diverse Materials and Techniques, Master Thesis, Ewha Womans University.

Han, Y. H(2003). The Study of Self-Expression Improvement for Developmental Disability Children by Art Therapy : The focus in Ceramic Art Therapy,

Master Thesis, Wonkwang University.

Heo, J. H(2005). The Effect of Traditional Playing-Songs Program on the Play Participation Behavior and Social Adaptive Ability of Children with Autistic Disorder, Master Thesis, Changwon National University.

Hurwitz, A., & Day, M. (2001). *Children and their art: Methods for the elementary school*. Belmont, CA: Wadsworth Group/Thomson Learning.

Kim, S. Y(1999). The Effects of Art Action on the Social Development of Autistic Children, Master Thesis, KongJu National University.

Kim, S. J(2003). The Effect of Small-Group Art Activity on the Social Skills in Children with Developmental Disabilities, Master Thesis, Daegu University.

Kim, H. S(2005). The Effectiveness of Group Art Therapy in Improving the Sociability of Autistic Children. Master Thesis, Wonkwang University.

Lee, H. M(2003). The Effects of Peer-Directed art Activities on Social Interaction and Engagement Behaviors of Young Children with Disabilities, Master Thesis, Kongju National University

Patricia Howlin (1998). *Children with Autism and Asperger Syndrome:A Guide for Practitioners and Carers*. : John Wiley & Sons. New York.

Park, S. Y(2002). The Effect of Small Group Art Therapy Program with Non-handicapped Peers on the Social Skills in Autistic Child. Master Thesis, Daegu University.

Park, Y. J(2008). The Effects of Art Therapy on Social Behavior of the Children with Developmental Disability. Master Thesis, Yeungnam University.

Son, H. K(2011). A Study on Art Therapy for the Sociability Improvement of Children with Developmental Disability. Master Thesis, Suwon University.

Yang, E. J(2002). The Effects of Cooperative Art Therapy on Peer Relation of Autistic Children, Master Thesis, Daegu University.

Case Study on Small Group Art Therapy for Social Skill Improvement of Children with Developmental Disability

CHO Eunah and KIM Yongseob

This study seeks to find out what kind of effects small-group art therapy has on the social skill development of children with developmental disability.

This research is to verify the small group art therapy program for social skill improvement of children with development disorders and studied one male and female child each from May to December 2011 for 28 rounds of sessions. Test tools were Gresham & Elliott's Social Skills Rating System (SSRS) (1987) and compared change results before and after the therapy program. The findings are as follows:

First, small group art therapy activities were found to have positive effects on the cooperation skill improvement of children with developmental disability.

Second, small group art therapy activities were found to have positive effects on the self-assertion skill improvement of children with developmental disability.

Third, small group art therapy activities were found to have positive effects on the self-control skill improvement of children with developmental disability.

key words : Social Skill, Children with Developmental Disability, Case Study

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The Effects of Eco-Education by Hands-on Natural Activities on the Prosocial Behavior of Toddlers

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Ⅰ. Introduction

1. The Necessity and Purpose of the Study

Eco-early childhood education is nature-friendly education that is in compliance with the principles of nature. That provides the optimum environments for children to grow well on their own. As every living creature including man is born in nature and return to that, children can understand the principles of nature when they play together in nature, and they can understand diverse sorts of life and improve their own self-assertiveness and emotional control as well(Lim Jae-taek, 2005). Since there are huge amount of playthings in nature, they can concentrate their attention when they play together by using things they made for themselves, and that allows them to foster their imagination and exert their creativity. They will be satisfied when they exert their imagination and creativity, which will serve, in turn, to further their independent spirits. In other words, they are able to take the initiative in everything they do and become self-reliant while they repeatedly try to solve everything on their own(Jang Hee-jung, 2010). Accordingly, eco- centered curriculums are increasingly widespread in our country's early childhood education(Lim Jae-taek, Kim Eun-joo, Ha Jung-yun, Kwon Mi-ryang, Jo Chae-young, 2006), and there is a gradual increase in the number of kindergartens and daycare centers that provide eco-early childhood education.

Young children are especially active and full of energy when they are in nature. They can improve their sense of balance, physical fitness and immunity in nature, and they can relax, be considerate of others, make an inquiry into nature and love living creatures in it(Ha Jung-yun, Lim Jae-taek, Bae Eun-jin, Baek Hyun-yoon, Lee Yun-joo, 2009). They can experience nature better when they play with their peers. Sometimes they have a quarrel with each other, become reconciled, stick to their opinion or give it up while they play together, and they are able to learn about interpersonal relations, social rules, social norms and how to be considerate of others

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whose lifestyle is different from theirs in that course.

Indeed, play activities in nature contributes to the improvement of children's social, emotional and physical self-concept, and it's especially necessary to provide them with education in nature. Studies established that educational activities in nature had a positive impact on the prosocial behavior of preschoolers(Kwon Eun-hee, 2003; Yang Ok-seung, 2001; Lee Soo-min, 2006; Choi Kwi-young, 2007), which indicates that the effects of education through hands-on natural activities should be explored from diverse angles.

The prosocial behavior of infancy and early childhood can be classified into helping, sharing, cooperating and comforting, and empathy and role-taking can be said to be the basic elements of prosocial behavior(Kim Young-ok, 2003). Bergin & French(1995) argued that toddlers who are at the Western age of two often showed prosocial behavior such as helping, sharing, tolerating, conceding and friendship, and that they showed a wider variety of additional prosocial behavior at the same time. In this perspective, prosocial behavior can be said to refer to considerate behavior of helping or attempting to help others spontaneously to build positive interpersonal relationship.

When it comes to the findings of studies of prosocial behavior, several studies established that eco-education by the use of fairy tales affected preschooler prosocial behavior(Park Sung-hye, Kim Tae-in, Park Eun-joo, 2008; Lee Jung-in, 2012; Lim Hae-soon, Ko Sun-ok, Heo Jung-moo, 2008; Han Young-sook, 2012), and other studies found that eco-early childhood education programs exerted an influence on preschooler prosocial behavior(Park Hee-sook, Lee Sook-ja, Jung Myung-ja, Sim Jung-hee, 2010; Lim Kap-bin, Yoon Nan-ho, 2006; Hang In-sook, 2004). All the findings imply that eco-early childhood education is beneficial to the development of prosocial attitude.

In recent days, the number of double-income families is on the rise due to an increase in the number of working women, and free childcare is provided for infants and toddlers aged between 0 and two. Under the circumstances, infants and toddlers are sent to daycare centers at a younger age, and they start to have a social interaction and show social behavior at a younger age as they spend most time at a daycare center from infancy(Lee Joo-ok, Jang Hyun-joo, 2004). Since various exploration activities and well-rounded development are initiated in infancy, infants and toddlers should be helped to gain extensive experience to facilitate their sound development. As a matter of fact, however, infants and toddlers aren't yet old enough to go out often, and it's not yet fully proven whether eco-education through hands-on natural activities affects the prosocial behavior of infants and toddlers or not.

The purpose of this study was, therefore, to examine whether eco- education by hands-on natural activities would bring about any changes to the prosocial behavior of toddlers.

2. Research Question

A research question was posed:

· What effects does eco-education through hands-on natural activities have on the prosocial behavior of toddlers?

Ⅱ. Method

1. Subjects

The subjects in this study were 28 toddlers at two different daycare centers located in the city of Yeosoo, South Jeolla Province. 14 toddlers each were selected from the daycare centers. The gender and age of the toddlers were shown in <Table 1> .

<Table 1> The gender and age distribution of the toddlers

Group	Gender		average age(month)	Total
	Male	Female		
The experimental group	10	4	30.00	14
The control group	8	6	30.36	14
Total	18	10		28

2. Instrumentation

A. Prosocial Behavior Instrument

The instrument used to assess prosocial behavior was Kim Geum-rak(2001)'s, Park Yun-soon(2004)'s, Park Hye-jung(2009)'s and Kim So-yun (2011)'s inventory that modified Walsh(1980)'s and Bar-Tal(1976)'s Prosocial Behavior Category. <Table 2> shows the structure of the inventory, and the toddler prosocial behavior test papers were included in the Appendix.

<Table 2> The structure of the prosocial behavior checklist

Behavioral type	Details	The number of items
Helping	Handing over playthings that a friend looks for. Helping a friend with puzzle or blocks. Informing(teaching). Helping a friend put away things. Taking a friend's hand.	Five items
Sharing	Sharing activity materials such as stamps, colored pencils or clay. Sharing playthings or blocks. Sharing playthings at the request of a friend. Sharing a space(sharing one's own seat if there aren't enough seats.	Four items
Tolerating	Playing with a friend in compliance with his proposal. Saying, "That's okay," when a friend makes a mistake. Waiting for a friend. Stopping playing when the teacher says something.	Four items
Conceding	Offering playthings to a friend(if he or she asks for them). Offering one's own seat. Making way for a friend. Waiting for one's own turn. Saying, "Sorry!" in case of making a mistake.	Five items
Friendship	Proposing to do something or play together or asking for that. Smiling. Greeting. Hugging(as a sign of being sorry or grateful). Comforting(wiping away a friend's tears or patting him or her on the back).	Five items
Total		23 items

B. Testing and Scoring

The test was carried out during free play activities in the morning, and each of the toddlers was observed 10 times according to timing sampling(40 seconds observe/20 seconds record). They were given one point every time they showed prosocial behavior, and when they showed any ambiguous behavior, it's recorded in the remarks column.

3. Procedure

An experiment was implemented 20 times during a 10-week period of time from the first week of April to the second week of June, 2012. After teacher education was provided first, a pretest was conducted, and then the experiment and a posttest were carried out.

A. Pilot Test

To determine the appropriateness of the instrument and the experiment, seven two-year-olds from another daycare center took a pilot test twice in March, 2012.

B. Pretest

A prosocial behavior pretest was conducted by this researcher in the fifth week of March before the experiment.

C. Experiment

The experimental group from the daycare center H received eco-education by

engaging in hands-on natural activities, and the control group from the daycare center A received education according to the yearly educational plan and the curriculum.

<Table 3> An eco-education proposal

Session	Activity	Details
1	Playing with flowers	Making a flower clock, a flower ring and a flower neckless.
2	Associating with nature	Hugging a tree, saying hello to a tree and watering a tree.
3	Experiencing strawberries	Picking strawberries.
4	Getting familiar with clouds	Walking on the lawn barefoot, walking backward, lying down, observing clouds.
5	Getting familiar with sunshine	Basking in the sun, looking for a shade, drawing a picture on the floor made of cement by using colored chalk.
6	Looking for insects	Expressing the bodies of insects, observing ants.
7	Playing with soil	Playing with soil, drawing a picture of soil with a piece of wood.
8	Enjoying with rain	Taking a walk after putting on a rain boat and high boots, observing earthworm.
9	Enjoying with rain	Taking a walk the day after it's rain, making friends with a snail.
10	Sensing wind	Flying a pinwheel, flying dandelion spores.
11	Sensing wind	Speaking to a wind, flying cotton of a cover, playing with foxtails.
12	Let's go to the forest	Going up and down a hill.
13	Let's go to the forest	Going up energetically, blowing on a reed.
14	Let's play at a streamside	Setting a leaf boat afloat, building a stone house.
15	Sweet potato play	Making a neckless with sweet potato stems.
16	Leaf play	Picking acadia leaves, a pumpkin is produced, great pumpkin leaves.
17	Measuring oneself with a great tree	Measuring oneself with a great tree, making plantain shuttlecock.
18	Flying seeds.	Looking into the color of nature, making a house.
19	Associating with the forest	Let's go hiking.
20	Corn play	Observing corns, husking corns, picking wild berries.

<Table 4> A hands-on natural activity plan

Activity name	Being familiar with clouds	
Objectives	· Getting interested in things and natural phenomena. · Sensing various things by using feet's sense of touch.	
Materials	a vest, a bag, a towel, a camera, paper for observational record.	
	Content	Remarks
Necessary things	-a vest for a walk and a bag	
Main Activity	1. Walking on the lawn barefoot - Taking off the shoes and the sock and walk around barefoot. · "Hey, why don't you taking off your shoes and walk around on the lawn barefoot? · "How do you feel about walking on the lawn barefoot?" · "I feel a tickle in the sole of feet."	Check whether there's anything dangerous on the lawn.

	- Teaching how to put it in words when something feels soft, rough or cold. 2. Walking backward - Proposing to walk backward, walking backward together and teaching how to put in words how one feels. · "Hey, why don't we walk backward?" · "I feels like I may fall down." 3. Lying down on the lawn - Lying down on the lawn together and talk to each other how they feel. · "Hey, why don't we lie down on the lawn together?" 4. Observing clouds - Look at the sky, talk to each other about clouds and describe what clouds look like. · "There are clouds in the sky! And they are moving." · "The clouds have different shapes. What do they look like?" · "Let's express the shapes of the clouds through our bodies."	
Wrapping-up	1. Let them talk to each other how they felt when they lay down on the lawn and when they walked forward and backward. 2. Let them talk to each other how they felt about the clouds they looked at together and what they looked like.	
Photograph	 	

D. Posttest

A posttest was conducted by this researcher in the same way as the pretest to determine the effect of eco-education by hands-on natural activities on the prosocial behavior of the toddlers.

4. Data Analysis

To investigate the effects of eco-education by hands-on natural activities on the prosocial behavior of the toddlers, t-test was carried out.

Ⅲ. Results and Interpretation

This study attempted to investigate the effects of eco-education by hands-on natural activities, and the findings of the study were as follows:

1. The Effects of Eco-Education by Hands-On Natural Activities on the

Prosocial Behavior of the Toddlers

The total prosocial behavior pretest and posttest scores of the experimental and control groups were compared to determine the effects of eco-education by hands-on natural activities on the prosocial behavior of the toddlers. Table 5 shows the results of the comparison. As shown in Table 5, there were significant differences between the experimental group and the control group in prosocial behavior(t=10.543, p<.001).

Significant intergroup differences were found in all the five subfactors of prosocial behavior that were helping, sharing, tolerating, conceding and friendship. In the subfactors of helping, the experimental group got a mean of 5.86(SD=1.88), and the control group got a mean of 2.29(SD=.47). In the subfactor of sharing, the former got a mean of 3.71(SD=1.14), and the latter got a mean of 1.79(SD=.70). In the subfactor of tolerating, the former got a mean of 2.43(SD=.76), and the latter got a mean of 1.29(SD=.47). In the subfactor of conceding, the former got a mean of 2.86(SD=.66), and the control group got a mean of 1.43(SD=.51). In the subfactor of friendship, the former got a mean of 2.75(SD=.46), and the latter got a mean of 1.45(SD=.32).

<Table 5> The effects of eco-education by hands-on natural activities on the prosocial behavior of the toddlers

the subfactors of prosocial behavior		The experimental group(*N*=14) *M(SD)*	The Control Group(*N*=14) *M(SD)*	*t*	*p*
Helping	Pretest	2.00(.78)	1.71(.73)	1.000	.327
	posttest	5.86(1.88)	2.29(.47)	6.913	.000
Sharing	Pretest	1.00(.56)	1.07(.62)	-.322	.750
	posttest	3.71(1.14)	1.79(.70)	5.400	.000
Tolerating	Pretest	1.00(.56)	1.07(.62)	-.322	.750
	posttest	2.43(.76)	1.29(.47)	4.807	.000
Conceding	Pretest	1.21(.43)	1.36(.63)	-.700	.490
	posttest	2.86(.66)	1.43(.51)	6.374	.000
Friendship	Pretest	1.64(.63)	1.86(.66)	-.874	.390
	posttest	2.75(.46)	1.45(.32)	6.374	.000
Total	Pretest	7.21(2.01)	7.00(1.80)	.298	.768
	posttest	18.75(3.30)	8.81(1.37)	10.543	.000

Ⅳ. Discussion and Suggestion

This study attempted to find out the effects of eco-education by hands-on natural activities on the prosocial behavior of the toddlers. In particular, the effects of eco-education were analyzed in terms of five subfactors of prosocial behavior: helping, sharing, tolerating, conceding and friendship. The implications of the findings of the study were as follows:

First, the eco-education by hands-on natural activities was found to have a positive impact on the prosocial behavior of the toddlers. This finding lends credibility to the findings of two studies. One established that nature-friendly play activities focusing on firsthand nature experience exerted a positive influence on prosocial behavior(Lee Kye-hwa, 2008), and the other found that vegetable gardening activities served to promote the prosocial behavior of preschoolers(Hwang In-sook, 2004). Toddlers express their fear when they see an unfamiliar person, and when they cannot find a familiar person around them even just for a while, they cry to express their unpleasant feelings. Thus, toddlers are egocentric and not interested in peers a lot. But the toddlers gradually got interested in their peers and became attached to them in a stable manner in the course of engaging in the hands-on natural activities together. Furthermore, they got interested in their teacher and people around them and formed a positive relationship with them. It denoted that like preschoolers, toddlers are able to evidently show prosocial behavior when they engage in hands-on natural activities with their peers.

Second, the eco-education by hands-on natural activities served to boost the prosocial behavior subfactors of the toddlers, which were helping, sharing, tolerating, conceding and friendship. As for helping, they handed over blocks to their friends while they played with each other, and they piled up the blocks together, and they stretched out their hand when their friend fell down. In terms of sharing, they shared materials with each other when they engaged in exploration and expression activities, and they made room for their friends when there was no space for their friends to sit down. As for tolerating, they played at housekeeping together when their friend passed the necessary playthings onto them, and they stopped what they were doing and listened to their teacher when the teacher said something. In terms of conceding, they waited for their turn, and when a friend kept asking for particular toy that they wanted to keep playing with, they said, "I will let him have it." In terms of friendship, they rarely interacted with one another at the onset of the experiment. They scarcely got together or said hello, but as the experiment went on, a lot of interaction took place among them such as saying hello, hugging or comforting.

Toddlers are often ruled out from hands-on natural activities due to their poor sense of balance or poor motor skills such as walking. But this study found that the toddlers not only made progress in physical skills but showed improvement in prosocial behavior while they gained diverse experience in the course of participating in the hands-on natural activities. Accordingly, eco-education should be provided for toddlers as well by utilizing hands-on natural activities.

Given the discussions on the implications of the findings of the study, there are some suggestions:

First, what effects eco-education produced in nature outside early childhood education institutions was investigated in this study. In the future, the effects of a wide variety of educational activities within early childhood education institutions where toddlers spend a lot of time should be analyzed. Second, the prosocial behavior of the toddlers was examined by employing a quantitative method in this study, and a qualitative approach should be taken to look into the behavioral change of toddlers in detail. Third, just the toddlers in a particular area were examined in this study, and toddlers from multiple regions should be investigated in the future.

References

Eun-Hee Gweon(2003). The Effect of Play Activities in Eco-Friendly Outdoor Environment on Children's Society-Friendly Activities and Self Concept. Graduate School of education, Daegu University, Master's thesis.

Geum-Rak Kim(2001). The Effect of Cooperative Activities on Young Children's Communication Skill and Prosocial Behavior. Graduate School of education, Chung-Ang University, Master's thesis.

So-Yun Kim(2011). The Effect of Musical Activities Using Infant Picture Books on Prosocial Behavior of Infant. Graduate School of education Incheon University, Master's thesis, Master's thesis.

Young-Ok Kim(2003). A Study on the Development of Prosocial Behavior Scale for Young Children. **Korean Journal of Child Studies, 24(5)**, 105-118.

Yun-Sun Park(2004). Effects of day care quality on infants' prosocial behaviors. Graduate School, Duk-sung womans University, Master's thesis.

Heai-Jung Park(2009). The Effect of integrated education on prosocial behavior of infants. Graduate School, Soongsil University, Master's thesis.

Seong-Hye Park , Tae-In Kim, Eun-Ju Park(2009). The Development of Children's Prosocial Behavior through the Nature-Friendly Education Program Using Ecological Picture Books. **A Collection of Papers on Early Childhood Education. 13**(1), 43-65.

Hee-Sook Park, Sook-Ja Lee, Myoung-Ja Jung, Jung-Hee Shim(2010). The Effect of the Eco-centered Child Care Program on Children's Emotional Intelligence. **Korea Journal of Child Care and Education. 62**, 231-259.

Ok-Seung Yang(2001). Early childhood education through nature. A collection of papers in the academic conference for the 20th anniversary of Korea Child Education Association. 44-59.

Kye-Hwa Lee(2008). Effect of Nature-Friendly Education Activities on the Prosocial Behavior of Preschoolers in Inclusive Early Childhood Education Institutions for

the Nondisabled and Disabled. Graduate School, Dong-guk University, Master's thesis.

Su-Min Lee(2006). Effects of Nature Friendly Educational Activities through A Walk on Children's Prosocial Behavior and Self-concept. Graduate School of education, Chung-Ang University, Master's thesis.

Jung-In Lee(2012). The Effects of Nature Friendly Educational Activities through Ecology Storybooks on Three-year-old Children's Pro-sociability. Graduate School, Soongsil University, Master's thesis.

Joo-Ok Lee, Hyun-Joo Chang(2004). Analysis of Toddlers' Social Interactive Behaviors. **Journal of Early Childhood Education Studies, 24**(5), 25-41.

Gap-Bin Im, Nan-Ho Yoon(2006). A Study on the Recognition of Parents and on Effects of Eco centered early childhood education program on Young children's Prosocial behavior. **The Journal of Korea Open Association for Early Childhood Education. 11**(2). 83-112.

Jae-Tack Lim(2005). **An Introduction to Eco-early Childhood Education**. Paju: Yangseowon.

Jae-Tack Lim, Eun-Ju Kim, Jeong-Yeon Ha, Mi-Ryang Gwon, Chae-Yeong Jo(2006). **The Operation of an Eco-Early Childhood Education Program.** Goyang: Gongdongche.

Hae-sun Lim, Seon-Ock Go, Jeong-Moo Hurh(2008). An Effect of Picture Books on Aggressive Behavior and Pro-social Behavior in Children. **A Study of Eco Early Childhood Education. 7**(2), 1-16.

Hee-Jung Jang(2010). **Forest Kindergarten**. Seoul: Homi.

Gui-young Choi(2007). The Effect of Nature-Friendly Education Program on Infants' Prosocial Behaviors and Parents' Awareness of it. Kyungnam University, Doctoral Dissertation.

Jung-yun Ha, Jae-Tack Lim, Eun-Jin Bae, Hyun-Yoon Baek, Yun-Joo Lee(2009). **A Walk with Children**. Goyang: Gongdongche.

Han Young Suk(2012). The Changes in Prosocial Behavior of Young Children through an Ecological Literature Program Using a Fairy Tale. **The Journal of Korea Early Childhood Education. 19**(1), 27-51.

In-Suk Hwang(2004). Influence of Backyard Gardening Activities based on Ecological Approach to Children's Pro-environmental Attitude and Pro-social Behavior. Graduate School of education, Chonnam University, Master's thesis.

Bar-Tal, D.(1976). Prosocial Behavior: Theory and research NY: Wiley & sons.

Bergin, C. A., D. A. Bergin, &E. French(1995). Preschool's prosocial repertories: Parent's perspectives. Early childhood research quarterly, 10, 81-103.

Walsh, H. M.(1980). *Introducting the young child to social world.* N. Y: Macmillan

Publishing Co. inc. 20-21.

Effects of Eco-Education by Hands-on Natural Activities on the Prosocial Behavior of Toddlers

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The purpose of this study was to examine the effects of eco-education by hands-on natural activities on the prosocial behavior of toddlers. The subjects in this study were 14 toddlers at a daycare center in the city of Y, South Jeolla Province. An experiment was implemented in 20 sessions, and the findings of the study were as follows: First, the eco-education by hands-on natural activities served to boost the prosocial behavior of the toddlers. Second, the eco-education by hands-on natural activities served to improve the subfactors of their prosocial behavior, involving helping, sharing, tolerating, conceding and friendship.

key words : Hands-on natural activities, Eco-education, Prosocial behavior

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Impact of Family-Connected Nutrition Education Program on the Nutrition Knowledge and Dietary Habits of Preschoolers

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Ⅰ. Introduction

1. The Necessity and Purpose of the Study

In recent days, the convenience of dietary life is increasingly stressed, and there is consequently an increase in the weight of instant food among children not only as something to eat between meals but as the staple food. According to the World Health Report in October, 2002, every region in the world was confronted with the same problems such as unsound dietary habits, obesity, hypertension, smoking, excessive drinking and lack of workout, and wrong dietary habits could be found in people of every class and every generation(WHO, 2002). Wrong dietary habits are definitely likely to lead to waning health, which results, in turn, in increasing medical expenses and disturbing economic activities. Accordingly, acquisition of correct dietary habits is very important not only for individuals but for the nation.

Early childhood is a period that the most dynamic physical growth and development take place, and nutritional status in early childhood affects one's lifetime health and emotional development involving psychological state(Kim Ki-nam, 1982). Also, children build up specific dietary habits and have a particular taste for food in this period. Spodek, Saracho and Davis(1991) suggested that nutrition education intended to improve nutritional status and dietary habits is mandatory for the health, growth, personality development and social development of preschoolers.

In fact, however, nutrition education provided by early childhood education institutions is mostly confined to table manners, and the kinds of programs that are designed to correct an unbalanced diet and inform the importance of regular meals, optimum food intake, sound dietary habits and balanced food intake are required(Kim Mi-kyung, et. al., 2001; Lee Kyung-hee, et. al., 2001). As a result of investigating the priority of what to teach in nutrition education, right dietary habits were considered most important, followed by nutrition/disease and growth/nutrition, and it's effective to provide that education in collaboration with families(Park Keum-mi, 2005). As for the reason, preschoolers have long taken on particular dietary habits before they go to an early childhood education institution, and early childhood education institutions

try to improve their dietary habits to let them have unbalanced meals by offering cooking activities or teaching how to eat meals, but it won't produce great results if they don't make a prolonged effort in cooperation with their families. Actually, family-connected nutrition education programs aren't on the right track because it's not easy for early childhood education institutions to offer education in collaboration with families, and another reasons are lack of cooperation from parents and their wrong awareness(Kim Eun-joo, 2007).

Meanwhile, earlier studies related to nutrition education programs have examined nutrition education(Hong Sath-byeol, 2007; Park Yoo-mi, 2007; Oh Yoo-jin, 2004; Lee Ja-hyung, Kim Ill-ok, Chun Ki-jung, 2002; Yang Il-sun, Kim Eun-kyung, Chai In-sook, 1995), awareness of nutrition(Lim Soo-jung, Ahn Hong-suk, Kim Woon-joo, 1995), nutrition knowledge and dietary habits(Ryu Hee-ja, 2007; Son Bo-kyung, 2006; Lee Jung-im, 2008; Hong Mi-ae, 2009; Hong Soo-yun, 2007), and the state of cooking activities and teacher awareness(Ko Min-jung, 2006; Kim Eun-joo, 2007; Lee Hyung-book, 2007; Kim Hyun-sook, 2004). But not many studies have attempted to examine family-connected nutrition education programs. The purpose of this study was to examine the influence of a family-connected nutrition education about the types and utility of food, the function and roles of food, eating right and table manners on the nutrition knowledge and dietary habits of preschoolers.

2. Research Questions

1. What influence does a family-connected nutrition education program exert on the nutrition knowledge of preschoolers?
2. What influence does a family-connected nutrition education program exert on the dietary habits of preschoolers?

Ⅱ. Method

1. Subjects

The subjects in this study were 42 preschoolers in a daycare center located in the city of Kwangyang, South Jeolla Province. They were at the Western age of five, and an experimental group and a control group were made up of 22 preschoolers each.

2. Instrumentation

The instrument used to evaluate the nutrition knowledge and dietary habits of the preschoolers was prepared based on earlier studies of nutrition knowledge(Ryu Hee-ja, 2007; Son Bo-kyung, 2006; Lee Jung-im, 2008; Jung Eun-sil, 1999; Hong Mi-ae, 2009; Hong Soo-yun, 2007) and of dietary habits(Kim Eun-joo, 2007; Ryu Hee-ja, 2007; Lee Jung-im, 2008; Hong Mi-ae, 2009; Hong Soo-yun, 2007). Table 1

shows the structure of the instrument.

<Table 1> The structure of the instrument for nutrition knowledge and dietary habits

Subfactors		Item No.	Details
Nutrition knowledge	Growth and nutrition	1	What's necessary for growth
		2	The benefits of eating right for the body
		3	Food conductive to health
	Food and nutrition	4	Food conductive to teeth
		5	Food conducive to muscles and hair
		6	Food to eat after sweating
	Food and culture	7	Food to eat on the Korean thanksgiving day
		8	Food to eat at meals
		9	Traditional food of each country
	Food safety	10	The right way to eat food in a safe manner
		11	The safe storage of food
		12	Cooking attitude(dress and hygiene)
Dietary habits	Food attitude	1	How to be in good health
		2	Bad habits
		3	How to stay healthy
	Table manners	4	Children having good table manners
		5	Table manners after eating
		6	How to eat
	Hygiene	7	The first thing to do before having a meal
		8	Right dietary habits after eating
		9	How to behave at table

3. Procedure

A. Pilot Survey

A pilot survey was carried out to test the appropriateness and validity of the instrument, to determine the process of the study and the length of time required for the implementation of the program, and to make up for any possible shortcoming of the instrument. The pilot survey was conducted on 10 five-year-olds from a daycare center located in the city of Kwangyang, who were similar to the subjects of the study in terms of living environments. This survey was implemented for three days to test their nutrition knowledge and dietary habits.

B. Pilot Experiment

A pilot experiment was conducted three times after another 10 preschoolers who weren't the subjects in this study were selected in order to modify the instrument in consideration

of the interest and developmental level of the preschoolers.

C. Pretest

Before an experiment was implemented, the experimental group and the control group took a pretest in nutrition knowledge and dietary habits. As a result of checking whether the two groups were equivalent or not, the two groups were found to be equivalent.

D. Experiment

The experiment was shown in Table 2 and 3. The control group just engaged in cooking activities at the daycare center during the same period of time.

<Table 2> The structure of the family-connected nutrition education program

No.	Activity	Type of Activity	Family-Connected Activities
1	Three-color sandwich	Cooking	- Drawing what bread one wants to eat. - Eating sandwich and having a talk. - Learning about the nutrition of cucumber.
2	Brother-and-sister threesome and a magician	Fairy tale	- Making out a breakfast menu for family. - Learning about the nutrients of food one's family ate. - Learning about the five biggest nutrients and gymnastic exercise geared toward growing taller.
3	Rice ball	Cooking	- Making different things out of rice. - Eating rice balls and having a talk. - Learning about the effects of rice on the body.
4	Foods beneficial and detrimental to the body	Game	- Thinking of what to do to be in good health. - Singing the nutrition song and having a talk. - Providing diet guidelines for parents.
5	Panfried slices of seafoods and vegetables	Cooking	- Making panfried slices of seafoods and vegetables at home. - Eating the slices together and having a talk. - Learning how to cook a rice ball mixed with vegetables.
6	Nutrition song "Anywhere" by Kim Sook-kyung	Singing	- Singing the nutrition song and thinking of how one feels about that. - Singing the nutrition song and having a talk. - Giving an introduction on the nutrition song.
7	Three-color soup with dough flakes	Cooking	- Thinking of what kind of soup one wants to make by putting dough flakes. - Eating the soup and having a talk. - Learning about the nutrition of paprika.
8	Visiting a strawberry field for study	Study by observation	- Imagining what one looks like when he or she makes strawberry jam. - Making strawberry jam and having a talk. - Learning about how to keep fresh strawberries.
9	Rice mixed with meat, seasoned vegetables, eggs and sprouts	Cooking	- Growing sprouts at home. - Having a talk after cooking food by using the sprouts that were raised by oneself. - Learning how to grow sprouts.
10	I neve eat tomatoes.	Fairy tale	- Writing down one's favorite and unfavorite foods. - Giving another name to food. - Informing children who have an unbalanced diet of a good book about that.
11	Soup with brown seaweeds and	Cooking	- Drawing seaweeds that are similar to brown seaweeds. - Eating soup with brown seaweed and thin-shelled surf calm and

	thin-shelled surf clam		having a talk. - Learning how to season brown seaweeds with some condiments and vinegar.
12	Food fishing	Game	- Eating food and writing what it is good for. - Talking and eating together. - Introducing stories related to nutrition and healthy children.
13	Seasoned bean sprouts	Cooking	- Drawing a picture of seasoned bean sprouts. - Eating seasoned bean sprouts and having a talk. - Learning about the nutrition of bean sprouts.
14	Health song	Singing	- Thinking of how one feels when he or she sings a health song. - Singing the health song and Having a talk. - Presenting the health song.
15	Fruit, vegetable salad	Cooking	- Writing down about the combination of fruit and vegetables. - Eating salad and Having a talk. - Go shopping for groceries with mothers.
16	Visiting the factory of Imsil Cheese Pizza	Study by observation	- Drawing what cheese one will make. - Eating cheese and Having a talk. - Learning about the effects of cheese.
17	Songpyeon making	Cooking	- Drawing what Songpyeon one will make. - Eating sandwich and having a talk. - Learning about the origin of Songpyeon.
18	Tea that is good to eat during the change of season	Tea	- Drawing what tea one wants to make. - Taking tea and having a talk. - Learning about the effects of different sorts of tea.
19	Panfried pumpkin slices	Cooking	- Drawing what fried food one wants to make by using pumpkins. - Eating panfried pumpkin slices and having a talk. - Learning about the nutrition of young pumpkins.
20	Stir-fried anchovies	Cooking	- Drawing what stir-fried anchovies one made will look like. - Eating stir-fried anchovies and having a talk. - Learning how to choose good anchovies.

<Table 3> Examples of family-connected cooking activity papers

Go shopping with mother to buy sprouts. **Name: _____**

Delicious Sprout Food

1. Let me talk about sprouts I ate with my family.

Please write the name of sprouts included in the rice mixed with meat, seasoned sprout vegetables and eggs that you ate, and please put a photograph of the food on it.

What is the name of the sprouts my family ate? 〈 〉

2. Please write down what food you cooked with your mother by using sprouts and what you and your mother talked about, and please send the paper.

▷ Mom: What types of sprouts were there? ( )

▷ Mom: What's good about cooking the food? ( )

▷ Mom: How does it taste? ( )

▷ Mom: What more foods can we make by using sprouts? ( )

▷ Mom: How can we eat sprouts in a more delicious way? ( )

A story of sprouts

★ How to raise sprouts ★

1. Keep sprout seeds soaked in water for about six to eight hours.
2. Put a wet kitchen towel or a wet sanitary cotton on a glass container, and spread the soaked seeds on it. Cover the seeds with newspaper, and place the container in a warm place. Water the seeds every morning and every evening not to make them dry. They will soon begin to bud.
3. When the seeds bud, remove the newspaper, and raise them at the normal temperature. It's possible to gather in the sprouts three or five days later.

★ You can cook this food as well: California roll mixed with sprouts ★

* Materials -

four bowls of warm boiled rice, threefold vinegar (three tablespoonfuls of vinegar, two tablespoonfuls of sugar, one spoonful of salt), four pieces of toasted laver, a cup of red radish sprouts, half a cucumber, half a carrot, two crab sticks, an egg, a little salt, a little sugar and a little cooking oil.

* You can cook delicious California rolls with the prepared materials.*^^*

5) Posttest

To test the effect of the experiment, a posttest was carried out by utilizing the same instruments as the pretest after the eight-week experiment was completed.

4. Data Analysis

The collected data were analyzed by the statistical package SPSS 19.0 to obtain statistical data on mean and standard deviation for the experimental group and the control group, and t-test was used to look for any possible gaps in the posttest scores between the two groups.

Ⅲ. Results and Interpretation

1. The Impact of Family-Connected Nutrition Education Program on the Nutrition Knowledge of the Preschoolers

A. Comparison of the total nutrition knowledge pretest and posttest scores between the two groups

As shown in Table 4, there were no significant gaps in the nutrition knowledge pretest

scores between the experimental group(M=9.45, SD=1.22) and the control group(M=9.35, SD=2.23)(t=.191, p>.05). However, a statistically significant gap was found in the posttest between the experimental group(M=11.59, SD=.73) and the control group(M=9.10, SD=2.17)(t=5.071, p<.001).

<Table 4> Comparison of the nutrition knowledge pretest and posttest scores between the two groups

	Group	N	M	SD	*t*	*p*
Pretest	the experimental group	22	9.45	1.22	.191	.850
	the control group	20	9.35	2.23		
Posttest	the experimental group	22	11.59	.73	5.071***	.000
	the control group	20	9.10	2.17		

B. Comparison of the pretest and posttest scores in the subfactors nutrition knowledge between the two groups

As shown in Table 5, there were significant intergroup gaps in the scores of every subfactor of nutrition knowledge involving 'growth and nutrition'(t=2.492, p<.05), 'food and nutrition'(t=7.068, p<.001), 'food and culture'(t=3.529, p<.01) and 'food safety'(t=2.864, p<.01).

In the area of 'growth and nutrition,' the collective averages of the experimental and control groups were respectively 3.00(SD=.00) and 2.60(SD=.75). In the area of 'food and nutrition,' the collective averages of the experimental and control groups were respectively 2.82(SD=.39) and 1.90(SD=.45). In the area of 'food and culture,' the collective averages of the experimental and control groups were respectively 2.86(SD=.35) and 2.15(SD=.87). In the area of 'food safety,' the collective averages of the experimental and control groups were respectively 2.91(SD=.29) and 2.45(SD=.69).

<Table 5> Comparison of the pretest and posttest scores in the subfactors of nutrition knowledge between the two groups

		Group	N	M	SD	*t*	*p*
Growth and nutrition	Pretest	the experimental group	22	2.95	.21	1.696	.098
		the control group	20	2.65	.81		
	Posttest	the experimental group	22	3.00	.00	2.492*	.017
		the control group	20	2.60	.75		
Food and nutrition	Pretest	the experimental group	22	1.86	.35	-1.123	.268
		the control group	20	2.05	.69		
	Posttest	the experimental group	22	2.82	.39	7.068***	.000
		the control group	20	1.90	.45		
Food and culture	Pretest	the experimental group	22	2.18	.79	-.075	.940
		the control group	20	2.20	.77		
	Posttest	the experimental group	22	2.86	.35	3.529**	.001
		the control group	20	2.15	.87		
Food safety	Pretest	the experimental group	22	2.45	.67	.023	.982
		the control group	20	2.45	.61		
	Posttest	the experimental group	22	2.91	.29	2.864**	.007
		the control group	20	2.45	.69		

2. The Impact of the Family-Connected Nutrition Education Program on the Dietary Habits of the Preschoolers

A. Comparison of the total dietary habits pretest and posttest scores between the two groups

As shown Table 6, there were no significant differences in the pretest scores between the experimental group(M=8.14, SD=1.39) and the control group(M=8.35, SD=.93)(t=-.579, p>.05). In the posttest, however, the experimental group (M=8.91, SD=.29) scored significantly higher than the control group(M=8.05, SD=1.27)(t=3.072, p<.01).

<Table 6> Comparison of the dietary habits pretest and posttest scores between the two groups

	Group	N	M	SD	*t*	*p*
Pretest	the experimental group	22	8.14	1.39	-.579	.566
	the control group	20	8.35	.93		
Posttest	the experimental group	22	8.91	.29	3.072**	.004
	the control group	20	8.05	1.27		

B. Comparison of the pretest and posttest scores in the subfactors of dietary habits between the two groups

As shown in Table 7, there were significant intergroup differences in attitude to food(t=4.140, p<.001), but no significant gaps were found in table manners and hygiene.

<Table 7> Comparison of the pretest and posttest scores in the subfactors of nutrition knowledge between the two groups

		Group	N	M	SD	*t*	*p*
Food attitude	Pretest	the experimental group	22	2.64	.66	-.071	.944
		the control group	20	2.65	.59		
	Posttest	the experimental group	22	3.00	.00	4.140***	.000
		the control group	20	2.40	.68		
Table manners	Pretest	the experimental group	22	2.86	.35	-.940	.353
		the control group	20	2.95	.22		
	Posttest	the experimental group	22	2.95	.21	1.617	.114
		the control group	20	2.75	.55		
Hygiene	Pretest	the experimental group	22	2.64	.58	-.707	.484
		the control group	20	2.75	.44		
	Posttest	the experimental group	22	2.95	.21	.673	.505
		the control group	20	2.90	.31		

Ⅳ. Discussion

In this study, how the family-connected nutrition education program affected the nutrition knowledge and dietary habits of the preschoolers was analyzed. The findings of the study and the implications of the findings were as follows:

First, as a result of checking the influence of the family-connected nutrition education program on the nutrition knowledge of the preschoolers, the program was found to be effective at improving the nutrition knowledge of the preschoolers. Nutrition education refers to teaching basic nutrition knowledge and providing motivation for learners to put it in practice to build up sound dietary habits and stay healthy (Jung Eun-sil, 1999). Since partnership and cooperation between teachers and parents are mandatory for this type of education(Barbour, Chandler & Barbour, 1997; Bronfenbrenner, 1974; Hart & Risely, 1995), activity papers were sent to each family in order to conduct the nutrition education program in cooperation with families. The activity papers were designed to ignite the interest of the families, keep them posted about the progress of the program and let them also acquire nutrition knowledge. The family-connected education made it possible for both of the preschoolers and their parents to acquire a lot of nutrition knowledge.

Moreover, they got to have a better knowledge of 'growth and nutrition,' 'food and nutrition,' 'food and culture,' and 'food safety,' which were the subfactors of nutrition knowledge. To boost the nutrition knowledge of the preschoolers, the program dealt with lots of nutrition knowledge on the types and names of food, the change and variation of food, the function of nutrients, the importance of eating diverse sorts of food, misconceptions of food, the necessity of food, balanced nutrient intake, the roles of nutrients, nutritional problems, good food and bad food. And the daycare center provided a wide variety of activities involving fairy tales, games, cooking and talking in consideration of the developmental level and interest of the preschoolers so that they could naturally acquire knowledge of nutrition and food and take a good dietary attitude. In particular, the activity papers made it possible for their parents to acquire nutrition knowledge to have a smooth communication with the preschoolers. The parents became able to teach the preschoolers in a more specific and convincing manner instead of merely saying to them that they would be in good health only in case of eating right, and the preschoolers acquired more accurate and diverse nutrition knowledge from their parents.

Second, as a result of analyzing the impact of the family-connected nutrition education program on the dietary habits of the preschoolers, that was found to have an effect on the positive change of their dietary habits. As acquisition of nutrition knowledge provides motivation for preschoolers to change their attitude and behavior(Contento, et. al., 1995), early childhood nutrition education programs should be designed to make improved nutrition knowledge lead to a

desirable change of dietary habits, and these programs should be conducted in collaboration with families to ensure their sustainability. The nutrition education program used in this study dealt with various nutrition knowledge and dietary habits and was conducted in cooperation with the families, which contributed to the positive change of the dietary habits of the preschoolers.

As a result of analyzing the influence of the family-connected nutrition education program on the subfactors of the dietary habits of the preschoolers, the experimental group showed a more significant improvement than the control group in 'food attitude,' but there were no intergroup gaps in 'table manners' and 'hygiene.' As this program dealt with diverse nutrition knowledge and dietary habits, it could be said that the program was effective at improving their food attitude that was awareness about how to be in good health, what dietary habits one should have in accordance with nutrition knowledge and how to stay healthy. On the contrary, both of the experimental and control groups scored high in the pretest and posttest of 'table manners' and 'hygiene,' and it's probably because most daycare centers have steadily offered education on table manners and hygiene. Daycare centers mostly continue to teach how to behave at table and before and after eating, and that's why the preschoolers got high scores irrespective of the nutrition education program.

This study has limitations, and there are some suggestions on future research efforts: First, the program was conducted just in a daycare center in South Jeolla Province, and the findings of the study might not be generalizable. In the future, subjects should be selected from more diverse regions. Second, the program was conducted just on a short-term basis, and what effects it produces on a long-term basis should be examined. Third, the changes of the preschoolers were investigated based on the answer sheets of their parents and teachers, and this kind of evaluation made it difficult to make a direct observation of the process of their change at home and at the daycare center. In the future, preschoolers should be observed not only at a daycare center but at home to produce more detailed and precise results on the aspects of their changes.

References

Chung, E. S.(1999). The effect of cooking activity program on the child's science conception and nutrition knowledge conception. Graduate school of education, Myongji university, Master's thesis.

Hong, M. A.(2009). Effect of a nutrition education program developed by a public health center on preschool children's nutritional knowledge and dietary habits and the parents' dietary attitudes. Graduate school of education, Chungbuk national university, Master's thesis.

Hong, S. B.(2007). Effect of nutrition education of day-care center children: focusing on kindergarten in

Wonju. Graduate school of education, Myongji university, Master's thesis.

Hong, S. Y.(2007). The effect of preschool children's dietary habits, lifestyle and mother's nutritional knowledge on preschool children's obesity. Graduate school of education, Kookmin university, Master's thesis.

Kim, E. J.(2007). The effects of cooking activities related with family on preschool children's diet habits and an unbalanced diet. Graduate school of education, Chung-Ang university, Master's thesis.

Kim, H. S.(2004). The influence of story and cooking activity on the solution to an unbalanced diet of preschool children. Graduate school of education, Woosuk university, Master's thesis

Kim, K. N.(1982). A study on relationship between food habits and personality. *The Korean Journal Nutrition. 15,* 194.

Ko, M. J.(2006). A Research on Current Situation of the Children's Cooking Activities and Teacher's Understanding. Graduate school of education, Ewha womans university, Master's thesis.

Kim, M. K., Kim, H. J., Kim, Y. O., Lee, J. H., Lee, W. C.(2001). Overweight among preschool children in Seoul: Prevalence and associated factors. *Korean Journal of Community Nutrition, 6*(2), 121-129.

Lee, H. B.(2007). The effects of cooking activities in kindergarten on unbalanced diet and inappropriate eating behaviors of young children. Graduate school of education, Kwangshin university, Master's thesis.

Lee, J. H., Kim, I. O., Cheon, G. J.(2002). The development of a nutrition education program for toddler. *Nursing Science, 14*(2), 19-30.

Lee, J. I.(2008). A comparative study of eating habit and nutritional knowledge for the effectiveness of nutrition education of preschoolers in child care centers. Graduate school of education, Hanyang university, Master's thesis.

Lee, K. H., Park, D. Y., Lee, I. Y., Hong, J. Y., Choi, B. C., Bae, S. S.(2001). The survey an the nutrition education and food service managements system of the early childhood education institute in Yongdungpo. *Journal of the Korean Dietetic Association, 7*(2), 167-174.

Lim, S. J., Ahn, H. S., Kim, W. J.(1995). Analysis of factors associated with the preschool children's nutrition awareness. *Korean Journal of Food Culture, 10*(4), 345-355.

Oh, Y. J.(2004). The development and application of multimedia nutrition education : Game for preschoolers. Graduate school, Hanyang university, Master's thesis.

Park, K. M.(2005), A survey of teachers' recognition of nutrition knowledge and nutrition education at day-care centers. *Korean Journal of Community Nutrition, 10*(6), 920-929.

Park, Y. M.(2007). A study on development and effect of group nutrition education program

of day-care center children. Graduate school of education, Chung-Ang university, Master's thesis.

Ryu, H. J.(2007). A study on the influence of cooking activities on the children's nutrition knowledge and food habit. Graduate school, Catholic University of Daegu, Master's thesis.

Son, B. K.(2006). A study on the nutritional status and nutrition knowledge of preschool children in day-care centers in Ulsan area. Graduate school of education, Ulsan university, Master's thesis.

Spodek, B., Saracho O, N., & Davis. M. D.(1991). *Foundation of early childhood education,* Englewood Cliffs, NJ : Prentice-Hall.

Suh, E. N, Kim, C. K.(1998). Analysis of Nutrition Education for Elementary Schools. *The Korean Journal Nutrition, 31*(4), 787-798.

WHO. (2002). *'The World Health Report 2002* : Reducing risks, promoting healthy life'. Online available at http://www.who.int/whr/2002/en/참2002 annex4.pdf.

Yang, I. S., Kim, E. K., Chai, I. S.(1995). The development and effect-evaluation of nutrition education program for preschool children in child-care centers. *The Korean Journal Nutrition, 28*(1), 61-70.

Impact of Family-Connected Nutrition Education Program on the Nutrition Knowledge and Dietary Habits of Preschoolers

KIM Jeongae

The purpose of this study was to examine the impact of a family-connected nutrition education program on the nutrition knowledge and dietary habits of preschoolers. The subjects in this study were the preschoolers in a daycare center in the city of Kwangyang, South Jeolla Province, who were at the Western age of five. As a result of conducting a nutrition education program 20 times, the preschoolers showed a significant rise of scores in nutrition knowledge and dietary habits. The findings of the study suggest that an early childhood nutrition education program should be designed to deal with nutrition knowledge and attitude, and that an early childhood education institution should provide it in cooperation with families.

key words : Nutrition education program, Nutrition knowledge, Dietary habits.

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Effect of Teacher's Responsivity Program on Problematic Behavior of Infants of Inclusive Class

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Ⅰ. Introduction

One of the significant elements to consider in qualitative aspect of early childhood educational institutes is the evaluation how the early childhood educational institutes are accommodating with expectations and demands of school parents who have the discretion of education (Foot, 2000). Parents take the responsibility for protection of children as well as are in duty to suggest appropriate stimulation and opportunity of learning for their children (Nisbet & Watt, 1994). However, recently, as accomplishing pressure of mothers with children in early childhood are increasing gradually; actually there are various problematic behaviors and stress of infants due to this. Many parents have concerns for cognitive aspects than emotional aspects of infants, so it is the reality that regular curriculum for infants is influenced by strong zeal for early education of school parents. Therefore, there is a need to plan and perform parent education program for appropriate recognition for development and nurture of children. Especially, let the accomplishing pressure of parents express in proper directions, so stress of infants should be decreased. It is desirable that the efforts likewise above would be proposed and performed by teachers of infants who know stress and problematic behaviors of infants well usually.

However, recently, in case of teachers, they are difficult to interact with infants individually due to management of the whole day care system and other excessive works. And both of kindergarten and nursery school are under the management evaluation, so interaction between teacher and infants are got instruction and checked but it is judged that there are many cases that it is hard to keep qualitatively after evaluation. Especially, in case of new teacher, they are hard to interact with infants who show problematic behavior. By considering above mentioned difficulties in the field, teacher training and educational programs are carried out but in case of early childhood teachers, it is hard to participate for it is not easy for teachers to find time for training due to excessive works. Even, teachers who participated in external

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training or educational programs about interaction between teacher and infants, they find it difficult to adapt it into actual field. For it is difficult to understand the contents of training or it is hard to perform as the contents of training in the actual field with lots of works.

For either of parents or teacher cannot provide the holistic information about problematic behavior of infant, so both of parents and teacher should make an effort to improve problematic behavior of infant from the point of view that to comprehend problematic behavior in various ways through a variety of information as much as possible. However, practically, by considering that it has been increasing gradually that infants are staying at early childhood educational institutes than at home and it is hard situation to have direct parent education for parents due to increase of working couple, it is the time to require research to focus on 'teacher' factor.

In this context, as a result to consider advanced studies, as for the researches on peer relationship of infants and quality of interaction between teacher and infants, Dunn and Cutting (1999) reported that infants who experienced more positive interaction with teacher are socially capable, participatory, and bright and form emotionally stabled relationship with other peer groups, Whitebook et el (1989), and File & Kontos (1993) reported that infants who experienced more frequent linguistic interaction with teacher are more sympathetic and sociable, Holloway and Reichhart-Erickson (1988) reported that the frequency of interaction between teacher and infants affected social knowledge and technology of infants.

Howes (1990) reported that infants interacted with teachers positively had stable relationship with teachers and had low hostile aggression toward peer group and higher intention for compositive peer play and infants interacted with teachers actively had higher frequency of interaction between peer groups and long continuous time and cooperative mutually in peer plays.

Therefore, teachers of early childhood educational institutes perform the role as secondary fosters to provide emotional stability to infants by expressing enough affection and giving proper help in want and playing and taking care of infants together instead of parents in their family, so teacher behavior appeared from the interaction with infants should reflect characteristics required for appropriate nurture.

In this context, Mohoney (1999) put emphasis on 'responsivity' as a fosterer behavior which works significantly in the interaction with infants, and as for its features, he suggested sensitivity, reciprocity, moderate pace, low directiveness, acceptance, enjoyment and warmth. He said that the fosterer with high responsivity level from the interaction with infants intervened in infants' activities actively, encouraged activities appropriately according to demands and situation of infants, took

receptive attitude to infants and responded to demands or behaviors of infants immediately and frequently, and promoted situational achievement motivation of infants by interacting pleasantly and interestingly. The above elements were comprehended as elements emphasized commonly in interaction training program between teacher and infants or linguistic interaction training program between teacher and infants etc to improve problematic behavior of infants. Therefore, to improve problematic behavior of infants, in this study, the program to increase teacher reactivity would be planned and performed, so its effect would be investigated.

Ⅱ. Research Methods

1. Subject of the Study

The subject institutes of this study are two nursery schools located in G city in Geollamnam-do, this researcher selected as experimental group and comparative group by confirming size of each institute, physical environments, proportion of teacher to infants and similarities of program management through visiting research before the study. The general background of subject of the study are as <Table 1> and <Table 2>.

<Table 1> General Backgrounds of General Infants, the Subject of the Study

Group	N	Boy	Girl	Average Age of Month
Experimental	15	9	6	57.6
Comparative	16	8	8	58.1
Total	31	17	14	

<Table 2> Characteristics of Infants with Developmental Delay per Group

Diagnostic Tool (Test Day)	Area	A(Experimental)	B(Comparative)
Portage Child Development Test	신변처리	2 years 7 months	2years 8 months
	Exercise	3years 2 months	3years 3 months
	Sociality	2years 3 months	2years 4 months
	Recognition	3years 4 months	3years 4 months
	Language	2years 4 months	2years 5 months
PRES	Receptive Language	3years 5 months	3years 6 months
	Expressive Language	3years 2 months	3years 5 months
	Integrated	3years 1 months	3years 3 months
	Results	Developmental age is lower more than 1-year-old than chronological age	Developmental age is lower more than 1-year-old than chronological age

2. Research Tool

A. Problematic Behavior Measurement Tool of General Infants

To measure problematic behavior of infants appeared at early childhood educational institutes, PBQ (Preschool Behavior Questionnaire) developed to test behavior and maladjustment behaviors of infants in the age of 3 to 6-year-old by Behar & Stringfield (1974) was used. This scale was composed of total 24 questions, and as for sub factors, there are aggression (10 questions), anxiety (9 questions), and hyperactivity and distracted (5 questions), as score lower, it means less problematic behavior related to sub factors appeared.

<Table 3> Composition and Reliability of PBQ

Sub Area	Number of Questions	Questions	Cronbach's α
Aggression	10	1,2,3,6,9,12,14,15,17,19	.92
Anxiety	9	4,7,10,11,16,18,20,22,23	.78
Hyperactivity and Distracted	5	5,8,13,21,24	.73
Total	23		.89

B. Problematic Behavior Measurement Tool of Infants with Developmental Delay

To measure problematic behavior of infants with developmental delay, A-B-C Behavior Analysis Sheet was used. It was that observer would record the concrete situation when problematic behaviors of infants were occurred and it was composed of general situation, preceding stimulus, problematic behavior and follow-up results of problematic behavior.

In addition, recording sheet was made and used to record number of frequency of behavior occurred during given time per every session. To measure problematic behavior, it was recorded whether the problematic behavior of each infant was occurred or not in accordance with partial interval recording during 40 minutes given per every experimental session throughout baseline, intervention and maintenance. Behavior occurrence rate was calculated as % by multiplying 100 to the ratio of number of section which problematic behavior occurred for the number of the whole section.

The problematic behavior of infants with developmental delay measured in this

study was selected as two independent behavior appeared of high frequency during free choice activity period within class among problematic behavior of infants participated in research through ABC behavior analysis and interview with homeroom teacher of inclusive class by this researcher. The operational definition of problematic behavior is shown in <Table 4>.

<Table 4> Operational Definition of Problematic Behavior

Division	Operational Definition
Seat Breakaway	meaningless walking around in the classroom, wandering around by leaving not to organize teaching aids, wandering around not to play during free choice activity time
Taking an Improper Posture	lying down on the floor during free choice activity time, lying down on the couch, climbing up on the desk or drawers

$$\text{Occurrence Rate of Problematic Behavior} = \frac{\text{Number of section observed problematic behavior}}{\text{Number of section of total observation}} \times 100 \quad (4)$$

$$\text{Reliability between observers (\%)} = \frac{\text{Number agreed to occurrence of problematic behavior}}{\text{Number occurred problematic behavior + number not to occur problematic behavior}} \times 100$$

3. Research Process

A. Pretest

To perform teacher reactivity enhancement program, pretest was carried out for infants of experimental group and comparative group by using PBQ and A-B-C behavior analysis sheet.

B. Performing the program

This program was carried out during about five weeks at selected nursery school as an experimental group. The curriculum of first and second session would be carried out during two days, and training process of three, four and five session would be carried out with about 10 days' intervals per each session. At every

session, worksheet would be distributed with educational materials to teachers and this researcher guided teacher activities and assignments with the contents of program's procedure before starting each session, and right after the program, evaluation and individual experiences according to performing the program were discussed and then teacher assignments would be received.

C. Post Test

Post test was carried out by using the same inspection tools likewise pretest.

D. Data Processing

As for the data analysis of this research, t-test was performed by using SPSS 19.0. In case of infants with developmental delay, percentage for the occurrence rate of problematic behavior was suggested.

Ⅲ. Result Analysis

1. General Infants

To investigate the effect of teacher reactivity enhancement program on problematic behavior of infants, the results of matching sample t test on the basis of before and after score are as following <Table 5>. As it was suggested in <Table 5>, in case of experimental group, it was appeared significant decrease in every sub area of problematic behavior, that is, aggression ($t=-3.12$, $p<.01$), anxiety ($t=-6.21$, $p<.001$), hyperactivity and distracted ($t=-2.13$, $p<.01$). On the other hand, in case of comparative group, it was appeared that there is no significant decrease in every sub area. Therefore, it is possible to interpret teacher reactivity enhancement program has effect on decrease of problematic behavior of infants.

<Table 5> Problematic Behavior of General Infants

Sub Area	Group	Before M(SD)	After M(SD)	t
Aggression	Experimental	1.47(.41)	1.31(.34)	-3.12**
	Comparative	1.48(.39)	1.47(.51)	
Anxiety	Experimental	1.71(.41)	1.32(.35)	-6.21***
	Comparative	1.73(.36)	1.67(.48)	
Hyperactivity and Distracted	Experimental	1.55(.51)	1.30(.32)	-2.13**
	Comparative	1.52(.38)	1.49(.36)	

$p<.01$, $p<.001$

2. Infants with Developmental Delay

A. Behavior to Leave the Seat

During the period of experimental treatment, the occurrence rate of behavior to leave the seat was shown in <Table 6>. The occurrence rate to leave the seat in the beginning of the experiment was 82.5% (range 76%-89.6%). As the experimental treatment made progress, the behavior to leave the seat of infants was decreased gradually and it was decreased to 53.4% (range 46%-71.1%) in the late of the experiment.

<Table 6> Occurrence Rate of Behavior to Leave the Seat of Infants with Developmental Delay

Problematic Behavior	Beginning		Later	
	M	Range	M	Range
Seat Breakaway	82.5	76-89.6	53.4	46-71.1

B. Behavior to Take an Improper Posture

During the period of experimental treatment, the occurrence rate of behavior to take the improper posture was shown in <Table 7>. The occurrence rate to take the improper posture in the beginning of the experiment was 71% (range 68%-79%). As the experimental treatment made progress, the behavior to take the improper posture of infants was decreased gradually and it was decreased to 46% (range 33%-58%) in the late of the experiment.

<Table 7> Occurrence Rate of Behavior to Leave the Seat of Infants with Developmental Delay

Problematic Behavior	Beginning		Later	
	M	Range	M	Range
Taking an Improper Posture	71	68-79	46	33-58

Ⅳ. Discussion and Proposal

This study was to investigate the effect of teacher reactivity enhancement program

on problematic behavior of infants of inclusive class. The discussion on the basis of this research results are as follows:

It was appeared that teacher reactivity enhancement program decreased problematic behavior of general infants in inclusive class. This result is in line with the advanced studies (Belsky, 1988; Denham et al., 1990; Howes et al., 1994) that positive relationship with teachers has influence on the peer competence in early childhood. Teacher reactivity enhancement program means that it would change teacher behavior more positively and infants would perceive teacher behavior more positively. That is, infants would perceive that the words and behaviors of teachers for them with more affection, teachers would participate in activities with them more actively, and their behaviors are accepted better by teachers. The results like above that teacher reactivity improves quality and frequency of interaction between teacher and infant and then infants would perceive teacher behavior more positively through those experiences of interactions and furthermore it reflects the possibility to develop stable relationship between teacher and infants. Therefore, to keep more positive relationship with their peer group, the quality of interaction between teacher and infants is the most important and according to this, the necessity of concrete method to improve the quality of interaction between teacher and infant is required.

Teachers of early childhood educational institutes should perform the role as secondary fosterers to provide emotional stability to infants by expressing enough affection and giving proper help in want and playing and taking care of infants together instead of parents in their family. Therefore, teacher behavior appeared from the interaction with infants should reflect characteristics required for appropriate nurture. In this context, it has been emphasized that teachers should increase 'reactivity of teacher' such as continuous conversation and warm physical contacts, active participation in activities, interaction between teacher and infant etc early childhood (Kontos & Wilcox-Herzog, 1997). Through the results and discussion of this study, it would be proposed as follows:

First, it was appeared that teacher reactivity enhancement program decreased problematic behavior of infants. Therefore, there is a need for follow-up study for teacher education program to increase teacher reactivity.

Second, this study was carried out in relatively short period, so there is a need for longer-term follow-up study.

Third, in this study, quantitative change about problematic behavior of infants, so qualitative study which can examine this more concretely should be carried out.

References

Dunn, J., & Cutting, A. (1999). Understanding others, and individual differences in friendship interactions in young children. *Social Development, 8*, 201-219.

Foot, H., Howe, C., Cheyne, B., Terras, M., Rattray, C. (2000). Pre-school Education: parents' preferences, knowledge and expectations. *International Journal of Early years Education, 8*(3), 189-204.

Holloway, S. D., & Reichhart-Erickson, M. (1998). The relationship of day care quality to children's free-play behavior and social problem-solving skills. *Early Childhood Research Quarterly, 3*, 39-53.

Howes, C. (1990). Cam age of entry into child care and the quality of child care predict adjustment in kindergarten? *Developmental Psychology, 26*, 292-303.

Mahoney, G. (1999). *Family/child curriculum: A relationship focused approach to parent education/early intervention.* Tallmadge, OH: Family Child Learning Center.

Nisbet, J. & Watt, J. (1994) Educational Disadvantage in Scotland: a 990's perspective. Edunburgh, *Scottish Council for Community Education.* 59-72.

Skinner, E. A., Zimmer-Gembeck, M. J., & Connell, J. P. (1998). Individual differences in the development of perceived control. *Monographs of the Society for Research in Child Development, 63*, 231-233.

Strain, P. S., Shores, R. E., & Timm, M. A. (1997). Effects of peer social initiations on the behavior of withdrawn preschool children. *Journal of Appled Behavior Analysis, 10*, 289-298.

Whitebook, M., Howes, C., & Phillips, D. (1989). *The National Child Care Staffing Study: Who cares? Child care teachers and the quality of care in America. Final Report.* Oakland, CA: Child Care Employee Project.

Weitz, J. R., Suwanlert, S., Chaiyasit, W., Weiss, B., Walter, B. R. & Anderson, W. W. (1988). Thai and American perspectives on over and undercontrolled child behavior problems: Exploring the threhold model among, patents, teachers, and psychologist. *Journal of Consulting and Clinical Psychology, 56*, 601-609.

Effect of Teacher's Responsivity Program on Problematic Behavior of Infants of Inclusive Class

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This study was to investigate the effect of teacher reactivity enhancement program on problematic behavior of infants of inclusive class. For this, 30 children of inclusive classes of two nursery schools located in G city in Geollamnam-do were selected as experimental group and comparative group. The results produced by performing teacher education for five times during five weeks are as follows: First, it was appeared that teacher reactivity enhancement program decreased problematic behavior of general infants in inclusive class. Second, it was appeared that teacher reactivity enhancement program decreased problematic behavior of infants with developmental delay in inclusive class.

key words : Teacher's Responsivity Program, Problematic Behavior

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The Methods to Develop Curriculum Books according to the Recent Revision of the Special Education Curriculum of Korea

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I. Introduction

1. Needs of the Study

The government has revised the curriculum for students with special needs nearly ten times. The 2011 special education curriculum intactly took over the characteristics of revision direction of 'the 2010 special education curriculum' which was revised only in generals and focused on the reinforcement of educational competencies of students with disabilities(Lee, Yeong Suk, 2012). Also, curriculum books have periodically revised along with the revision of special education curriculum.

Curriculum books are the important key materials of curriculum management materials. A textbook is an important teaching and learning material of school education to guide learning as the embodied model of curriculum and promote and activate teaching. On the other hand, a teacher's guide instructs textbook contents efficiently and effectively and presents a variety of teaching methods for learners to attain educational goals(Kim, Hui Jeong, 2011).

'The revised 2011 special education basic curriculum' attributed difficulties of students with special needs to environment rather than their ability and reflected a current paradigm of social science which argues the need to adjust obstructive environment and provide necessary support. Then five grade groups such as 1st~2nd, 3rd~4th, and 5th~6th grades of elementary school, 1st~3rd grades of middle school, and 1st~3rd grades of high school were defined to solve problems of restricting experience of students with special needs, and curriculum operation and support for students with special needs. Moreover, its characteristic was defined as the alternative curriculum which alternates contents to support students with special needs who have difficulties in participation even after special education common and elective curriculums are revised. Educational contents were presented in the order of the scope and level of contents, achievement criteria, and contents, and teaching · learning methods and evaluation-related matters were also offered. An elective subject was also developed for middle and high school to support students with severe and multiple disabilities and their careers(Jeong, In Suk et al., 2011).

'The revised 2011 special education basic curriculum' was found to be required to

develop curriculum books for students with special needs to share the same educational experience as students without special needs, to enhance the nature of education of a subject, to expand support demanded by individual students, and to support autonomous unit school curriculums(Jeong, In Suk et al., 2011).

Since the official announcement of curriculum books according to the revised 2008 special education curriculum' from 2009 to 2010, a total of 82 books(50 textbooks and 32 teacher's guides) and 13 kinds of supplementary materials have been developed as national textbooks(The Korea National Institute for Special Education, 2010).

It indicates that the development of special education curriculum books is very small compared to the large development of general education curriculum books in the number of kinds and books. While special education textbooks for elementary · middle · high school students with disabilities are 25 books and 2 kinds of CD, general education textbooks only for elementary students are 137 books and 3 kinds of CD, which is 5 times higher. It is necessary to develop special education textbooks to ensure educational equity and provide additional resources(Jeong, In Suk et al., 2011).

2. Objectives of the Study

The purpose of this study is to examine the revision direction of the 2011 special education curriculum to understand the methods to develop the special education curriculum in Korea and analyze relevant development requirements of special education curriculum books and development methods for special education curriculum promoted currently. Detailed study problems are as follows.

1. What is the revision direction of the special education curriculum in Korea?
2. What are the requirements to develop special education curriculum books?
3. How are the methods to develop curriculum books in Korea?
   3-1. How is the development direction and key improvement of curriculum books in Korea?
   3-2. How is the improved model of the special education curriculum book format?

II. Methods

This study reviewed and analyzed the special education curriculum【Separate Volume 1, 2, 3】published by the Minister of Education, Science, & Technology Announcement in the subject of the 2011 special education curriculum announced by the Minister of Education, Science, & Technology No. 2011-501 on November 16, 2011 and curriculum books research data by the Korea National Institute for Special

Education.

Ⅲ. Results

1. Revision Direction of the Special Education Curriculum in Korea

The 2011 special education curriculum took over the characteristics of “the 2010 special education curriculum” to embody "the support of general functional improvement of students with special educational needs" and reinforce their educational competence(Lee, Yeong Suk, 2012). It is explained that the revision direction of the basic curriculum of the revised 2011 special education curriculum was the support of sharing the same educational experience as students without disabilities, the reinforcement of the nature of curriculum education, the expanded support of individual student's demands, and the support of autonomous school curriculum(Yun, Gwang Bo, 2012, recited). The detailed revision direction is as follows.

First, it aimed to share the same educational experience as students without disabilities. Recently, it has been emphasized that students with disabilities should share the same educational experience as students without disabilities. For this, the curriculum was developed for 5 grade groups as in the general curriculum. The 5 grade groups included 1st-2nd, 3rd-4th, and 5th-6th grades of elementary school, 1st-3rd grades of middle school, and 1st-3rd grades of high school and the curriculum was developed in the way to maximize educational contents(Jeong, In Suk, 2012).

Second, it aimed to reinforce the nature of curriculum education in the structure of the basic curriculum. The sub-areas of the revised elementary · secondary curriculum were all reflected to develop educational contents suitable to the nature of each curriculum, and the curriculum which reflected curriculum characteristics was developed. The key point was to organize contents in consideration of the characteristics of students with disabilities at the maximum without straying from the nature of curriculum education.

Third, it aimed to expand the support of individual's demands in the organization of the basic curriculum.

A variety of special education elective subjects were created and basic and life-related contents were organized in all curriculums in consideration of the characteristics and levels of students with disabilities.

Fourth, the autonomous school curriculum was supported. If necessary, schools were allowed to increase or decrease class hours for each subject within the range of 20%. In the basic curriculum, schools were allowed to organize and operate elective

subjects by declining class hours within the range of 20%(Lee, Yeong Suk, 2012).

The elective subjects of special education were organized in the middle · high school basic curriculum to select a variety of curriculums according to school's educational needs and individual student's demands. 4 subjects('rehabilitation, leisure activities, the use of information and communication, and practical English') were organized in middle school. In high school, 'Rehabilitation, Leisure Activities, The Use of Information and Communication, and Practical English, Living Economy, Health, Rehabilitation & Welfare' were organized. 6 subjects except Rehabilitation & Welfare were newly established subjects. In middle school, elective subjects of 'Rehabilitation, Leisure Activities, The Use of Information and Communication, and Practical English' could be increased or decreased within the range of 20% of class hours for each subject. In high school, elective subjects(Rehabilitation, Leisure Activities, The Use of Information and Communication, and Practical English, Living Economy, Health, Rehabilitation & Welfare) could be organized and operated by using the selective subject hour(12 units) suggested in the unit allocation standards. Of them, 'Rehabilitation, Leisure Activities, The Use of Information and Communication, and Practical English' could be declined within the range of 20% of completion units for each subject(Lee, Yeong Suk, 2012).

To maximize the utilization of elective curriculum books(a textbook and a teacher's guide) in the school field, the following methods and opinions were discussed(Jeong, In Suk, 2012).

1) The elective subjects newly created should consider the allocation of special education teachers first. However, if the existing teachers are used, since the curriculum should be operated in accordance with a textbook or teacher's guide rather than teacher's major, local training for the methods to use the curriculum books of elective subjects should be provided.
2) The linkage and production of e-books of curriculum books is necessary to use on the Internet.
3) As the supplementary materials of basic curriculum textbooks, the supplementary materials and research results of elective subjects should be developed and distributed.
4) Contents by level and programs which can combine a variety of activities(activity materials) should be developed to promote the active participation of students with severe disabilities.
5) The situations of using elective subjects students need most in the school field should be investigated and researches on newly created subjects should be conducted. (e.g., excellent cases of the application of curriculum books to the school field, operation of experimental and research schools for curriculum books,

etc.)

6) Subdividing contents format of elective subjects into middle school and high school will enhance the use of curriculum books in the field.
7) School circumstances should be created to enhance the use of curriculum books(e.g., modernization of special school science rooms).

2. The Demand to Develop Special Education Curriculum Books

Considering the revision backgrounds and contents of 'the revised 2011 special education basic curriculum', the demand to develop special education curriculum books is as follows(Jeong, In Suk et al., 2011).

First, the special education basic curriculum is required to develop curriculum books which can share the same educational experience as students without disabilities. The subject curriculum of 'the revised 2011 special education basic curriculum' establishes its first direction that students who have difficulties in participating in the common or elective curriculum of special education should share the same educational experience as students without disabilities. Thus, it is required to develop curriculum books in the way for individual students to choose by their demands by dividing five grade groups from the 1st grade of elementary school to the 3rd grade of high school and maximizing educational contents by grade group.

The students who have difficulties in participating in the common and elective curriculums of special education had more limited experience than students without disabilities because of more limited curriculum contents and curriculum books. It is established true that students with disabilities should have more experience than students without disabilities. However, it is difficult for students who have difficulties in participating in the common and elective curriculums of special education to share the same experience as student without disabilities because they were educated through curriculum textbooks which only consisted of three levels(I, II, and III) because of the common and elective curriculums of special education which consist of three levels(I, II, and III). While educational contents included in curriculum books can be seen as the minimum standard for all students to study, textbooks for special education basic curriculum have been developed in the maximum standard that presents educational contents students should experience at the maximum. Therefore, the curriculum books of special education basic curriculum should be developed to maximize educational contents by grade group and choose according to individual student's special needs to help students who have difficulties in participating in the common and elective curriculums of special education share the same experience as student without disabilities(Jeong In-Suk et al., 2011).

Second, the special education basic curriculum is required to develop curriculum

books which can reinforce the nature of curriculum education. The subject curriculum of 'the revised 2011 special education basic curriculum' establishes one major revision direction of helping students who have difficulties in participating in the common and elective curriculums of special education have access to education suitable for the nature of subject. The curriculum books of special education basic curriculum should revise educational contents not suitable for the nature of subject in according with this revision direction, and be developed to include all sub-areas of 'elementary · middle · high school curriculums' announced in September 2011 in accordance with 'the revised 2009 national curriculum in elementary · middle schools' by each subject(Jeong, In Suk, et al., 2011).

In response to such demands, the curriculum books of special education basic curriculum revise educational contents not suitable for the nature of subjects and include all sub-areas of 'the revised 2009 national curriculum in elementary · middle schools' by each subject. In reality, the nature of curriculum education is difficult to represent only with contents of some areas. All contents of areas are combined to organize one curriculum and represent the nature of the curriculum. However, some curriculums of 'the revised 2008 special education basic curriculum' only consisted of some areas. For example, its mathematics only consisted of some sub-areas of mathematics for general education. Therefore, textbooks for 'the revised 2011 special education basic curriculum' should be developed to include all sub-areas of 'the elementary · middle schools curriculum'(Jeong, In Suk, et al., 2011).

Third, the special education basic curriculum is required to develop curriculum books which can expand the support of individual student's needs. The subject curriculum of 'the revised 2011 special education basic curriculum' was revised to contain basic and functional contents other than basic contents which are the kernel of general subjects, and in the way of the dual curriculum of general and elective courses to expand the support of individual student's needs. To reflect the kernel of revision, its curriculum books should be based on a basic principle of respecting students' individual difference and accepting diversity. After establishing the kernel for each subject as basic contents, curriculum books developed should include key contents necessary to learn basic contents of a relevant grade group and functional contents related to key contents. Moreover, dual curriculum books of general and elective courses should be developed as in the curriculum. In reality, it is certain that the special demands of students with special needs who have difficulties in participating in common and elective curriculums for special education are not homogeneous but heterogenous. It means that although the curriculum of the special education basic curriculum is revised, some students with severe · multiple disabilities cannot participate substantially because their needs are very different. Therefore, the

curriculum books of 'the revised 2011 special education basic curriculum' should be developed for both general and elective courses for all students with special needs to get education suitable for their own special needs(Jeong, In Suk, et al., 2011).

Fourth, the special education basic curriculum is required to develop curriculum books which can support autonomous school curriculums. The subject curriculum of 'the revised 2011 special education basic curriculum' establishes the direction of autonomous school curriculums. Considering this direction, the curriculum books should be developed to expand educational contents to strictly increase 20% of class hours for each subject by subject · grade group and the curriculum books for elective subjects should be also developed. Special education that makes individualized education as its principle is difficult to fulfill individualized education suitable for individual student's needs in the uniform and unified school curriculum system and operate the curriculum suitable for school circumstances. The autonomous operation of curriculum is a strategy and tool to support individualized education suitable for individual student's needs and the curriculum suitable for school circumstances in special education. Therefore, the curriculum books for 'the revised 2011 special education basic curriculum' should expand educational contents to strictly increase 20% of class hours for each subject and support the autonomous organization · operation of unit school curriculum by developing curriculum books for all elective subjects(Jeong, In Suk, et al., 2011).

3. The Methods to Develop Special Education Curriculum Books

Special education curriculum books should be based on the open view rather than the closed view and the experience-focused view rather than the contents-focused view, and focused on flow rather than thoroughness and providing materials rather than explaining in accordance with 'the revised 2011 special education curriculum'. The improvement focus of special education curriculum book format according to its direction is as follows(Jeong, In Suk, 2012).

1) The improvement direction and focus of the special education curriculum book format

First, for the improvement of the open curriculum book format, special education curriculum books will be compiled in the form of a workbook operated and constructed by students' direct participation and divided into 5-grade groups from the 1st grade of elementary school to the 3rd grade of high school. They will also maximize educational contents by grade group for students to choose their individual needs and be dualized into general and elective books for students with severe · dual disabilities to choose elective books. Moreover, they will expand educational contents

for easy increase or decrease in class hours for each subject within the range of 20% by subject · grade group and consider individual student's literacy and cognitive levels by grade(Jeong, In Suk, 2012).

Second, for the improvement of the experience-focused curriculum book format, special education curriculum books will be focused on experience made within the range of life appropriate for the needs of students with special needs and appropriate activity, strategies, and procedures. They will also select kernel contents all students should learn from each grade's curriculum of elementary · middle schools as key contents and substitute alternative contents for them, include basic contents sufficiently other than key contents of general subjects, and discriminate the percentage of key and basic contents by grade(Jeong, In Suk, 2012).

Third, for the improvement of the flowing curriculum book format, special education curriculum books will ensure subject connection and meet the delivery system of individualized educational plan. Moreover, they will support parents' educational participation(Jeong, In Suk, 2012).

Fourth, for the improvement of the curriculum book format to provide materials, special education curriculum books will suggest a variety of materials on the characteristics, goals, contents, methods, and evaluation of each subject. They will also support curriculum-centered evaluation and provide a variety of materials for contents and activity using e-books(Jeong, In Suk, 2012).

2) The improved model of the special education curriculum book format

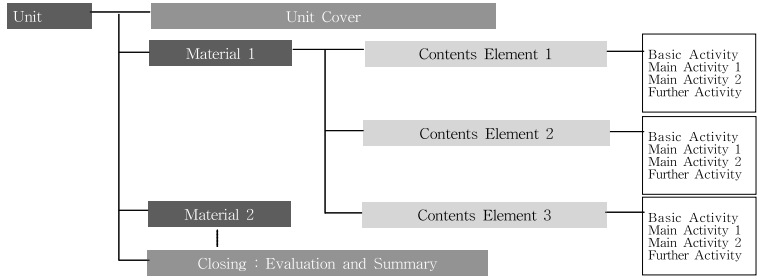
The curriculum book format means a physical factor which consists of curriculum books. It can be divided into an external format which is a hardware and an internal format which is a software. The external format forms the standards and frame of curriculum books and the internal format guides the teaching · learning contents of curriculum books(Heo, Gang et al., 2005).

A. The improved model of the textbook format

The textbook format is divided into an external format such as a format, paper quality, a style of type, a size of letters, chromaticity, and a number of pages and an internal format such as contents. The transformed B5 format(257㎜×210㎜) that is bigger than a B5 format will be used for special education textbooks for the 1st-2nd, 3rd-4th, and 5th-6th grades of elementary school to secure sufficient blanks other than texts, photos, and illustrations for an easy view and wide open visuals. On the other hand, a B5 format(257㎜×177㎜) that is familiar with students will be used for special education textbooks for the 1st-3rd grades of middle · high schools. White of snow white 100g/㎡ for text's quality of paper and a silky mette laminated cover

added by silver foil will be used. Considering students' development characteristics, the size of text letters will be 15 point for the 1st-2nd, 3rd-4th, and 5th-6th grades of elementary school and 13 point for the 1st-3rd grades of middle · high schools. The percentage of suggesting realistic images will be increased and the proportion of illustration and photos will be properly adjusted. The type area will be over 75% and some pages of cover or introduction will be increased to 100%. The pages of text including an appendix will be based on 200 and are allowed to increase or decrease within the range of 20%(from 160 to 240) according to class hours. The pages of appendix will be around 10% of the text. The transformed column will be used for text materials but interesting column formats should be used rather than uniform ones. Unsewn binding in fascicles such as 'A' and 'B' by grade group will be used. The type area will consist of a cover, the inside, a title page, a table of contents, and appendix. Editing will ensure diversity according to the characteristics of each subject, be appropriate for the heightening of aesthetic effects, motivation, and study contents, and have some blanks for students to write directly or incomplete pictures for students and teachers to complete(Jeong, In Suk, 2012).

The internal format of special education textbooks will be compiled to select a variety of contents elements to embody a human image sought by the national special education curriculum and focus on experience to attain curriculum goals and support students' individualized education in consideration of their individual difference. Contents elements which can connect between grade groups in curriculum goals and contents will be selected, and study contents and methods and contents suitable for a hierarchy and a format based on certain logic will be selected. Units will be developed in knowledge information, activity, and mixed types according to the characteristics of each subject. Moreover, considering the needs and characteristics of students with special needs, units will be provided in the form of activity-focused workbook which reveals a hierarchy of contents with daily materials and experience and offers the chapters for painting, touching, and manipulating. The main courses of developing units will consist of a study task guide, presentation of study contents, application and supplement of study contents, evaluation, and summary and review. Deduction, induction, and combination will be appropriately applied to unfold textbooks according to the characteristics of each subject or unit. Sentences will be stated in spoken language, use explanations, indications, and questions, diversify the kinds of questions, actively apply questions helpful for paradigm shift and thinking expansion, and present questions by the materials and forms closely associated to students' experience(Jeong, In Suk, 2012). The examples of presenting unit contents organized by this internal format are shown in Figures.



※Material 2, 3, 4, 5, and 6 are also constructed as in Material 1.

<Fig. 1> The example of presenting unit contents

Source: Jeong, In Suk(2012). The Methods to Apply the Revised 2011 Special Education Curriculum and Special Education Curriculum Books. p27

Step(Hours)	Lesson and Details
Introduction (Ten minutes)	Introduction by period, motivation, and today's topic for basic and main level students
Development (25 minutes)	Basic / Main 1 / Main 2 / Further ■ Focused on Main 1 and 2, →Low-level students learn basic contents. →Students who complete Main 1 and 2 learn a further course ※Contents of Time 1 learned by basic and main-level students seek for generalized contents to experience subject activity in the same and practical context.
Closing (5 minutes)	Summary and evaluation of contents

<Fig. 2>The example of developing lessons

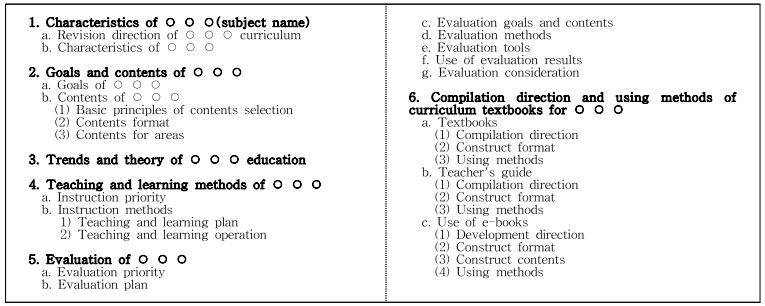
Source: Jeong, In Suk(2012). The Methods to Apply the Revised 2011 Special Education Curriculum and Special Education Curriculum Books. p27

B. The improved model of the teacher's guide format

A B5 format(187㎜×257㎜), pale yellow 80g/㎡ of text quality of paper, quadruple color printing for high readability, and 11 point of text letters will be used for the special education teacher's guide. Quadruple color printing will be used for illustration, if necessary, the type area will be around 65%, and the number of pages will be 500 but be allowed to increase or decrease within the range of 20% according to class hours. But the general part will be organized around 50 pages and the special part that is a practical guide will be organized over 1.5 pages per 1 textbook page. While the general part will consist of the whole page, the special part will consist of two columns using unsewn binding and its type area will consist of a cover, the inside, a title page, a table of contents, and appendix(Jeong, In Suk, 2012).

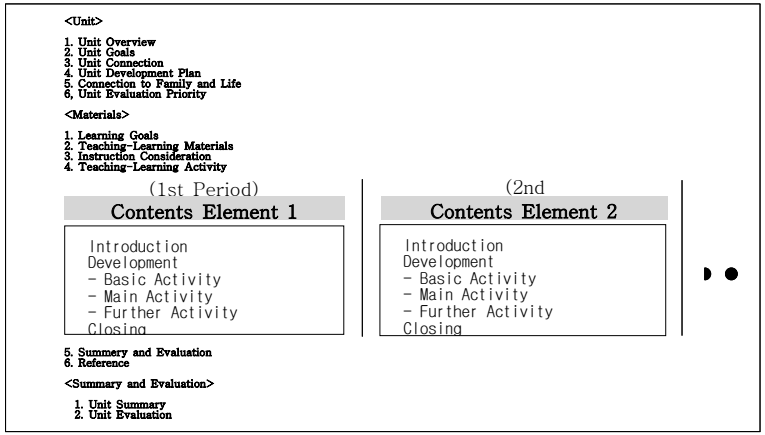
The examples of presenting the general and special parts of teacher's guide organized by this internal format are as follows.

○ The General Part of Teacher's Guide



Source: Jeong, In Suk(2012). The Methods to Apply the revised 2011 Special Education Curriculum and Special Education Curriculum Books. p29

○ The Special Part of Teacher's Guide



Source: Jeong, In Suk(2012). The Methods to Apply the revised 2011 Special Education Curriculum and Special Education Curriculum Books. p29

C. The development model of e-books

E-books will be developed for the special education curriculum books for the first time. 1 piece of DVD mounted with video, flash animation, image, diagram, sound source, PDF, PPT, HWP, and Excell files which assist or complement textbooks for each subject will be developed to support teachers and students' teaching · learning activity and improved teaching · learning methods using ICT. Video files will be

developed at more than 640×480 WMV and 1,500k bit rate which has good compression ratio and efficient Codec and can be executed in a smart phone, file frame speed will be more than 30fps, audio Codec will be developed in Windows Media 9, 32kbps, and 44kHz, video Codec will be developed using Windows Media Video V9, video resolution will be 1024×768 with over 20 MB at the minimum based on 60 seconds, image resolution will be more 1280×1024, a screen will be constructed by variable screen size, and one and more contents-related images and sound sources will be developed for each learning material in the compilation committee or abstracted from outside materials(Jeong, In Suk, 2012).

IV. Conclusion

The revision direction of the 2011 special education curriculum, relevant development demands of special education curriculum books, and development methods for special education curriculum books carried out currently are as follows.

First, the revision direction of the 2011 special education curriculum is to support sharing the same educational experience as students without disabilities, enhance the nature of curriculum education, expand individual student's needs, and support autonomous school curriculum.

Second, for the development demands of special education curriculum books, the special education basic curriculum is required to develop curriculum books to support students with special needs to share the same educational experience as students without disabilities. It is required to develop curriculum books to enhance the nature of curriculum education. It is required to develop curriculum books to expand individual student's needs. It is required to develop curriculum books to support autonomous school curriculum.

Third, the improvement direction and priority of special education curriculum books will be compiled in the form of a workbook for students to directly participate, manipulate, and organize for the open curriculum book format and by 5 grade groups from the 1st grade of elementary school to the 3rd grade of high school.

The special education curriculum books will be improved to the experience-focused curriculum book format, to secure connection between subjects, and to meet the delivery format of an individualized education plan. Also, the special education curriculum books will be improved to the textbook format providing materials.

Fourth, the textbook format is divided into an external format such as a format, paper quality, a style of type, a size of letters, chromaticity, and a number of pages and an internal format such as contents.

Curriculum books have functions related to a curriculum, learners, and teachers.

They should embody philosophy and educational goals pursued by the curriculum in connecting with the actual educational field. The philosophy and educational goals pursued by the curriculum are social ideals and value required at that time. The social ideals and value should be delivered and embodied through curriculum books. Therefore, curriculum books should have functions of delivering and embodying value pursued by the curriculum. Moreover, they should enhance students' desires to learn and motivation in relation to learners, suggest study goals achieved by students, introduce and connect real world and body of knowledge on the real world as content elements to form necessary knowledge, functions, and attitudes, guide learning process and procedures, provide means of learning such as materials and methods, and offer evaluation materials for results of learning. Also, they should offer methods and procedures necessary for teachers to design, construct, operate, and evaluate lessons and become a medium to connect students with teachers. Therefore, curriculum books which can embody such functions can be sad good and high quality curriculum books(Jeong, In Suk, 2011). The curriculum books should be developed to apply all improved methods of the curriculum book format of the revised 2011 special education basic curriculum and reborn to give psychological stability to both teachers and students. As discussed earlier, the development of special education curriculum books is very smaller in the number of kinds and books than general education curriculum books. It is very necessary to develop special education curriculum books to secure educational equity, offer additional resources, and expand the number of kinds and books.

References

The Korea National Institute for Special Education(2010). Special Education White Paper. Yunil Culture Co. Ltd.

Kim, Hui Jeong(2011). A Study on Perception of Teachers in Special School for Students with Intellectual Disability on Art Textbook Format and Contents. Doctoral Dissertation, Daegu University.

Lee, Yeong Suk(2012). The Understanding of the 2011 Special Education Curriculum. The Field Using Seminar for the 2011 Special Education Curriculum(pp.11-19). Gyeonggi: The Korea National Institute for Special Education.

Yun, Gwang Bo(2012). The Understanding of National-Level Special Education. Special Teachers' Training of Leaning Instruction (pp.63-71). Jeonnam: Jeollanam-do Educational Training Center.

Jeong, In Suk(2011).「The Revised 2011 Special Education Curriculum」and Methods to Apply Special Education Curriculum Books. A Seminar on the Using of Revised 2011 Special Education Curriculum and the Korea National Institute for Special Education Materials(pp.11-18). Gyeonggi: The Korea National Institute for Special Education.

Jeong, In Suk et al.(2011). A Study on the Improvement of the Special Education Basic Curriculum Book format. Gyeonggi: The Korea National Institute for Special Education

Jeong, In Suk(2012). The Revised 2011 Special Education Curriculum and Methods to Apply Special Education Curriculum Books. The Revised 2011 Special Education Curriculum. A Seminar on the Using Special Education Curriculum Books in the Field(pp.14-31). Gyeonggi: The Korea National Institute for Special Education.

Heo, Gang et al.(2005). A Study for the On-demand Improvement on a Textbook's External Format according to Changes in Curriculum. Korean Textbook Research Foundation.

The Methods to Develop Curriculum Books according to the Recent Revision of the Special Education Curriculum of Korea

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The curriculums for students with special needs have revised several times. This study examined the revision direction of the 2011 special education curriculum, relevant development demands of special education curriculum books, and methods to develop special education curriculum books promoted at present. The results of study are as follows.

First, the revision direction of the 2011 special education curriculum is to support sharing the same educational experience as students without disabilities, enhance the nature of curriculum education, expand individual student's needs, and support autonomous school curriculum. Second, for the development demands of special education curriculum books, the special education basic curriculum is required to develop curriculum books to support students with special needs to share the same educational experience as students without disabilities. Third, the improvement direction and priority of special education curriculum books will be compiled in the form of a workbook for students to directly participate, manipulate, and organize for the open curriculum book format and by 5 grade groups from the 1st grade of elementary school to the 3rd grade of high school. Also, the special education curriculum books will be improved to the textbook format providing materials. Fourth, the textbook format is divided into an external format such as a format, paper quality, a style of type, a size of letters, chromaticity, and a number of pages and an internal format such as contents.

It is very necessary to develop special education curriculum books to secure educational equity, offer additional resources, and expand the number of kinds and books.

key words : Curriculum, Special Education, Curriculum Books

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Operation Conditions and Demands of Integrated Class of Children with Disabilities Following by the Operation of Noori Curriculum for the age of 5

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I. Introduction

1. Purpose and Necessity of Research

Early childhood is the period that ability of cognitive, emotional, social areas formed concentrically. Specifically, in the case of estimating the same cost of investment on each life stage, it has been reported that recovery rate of investment on human resources was the highest in the period of early childhood. In terms of strengthen responsibility for 5 year old child's education and care of country, we Korea developed Noori Curriculum for the age of 5 and provide same curriculum both Child care and educational institutions, regardless of family income, since March, 2012. For the implementation of Noori Curriculum for the age of 5, Commentary, guidelines, instructions, etc. of Noori Curriculum for the age of 5 were developed·distributed and teacher assembled training·remote training were conducted as on-site support.

Teacher assembled training was conducted 15 hours. general theory of Noori Curriculum for the age of 5 and helping comprehension of 5 particulars. Eemote training was conducted 30 hours, 15 hours for basal process and 15 hours for intensive course. Basal process was mainly retraining main content of the teacher assembled training, and intensive course was conducted into the education of development of the age of 5 infant and basic principles, operating the actual, parent education and counseling.

Kindergarten and nursery since 2009, a coalition of support for children with disabilities and according to prohibits denial of admission to 'non-discrimination and the right remedy for Disability' Act applied, the integrated education is increased significantly in the kindergarten and nursery.(Ministry of Education, Science and Technology; Kim, 2001; Kim, 2012; Kim, 2012). In this way, more and more disability infants in the scene of education and care have precedent condition for effective integrated care and education, even if integrated into general agencies and educated

and received care services. Among the condition, taking into consideration that people who are and frequently the most direct participating in the infant education is a teacher, competent teacher may be the most important factor in the operation of infant education programs(Goh, 2007). For this reason, the role of the teacher in charge of the integrated class is important, more than anything else for operation of integrated education successfully. In the procedure of an education, early childhood teachers should do many decision-making that educational content and teaching methods, etc., by own judgment, and these decisions have a significant impact on the quality of integrated infant education programs.(Oh & Kang, 2002 ;Choi, 2004). In the process of decision-making by early childhood teachers of integrated class, particularly awareness and attitude of early childhood teacher's have impact on his judgment, planning and execution so this is very important role in determining the direction of integrated infant education and care programs. And perceptions and attitudes of early childhood teacher of integrated class are affected by financial-administrative support related to integrated education. In this context, claims have been raised that support for integrated education of children with disabilities is in necessary, as one of the necessary financial-administrative support to early childhood teacher, at the time implementing Noori Curriculum for the age of 5 and Noori Curriculum for age of 3 to 5 that will developed · operated later(Kim & Doh & Joh & Joh, 2011). However, in the implementation of early childhood education at the national level that Noori Curriculum for the age of 5, It is a real state that almost no guidance on program and systemic operational support for the integrated infant care and integrated education of children with disabilities. Therefore, teachers have a lot of hardships such as previous curriculum, to educate and to care children with disabilities(Kim, 2012). In other words, teachers are placed on same condition as before Noori Curriculum conducted, because the lack of financial-administrative support and lack of recognition and support of director, lack of expertise, the difficulty on operating curriculum, difficulty on collaborative approach among teachers, difficulty on the parent support, ect.(Lee & Joh & Choi & Lee & Won & Kim, 2006) in the scene.

Most class teachers in Korean early childhood education and child care institutions are majored in general early childhood education or infant care. Now the curriculum being conducted for teacher training in Korean, Special educatiors mainly educated on special education, early childhood teacher mainly educated on normal children. Therefore, these conditions can be disturbance of the successful integrated education. So it suggests that pre-education and job training should be vigorously carried out to improve early childhood teacher's expertise on special education and

understandings on special education. Especially at the point of Noori Curriculum for the age of 5 implementation, contents of disability integration on related training, guidance, commentary are insufficient. In other words, at point of increasing responsibility and psychological burden of teachers who are responsible for integrating disabled children, providing direction of teaching, guidance on education and related support for teachers may be necessary for successful operation of Noori Curriculum for the age of 5. In this study, according to implementation of 2012 Noori Curriculum for the age of 5, survey operation conditions of integrated class of children with disabilities in kindergarten and nursery, and going to survey the demands of teachers on site.

2. Questions

Question 1. What is the Status of integrated education of children with disabilities, by enforcing Noori Curriculum for the age of 5?

Question 2. What is the demands of the teachers who operates integrated class of children with disabilities in Kindergarten and nursery, by enforcing Noori Curriculum for the age of 5?

II. Research Methods

1. Subjects

This study purposed to survey conditions and demands of operating integrated class of children with disabilities, by enforcing Noori Curriculum for the age of 5. The survey and analysis were conducted into class teachers from integrated class of 5years old or teachers completed special education related job training, Noori Curriculum training, from institutions with integrated class, 34 nurseries and 24 kindergartens, Jeollanam-do.

2. Research Instruments

The questionnaire used in this study was consisted with appropriate question for this study, to know conditions and demands of operating integrated class of children with disabilities, following by enforcing Noori Curriculum for the age of 5. And each questions are based on previous studies(Lee, 2011; Jeon, 2009; Hong, 2005) and references(Kang, 1997; Kim & Lee, 1997; Kim, 1995; Lee, 2007; Choi, 1995). The final questions were selected by modifying and supplementing the first selected questions through discussions with special education professionals.

<Table 1> Contents of questionnaire

Domain	Contents of questionnaire	Num
Operating Noori Curriculum	Consideration for integrated education, Ease of operating integrated education, Teach acceptance attitude of normal infants for children with disabilities, Appropriate teaching · learning strategies and evaluation, Parent Education Program for the operation of an integrated class , Maintain consultation and cooperation with external experts, Provide organizing · operating instructions about information and curriculum, Help with guidelines related implementing of Noori Curriculum, Support necessary for planning and operating, Teaching materials supported field, Fields that need assisstance of early childhood special educators.	13
Teacher Efficacy	Teaching strategies, Diagnosis and evaluation skills, Ability to observe, Ability to configure the appropriate environment, Cooperation with parents, Cognition on related services, Ability to conduct IEP, Behavioral teaching skills, The ability to use communication strategies, Cognition on characteristic of disability, Required degree and numbers of training, Form of training, Support for foster professionalism, Training contents.	15
Physical-Environmental conditions after operating Noori Curriculum	Facilities and equipment for integrated education, The form and structure of the classroom, Responsive classroom environment configuration, Physical and social environmental factors related to implementation of integrated education.	16
Administrative and financial support after operating Noori Curriculum	Itinerant support, scholarship Map, Special funding or financial support for financial management, Improve facilities and equipment support, Support for teaching materials and teaching aids, Support conveniance facilities, Conduct an appropriate assessment, Consideration followed by taking charge of children with disabilities, Support for therapeutic education , Allowance for the class in charge, Support costs for teaching materials and teaching aids, Reduce business, Reduce number of infants per class, Parent Education Support.	14
Total		58

3. Research Procedure

The survey was performed from the 1^{st} to 15^{th} of September 2012. The questionnaires were distributed to 350 teachers of early childhood, working in nursery and kindergarten, located in Jeollanam-do. Questionnaires were mailed along with a letter and primary withdrawal, telephone contact and a second questionnaires sent where not withdrawed. 268 parts were used in this study actually, except 82 parts, missing or ambiguous response.

4. Data Analysis

The collected data was analysed with SPSS 19.0. T verification was carried out on the condition of operating integrated class in nursery and kindergarten, and Chi-square test and t verification was carried out to survey demands of teachers, follwing by the operation of Noori Curriculum for the age of 5.

III. Results

1. Operating Noori Curriculum

In the point of integrated education of children with disabilities get accomplished, the result of inspecting operation condition of Noori Curriculum in terms of condition of operating integrated classes, that appeared kindergarten got higher score than nursery. Both nursery and kindergarten mostly responsed sub-factor of operating Noori Curriculum.

<Table 2> Operation condition of Noori Curriculum

Sub Section	Facility Type	N	M(SD)	*t*
Total operation of Noori Curriculum	Kinder.	122	3.45(.50)	3.37**
	Nursery	146	3.25(.49)	
Do you think that the Noori Curriculum consider integration on education of children with disabilities?	Kinder.	122	3.79(.97)	3.40**
	Nursery	146	3.40(.87)	
Do you think that operating integrated education of children with disabilities got easier after implementing Noori Curriculum?	Kinder.	122	4.02(.74)	5.16***
	Nursery	146	3.53(.78)	
Guidance on improving normal children's attitudes of acceptance conducted actively after implementing Noori Curriculum?	Kinder.	122	3.60(.54)	2.11*
	Nursery	146	3.45(.63)	
Was the education of Noori Curriculum gave any help on providing appropriate teaching · learning strategies for Individual infant's disability type, extent, and characteristics	Kinder.	122	3.55(.60)	3.03**
	Nursery	146	3.29(.74)	
Was the education of Noori Curriculum gave any help on operating proper evaluation of children with disabilities?	Kinder.	122	3.51(.56)	1.53
	Nursery	146	3.39(.68)	
Was the education of Noori Curriculum gave any help for operating parents education program effectively?	Kinder.	122	3.00(.50)	-2.12*
	Nursery	146	3.16(.72)	
Does the Noori Curriculum maintaining continuous consultation and cooperation with external experts?	Kinder.	122	3.29(.72)	3.13**
	Nursery	146	2.99(.80)	
Information for integrated class education and organizing · operating instructions for curriculum have been providedenough do you think?	Kinder.	122	2.92(.75)	.21
	Nursery	146	2.90(.85)	
Relevant guidelines for implementing Noori Curriculum would be help in operation of integrated education do you think ?	Kinder.	122	3.41(1.02)	2.50*
	Nursery	146	3.12(.91)	

*p<.05, **p<.01, ***p<.001

Support needed to integrated education process plan is information to establish plan for annual classroom operation and education. These were in high demand.

<Table 3> Required support for planning integrated education process.

Necessary Support	Frequency(%)
Information support for annual classroom management plan and training plan	65(24.3)
Conduct training about integrated curriculum for preschoolers	35(13.1)
Support of general education teachers and special education teachers for planning the role	91(34.0)
Secure business hours for planning integrated education	67(25.0)
Develop and distribute activity kits of integrated education	10(3.7)
Total	268(100.0)

Support needed mostly for teachers to operate integrated education is information of integrated education process by continuous consultation and cooperation with external experts.

<Table 4> Support needed to operate integrated education for teachers.

Facility Type	Development · distribution of teaching materials and teaching aids	Teaching and Learning Strategies suitable for disability type, extent and other characteristics	Implement collaborated curriculum by early childhood special educators and general educators	Assist in times of implementing curriculum by placing special education assisstant	Integrated curriculum through countinuous consultation and cooperation with external experts	Total	X^2
Kinder.	25(20.5)	16(13.1)	11(9.0)	33(27.0)	37(30.3)	122(100.0)	23.23*** *df*=4
Nursery	21(14.4)	50(34.2)	19(13.0)	36(24.7)	20(13.7)	146(100.0)	
계	46(17.2)	66(24.6)	30(11.2)	69(25.7)	57(21.3)	268(100.0)	

***p<.001

Teaching materials and teaching aids were preferred to be supported for integrated education.

<Table 5> Assisstance desired field for teaching materials of integrated education

Facility Type	Teaching materials for educators	Teaching aids for activities (for activities of infants)	Total	X^2
Kinder.	14(11.5)	108(88.5)	122(100.0)	17.12*** *df*=1
Nursery	48(32.9)	98(67.1)	146(100.0)	
Total	62(23.1)	206(76.9)	268(100.0)	

***p<.001

Related to curriculum, inquiry about fields that need assisstance of early childhood special educators, most of the respondent answered wanting aid in learning materials by individualized education.

<Table 6> Related to curriculum, fields that needed assisstance of early childhood special educators

Necessary Support	Frequency(%)
Establish Individualized Education Plan	49(18.3)
Provide learning materials by Individualized Education	83(31.0)
Contents and methods for proper evaluation	13(4.9)
Diagnostic evaluation on the level of behavioral development	43(16.0)
Analysis, and instructional strategies for problematic behavior	70(26.1)
Instructional strategies for Social skills and lifestyle	10(3.7)
Total	268(100.0)

2. Teacher Efficacy

At the time of integrated education of children with disabilities taking place, result of the research about teacher efficacy, nursery got higher score than kindergarten, in terms of integrated class operation. Teacher efficacy got low level among sub factors, in terms of operating Noori Curriculum and managing integrated class.

<Table 7> Teacher efficacy

Sub Section	Facility Type	N	M(SD)	*t*
Total teacher efficacy	Kinder.	122	2.83(.71)	-2.91**
	Nursery	146	3.06(.61)	
Teaching strategies and modifications needed to support children with disabilities are easy to prepare and fulfill?	Kinder.	122	2.97(.83)	.15
	Nursery	146	2.95(.78)	
Did you know the effective way to diagnose and evaluate the children with disabilities?	Kinder.	122	2.68(.81)	-1.69
	Nursery	146	2.85(.83)	
Are you able to observe infant's learning of developmental skills and the desire effectively?	Kinder.	122	2.75(.79)	-3.75***
	Nursery	146	3.11(.76)	
Can you design the appropriate environment for needs of all infants, including children with disabilities?	Kinder.	122	2.95(.75)	- .83*
	Nursery	146	3.03(.76)	
Do you know the way to solve problem between parents or other family members, and how they make cooperation?	Kinder.	122	2.61(.81)	-4.36***
	Nursery	146	3.05(.84)	
Do you know the services provided by related professionals?	Kinder.	122	3.07(1.25)	- .58
	Nursery	146	3.14(.95)	
Do you know well about IEP, and operating this?	Kinder.	122	2.51(.67)	-5.49***
	Nursery	146	3.03(.85)	
Do you know the proper behavior guidance to make all infants, including children with disabilities, act positively?	Kinder.	122	2.88(1.03)	-1.69
	Nursery	146	3.07(.83)	
Are you inclusively using strategies to activate communication between children with disabilities and non-disabled infants ?	Kinder.	122	3.10(.78)	- .94
	Nursery	146	3.18(.73)	
Depending on the type of disability do you know the characteristics of children with disabilities?	Kinder.	122	2.74(.68)	-4.86***
	Nursery	146	3.18(.79)	

*p<.05, **p<.01, ***p<.001

Necessity of annual training for integrated education of children with disabilities appeared higher than 'normal'. They prefer on-line training, twice a year.

<Table 8> Degree of necessity of training for integrated education of children with disabilities

Facility Type	N	M(SD)	*t*
Kinder.	122	3.68(1.01)	-5.74***
Nursery	146	4.34(.87)	

***p<.001

<Table 9> Annual training frequency for integrated education of children with disabilities

Facility Type	None Necessary	Once a Year	Twice a Year	More than Three Times a Year	Total	χ^2
Kinder.	39(32.0)	17(13.9)	61(50.0)	5(4.1)	122(100.0)	39.86*** *df*=3
Nursery	20(13.7)	32(21.9)	51(34.9)	43(29.5)	146(100.0)	
계	59(22.0)	49(18.3)	112(41.8)	48(17.9)	268(100.0)	

***p<.001

<Table 10> Form of teacher training

Facility Type	Online Training	Offline Training	Combination (Online & Offline)	Total	χ^2
Kinder.	104(85.2)	13(10.7)	5(4.1)	122(100.0)	52.59*** *df*=2
Nursery	63(43.2)	38(26.0)	45(30.8)	146(100.0)	
계	167(62.3)	51(19.0)	50(18.7)	268(100.0)	

***p<.001

As an integrated education teacher, support needed to foster accountability and professionalism were job training and training costs.

<Table 11> Support needed to foster accountability and professionalism as an integrated education teacher

Facility Type	Job Training	Training Cost (Self Control Training)	Variety of Special Education trainings	Teaching and learning activities experienced conditions	Conditions of Studying in Early Childhood Special Graduate School of Education	et cetera	Total	χ^2
Kinder.	70(57.4)	37(30.3)	11(9.0)	0(0.0)	1(0.8)	3(2.5)	122(100.0)	43.96*** *df*=5
Nursery	38(26.0)	52(35.6)	28(19.2)	25(17.1)	2(1.4)	1(0.7)	146(100.0)	
계	108(40.3)	89(33.2)	39(14.6)	25(9.3)	3(1.1)	4(1.5)	268(100.0)	

***p<.001

Individualized education plan has appeared the most necessary content of integrated education.

<Table 12> Necessary contents related integrated education.

Facility Type	Understanding of early childhood special education subjects	Curriculum Revisal	IEP	System and Laws of Special Education	Methods of Teaching Lifestyle and Behavior	Teachers for Integrated Education Model	Diagnosis and Evaluation	교수-학습방법	Total	X^2
Kinder.	4(3.3)	0(0.0)	63(51.6)	4(3.3)	8(6.6)	1(0.8)	19(15.6)	23(18.9)	122(100.0)	30.31*** df=7
Nursery	1(0.7)	3(2.1)	44(30.1)	7(4.8)	33(22.6)	9(6.2)	17(11.6)	32(21.9)	146(100.0)	
계	5(1.9)	3(1.1)	107(39.9)	11(4.1)	41(15.3)	10(3.7)	36(13.4)	55(20.5)	268(100.0)	

***p<.001

3. Physical-Environmental Configuration after enforcing Noori Curriculum

In the point of integrated education of children with disabilities get accomplished, the result of inspecting Physical-Environmental conditions configuration in terms of condition of operating integrated classes, that appeared entirely 'normal' or 'insufficient' after enforcing Noori Curriculum.

<Table 13> Physical-Environmental conditions after enforcing Noori Curriculum

Sub Section	Facility Type	N	M(SD)	t
All the physical - environment configuration	Kinder.	122	2.89(.31)	-5.93***
	Nursery	146	3.21(.52)	
The improvement of the physical environment for integrated education, following by implementing Noori Curriculum?	Kinder.	122	2.96(.75)	-4.55***
	Nursery	146	3.41(.85)	
Does the nursery have an adequate area?	Kinder.	122	3.19(.41)	-6.48***
	Nursery	146	3.66(.72)	
Does the classroom configured as responsive environment?	Kinder.	122	3.66(.52)	.81
	Nursery	146	3.60(.68)	
Does the door there have proper width and structure that wouldn't have interfere on passage?	Kinder.	122	3.84(.61)	-.15
	Nursery	146	3.85(.78)	
All interior has been removed height difference of the bottom and configured prevent slipping?	Kinder.	122	3.63(.70)	.50
	Nursery	146	3.58(.89)	
Isn't there any difficulty on the interior of this nursery, for the access and vertical movement?	Kinder.	122	3.42(.79)	-1.30
	Nursery	146	3.56(.98)	
Doors opening hours were secured enough, considering the passage of wheelchair users	Kinder.	122	1.95(.75)	-8.59***
	Nursery	146	2.96(1.10)	
Outdoor play facilities are provided based on the developmental characteristics of infants and children with disabilities	Kinder.	122	2.21(.62)	-7.43***
	Nursery	146	2.97(.96)	
The kindergarten prepared well in visual, auditory to be able to find evacuation routes quickly in emergency?	Kinder.	122	2.89(.63)	-4.90***
	Nursery	146	3.35(.85)	
In an integrated environment, classroom location has determined by agreements, depending on the characteristics of children with disabilities?	Kinder.	122	2.96(.75)	-4.55***
	Nursery	146	3.41(.85)	

***p<.001

In the case of the demands for the physical environment, demand for all items were higher.

<Table 14> The demands for the physical environment

Sub Section	Facility Type	N	M(SD)	t
Entire demand on physical environment	Kinder.	122	4.47(.26)	6.80***
	Nursery	146	4.09(.56)	
Do you think that the entrance should be designed to be connected directly to the hall or large space to facilitate emergency disaster evacuation?	Kinder.	122	3.61(.69)	-2.81**
	Nursery	146	3.86(.75)	
Do you think there should be support for appropriate physical environment configuration in order to operate integrated education of children with disabilities?	Kinder.	122	3.90(.75)	1.04
	Nursery	146	3.81(.72)	
Do you think all the emergency bell and interphone should equipped and located in the reach of infants?	Kinder.	122	4.78(.42)	8.16***
	Nursery	146	4.00(.98)	
Do you think that the location of nursury should far from noise and pollution and secure cummuter line for infants?	Kinder.	122	4.80(.40)	7.61***
	Nursery	146	4.29(.65)	
Do you think the slides should installed parallel with out door stairs, preparing for emergency evacuation?	Kinder.	122	4.92(.28)	8.90***
	Nursery	146	4.28(.75)	
Do you think that braille block and guidance equipment should prepared for the visual impairments?	Kinder.	122	4.79(.49)	6.05***
	Nursery	146	4.32(.72)	

**p<.01, ***p<.001

4. Financial-Administrative Support After Enforcing Noori Curriculum

After enforcing Noori Curriculum, financial-administrative support appeared 'insufficient'.

<Table 15> Financial-administrative support after enforcing Noori Curriculum

Sub Section	Facility Type	N	M(SD)	t
Entire administrative · financial supports	Kinder.	122	3.22(.50)	8.77***
	Nursery	146	2.63(.57)	
For the efficient operation of an integrated classroom, is there proper administrative · financial support of early childhood special educators, such as circuit education?	Kinder.	122	3.68(.66)	8.12***
	Nursery	146	2.82(1.01)	
Do you think the administrative · financial support for class of integrated education of early childhood education is enough?	Kinder.	122	3.47(.71)	7.81***
	Nursery	146	2.70(.87)	
For the operation of an integrated classroom, special funding or financial support for financial management do you think this is enough?	Kinder.	122	3.50(.61)	7.39***
	Nursery	146	2.84(.81)	
To improve the facilities and equipment, state and local governments have enough financial support do you think?	Kinder.	122	3.53(.62)	8.89***
	Nursery	146	2.80(.71)	
Materials that can be used in the field are fully supported different from the type of disability?	Kinder.	122	3.56(.76)	8.13***
	Nursery	146	2.75(.85)	
Is there support for entire convenience facilities by selection with a certain level of authority(link with accreditation System)?	Kinder.	122	3.48(.61)	4.69***
	Nursery	146	3.05(.84)	
To improve the quality of integrated education of children with disabilities, evaluation and assessment methods are developed?	Kinder.	122	3.25(.98)	2.21*
	Nursery	146	3.01(.86)	
Were there any consideration for taking responsibility on children with disabilities from nursery (Kinder.)? -such as class size reduction, reduced workload-	Kinder.	122	1.28(.45)	-3.61***
	Nursery	146	1.11(.31)	

*p<.05, ***p<.001

Total score of demands on financial-administrative support, both kindergarten and nursery were higher after enforcing Noori Curriculum.

<Table 16> Demand on financial-administrative support after enforcing Noori Curriculum

Sub Section	Facility Type	N	M(SD)	t
The entire demands on administrative · financial support	Kinder.	122	4.81(.34)	7.27***
	Nursery	146	4.32(.67)	
From special education professionals, services on treated education activities according to the characteristics of children with disabilities would provided you want?	Kinder.	122	4.70(.63)	6.03***
	Nursery	146	4.18(.75)	
As like teachers of special classes, allowance for instructing children with disabilities should paid to teachers of integrated classes, you want?	Kinder.	122	4.70(.64)	4.50***
	Nursery	146	4.28(.85)	
Offer teaching materials and teaching aids in direct or secure the purchase price for children with disabilities in integrated class, do you want?	Kinder.	122	4.81(.43)	6.37***
	Nursery	146	4.32(.75)	
Considering be in charge of integrated class, other works, except classroom work, would be reduced, do you want?	Kinder.	122	4.85(.40)	6.65***
	Nursery	146	4.31(.83)	
In case of integrating children with disabilities, hoping to reduce the total number of students per class would you like?	Kinder.	122	4.88(.38)	6.23***
	Nursery	146	4.34(.90)	
Support on systemic parents training of national level for parents of integrated class sould provided, you think?	Kinder.	122	4.93(.31)	6.69***
	Nursery	146	4.51(.64)	

IV. Discussion

According to implementation of Noori Curriculum for the age of 5, discusssion based on the results of data analysis that the operation conditions and needs of kindergarten and nursery integrated class with disability is as follow.

First, at point of integrated education of children with disabilities is done, the result of an operation condition of Noori Curriculum on the side of operation condition of integrated class, appeared the level of 'normal', on the side of operating Noori Curriculum and integrated class, teacher's teaching efficacy appeared low level. At point of integrated education of children with disabilities is done, a physical-environmental configuration on the side of operating integrated class appeared level 'normal' or 'insufficient' after Noori Curriculum implementation, financial-administrative support also appeared level 'normal' or 'insufficient' after Noori Curriculum implementation. In other words, these although results that free, compulsory education of infant with disability has started before Noori Curriculum implementation, It can be seen on the results that are not considered infant with disability from the early stages of Noori Curriculum policy development.

Second, according to implementation of Noori Curriculum, the results of need of teacher for operating of kindergarten and nursery integrated class with disability infant has shown that, both kindergarten teachers and nursery teachers had demand on 'Support of general education teachers and special education teachers for planning

the role', and teaching material for integrated education needs 'teaching materials and teaching aids for activities' most. On side of teacher's efficacy, early childhood teachers need 'training related with integrated education' and hope 'twice a year', 'form of online training'.

Demand on all items of physical environment appeared high, after implementing Noori Curriculum, the same items of administrative·financial support. So, administrative ·financial support is needed for implementation of Noori Curriculum, considering children with disabilities, the subject of compulsory education.

Based on the results of this study, we suggest for future studies as follows, to be any help on applying and operating on site.

First, this study targeted infants of partial area only, so follow up studies with targeting infant in different region should be conducted.

Second, this study surveyed conditions and demands by questionnaire, so further studies with concreteness should be done, with direct observance or interview with teachers.

Third, administrative·financial support for operating Noori Curriculum for all children in early childhood, include children with disabilities should be done.

Fourth, this study has done in the beginning of Noori Curriculum for the age of 5, so further study is needed after the operation of Noori Curriculum for age of 3 to 5.

References

Kang, Hak Goo(1997). Special Lecture on Special Education. *Seoul: Publication of Special Education.*

Goh, Eun Soon(2007). The Study on the Perception And needs of Directors Child-Care of Private on the Inclusive Child-Care System of Young Children with Developmental Delays. *Graduate School of Special Education, Dankook University.*

Kim, Mi Keong(2011). Physical-Environmental conditions of nursery school providing integrated care service for disabled children and its improving methods. *Graduate School of Chonnam National University*

Kim, Eun Yeong · Doh, Nam Hwi · Cho, Eun Kyung · Cho, Hye Joo(2011). Improvements of managing personnel for improving the quality of care support services. 2011-11. *Seoul: Child Policy Research.*

Kim, Won Kyung(1995). Policy challenges and measures on integrated education. *Journal of Special Education, 16*(2), 33-40.

Kim, Jeong Kwon · Lee, Yoo Hoon(1997). Support system for students with disabilities in general classes. *Ansan: Korea Institute for Special Education.*

Oh, Sun Young · Kang, Byeong Jae(2002) A study on the differences of early childhood teacher's role perception and role performance according to levels of the educational belief of children-centered. *The Journal of Korea Open Association for Early Childhood Education, 7*(2), 155-184.

Lee, Byung In(2011). *Understanding of early childhood special education.* Yongin: Publishing department of Dankook University.

Lee, So Hyun · Cho, Yoon Kyoung · Choi, Yoon Hee · Lee, Soo Jung · Won, Jong Lye · Kim, Soo Jin(2006). A Qualitative Inquiry on the Initiation and Implementation of Inclusive Programs for Young Children with Special Needs. *Korean Journal of Special Education. 41*(1), 253-281

Jun, Han Na(2009). Analysis on the Reconition and the Present Condition of Inclusive Education for Children with Special Needs between Child-Care and Education Teacher and Early Childhood Education Teacher. *Graduate School of Child Care and Education, Korean Bible University*

Choi, Mi Sook(2004). A Study of the Educational Beliefs of Early Childhood Teachers According to Career and Type of Institute. *The Korean Society for Early Childhood Education. 24*(1), 29-47.

Choi, Hwan Ho(1995). *Study of a Special Class Operational Improvements.* Ansan: Korea Institute for Special Education.

Hong, Mi Kyung(2005). Currenent Status of Inclusive Educational Supports and Needs among Public Kindergartens for Young Children with Special Needs in Gyungki-do. *Graduate School of Education, Kongju National University*

Operation Conditions and Demands of Integrated Class of Children with Disabilities Following by the Operation of Noori Curriculum for the age of 5

YOON Youngmin

This study is expected to provide basis of planning and operating integrated class of children with disabilities desirably, following the operation of Noori Curriculum, for early childhood children, by analysing operation condition of integrated class of children with disabilities and surveying required supports of teachers of kindergarten and nursery. 268 parts of questionnaires were distributed to teachers of 5years old class in nurseries and kindergartens of Jeollanam-do, who completed training of Noori Curriculum and integrated education. In conclusion, first, operation condition of Noori Curriculum for the age of 5 was relatively normal or insufficient. Second, demands of teachers for integrated education were 'learning materials for activity' and 'Online training' for 'twice a year'. Suport of physical-environtental condition and administrative·financial were the most required, so considering this conditions and demands, development and operation of Noori Curriculum is in necessary.

key words : Noori Curriculum for the age of 5, Integrated Education of Children with Disabilities

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The effect of tea ceremony education on children's prosocial behavior

Bethania Preschool WOO Jaeun

Ⅰ. Introduction

1. The need for research

The population of our society has increased a lot, and social values, ethical beliefs, and the structure and function of family has changed a lot resulting from the rapid economic growth and the change of industrial structure. Egoism, loss of community spirit, and moral paralysis have worsened, resulting in the increase of juvenile delinquencies and deviations like teenagers' running away from home, bullying, thefts, and committing suicide. These phenomena have been expanded to not only teenagers, but also young age groups, thus the prosocial behavior education activities are urgently needed.

All the basics of one's personalities are formed and the basic making relationships with others starts in the early childhood. However, because of industrialization, increasing nuclear families, and the decrease of the number of siblings, the opportunities for young children to build relationships with others have reduced, while the time children spend playing with computers is increasing.

In this context, current standard child care process suggest the purpose of personality education, which is among 6 living areas ; basic living, social relations, communication, study of nature, and art experience, in social relation area as 'raising self respect, understanding own and others' feelings and expressing them, and having interest in social phenomena surrounding oneself.' Especially, it emphasizes that understanding our country's culture and establishing our identities are the basis for understanding and respecting other countries in 21c globalization.

Tea ceremony education means learning tea(茶) and manners(禮節) together and tea ceremony not only refines oneself and the other, allow one to habituate the traditional manners, and have people experience various cultural lives(Kim hee ja, 2004), but also let people experience correct behaviors(九容), correct attitudes of mind(九思), filial duty(孝敬), and home education(家教) first hand(Jung. hae eun · Kim jung sin · Cho hui jin, 2004). The children's abilities to percept and control their feelings improves through these tea ceremony education while brewing and drinking teas by themselves and meditating(Ko hyun ju, 2006). The interpersonal skills to appreciate other friends' difficulties and feelings and behave properly improve as they appreciate

other friends' minds and feelings.

Some recent researches about children tea ceremony education(Kim soon im, 2005; Kim hyun ran, 2010; Yeo sang in, 2006; Youn ae ra, 2002; Jung young suk, Kim in suk, 2001; Jung chang sun, 2007) reported that the tea ceremony education positively affected basic lifestyles and prosocial behaviors. However, the researches in integrated early childhood education centers are insufficient. Therefore, this research aims to carry out the tea ceremony education which is judged to be helpful to improve prosocial abilities of not only children with disabilities but also normal children and to investigate its effects.

2. research questions

Following is the research questions to accomplish the purpose of this research.

· What effects tea ceremony education programs have on the prosocial behaviors of children in integrated classes?

Ⅱ. Research Methods

1. research subjects

The subjects of this researchare the 36 5 year-old children of B child-care institution in Y city, Jeonnam ,and of D child-care institution in D-gu, Incheon who are not. The result of the T-verification to investigate the age-specific homogeneity of prosocial behavior development of the experimental group and the control group is shown in the following table, <Table 1>.

<Table 1> comparison of the average age of subject children

division	*N*	sex		age		*t*	*p*
		boy	girl	*M*	*SD*		
experimental group	18	10	8	71.00	3.76		
control group	18	9	9	70.67	2.64	.308	.760
total	36	19	17	71.25			

The result of the T-verification to investigate the homogeneity of prosocial behavior development of the experimental group and the control group is ihown in the <Table 2>.

<Table 2> a result table of the preliminary inspection between two groups about total prosocial behavioral abilities

		N	*M*	*SD*	*t*	*p*
preliminary	experimental group	18	9.33	.77	.874	.389
	control group	18	9.06	1.11		

2. research tools

The testing 'skill situation measure' of Meginnis and Goldstin(1990)
The research tool named children's prosocial behavior examining measure was used to investigate the effect of children tea ceremony education on prosocial behavior. The testing tool

A. the composition of inspection tools

Inspection tools in this research to measure the prosocial behavior of children consist of three fields : individual emotion controlling ability, making personal relationship ability, and adapting to child care center ability. The questions of each areas are shown in the <Table 3>

<Table 3> The structure of prosocial behavior measuring inspection tools

area(category)	pictorial test number	content
individual emotion controlling ability	1	when you are treated distantly by friends
	2	when you are upset
	3	when you are teased by friends
	4	when your friends are unfair
	5	when you receive punishment after doing something wrong
	6	when you can not accept the result
making personal relationship ability	7	joining in your friends
	8	waiting for your turn
	9	cheering up your friends
	10	sharing toys with your friends
	11	helping your friends
	12	attracting friend activities
adapting to child care center ability	13	expressing your thoughts and feelings courageously
	14	asking to be excused
	15	following instructions
	16	doing your best
	17	asking favors in the context
	18	using courageous words

B. test methods

The test is done by a homeroom teacher having individual interviews with children. A researcher records the conversation, and analyze and mark the scores after the test finishes. The homeroom teacher talk with children for a while so that children can calmly take the test. After the rapport is established, the teacher starts the test by asking "I will tell you the stories on the cards. Would you listen carefully and tell me your thoughts about them?" facing the children. The test lasts about from 10 minutes to 15 minutes. Children answered the teacher's questions after watching test paper. Irrelevant conversations or suggestive way of speaking were abstained.

C. scoring methods

The reactions of the children to the questions were divided into 4 categories ; prosocial reactions, aggressive reactions, irrelevant reactions, no reactions. Only prosocial reactions were given 1 point, whereas aggressive reactions, irrelevant reactions, and no reactions were given 0 point, making total points 6 points. The range of the children's prosocial behavior points is from 0 to 18. Higher points means children's higher prosocial behaviors. The basis for the grading is shown in the <Table 4>.

<Table 4> an example of the basis for the grading according to the prosocial behaviors

category	question number	content	child ren's reaction	
			prosocial reactions (1 point)	aggressive reactions or no reactions (0 point)
individual emotion controlling ability	1	being alienated from friends	• I will play three. • I will ask Sunhee to play together again. • I have to get along with friends. • I will play with other friends.	• I will not get along with the friend. • I will give what my friend like as a gift • I will not feel so good. • I have to be kind.
making personal relationship ability	7	joining in your friends	• I will play three. • I will say 'Let's play together.' • I will say 'Join me in.' • I will play with other friends.	• I will not get along with the friend any longer. • I will give what my friend like as a gift • I will not feel so good. • I will tell the teacher(or mother).
adapting to child care center ability	13	expressing your thoughts and feelings courageously	• I will say 'It's mine', 'Give it to me' • I was playing with it. • Play with it after I finish playing • Let's play together	• I will tell the teacher. • I will ask him to lend it to me. • I will tell the mom and stop playing with him. • I will not say anything because he will not give it to me.

3. research procedures

A. preliminary inspection

Before beginning tea ceremony education activities, preliminary tests for experimental group and control group were done from March 27th to March 29th, 2011 to investigate the children's degrees of prosocial behaviors. A researcher recorded the individual interviews between a homeroom teacher and a child, and analyzed and graded the conversations after the tests were finished.

B. the experimental treatment

Tea ceremony education activities were done to control group according to weekly themes on every Friday. Tea ceremony teacher and three teachers participated in the education. Each education program lasts 40 minutes. The schedule of the tea

ceremony education for control group is composed as shown in the <Table 5>.

<Table 5> tea ceremony education schedule

month	tea ceremony contents
4	* mind preparation * greeting manners * manners for sitting on cushions * preparing tea cups * the names of tea cups * orders of tea ceremony
5	* learning the positions of tea cups * orders of brewing tea * how to drink tea * manners for talking
6	* the position and posture of hands while brewing and drinking tea * folding and unfolding tea cloth(茶布) * manners for talk over tea
7	* the position and posture of hands while brewing and drinking tea * manners for reception of guests
8	* doing the dishes * washing tea cups
9	* learning the tastes of teas * how to wear hanbok
10	* inviting younger brothers and sisters (the ninth day of the ninth lunar month festival) * talk over tea
11	* the effect of tea * manners in public place
12	* table manners * inviting younger brothers and sisters * washing tea cloth * washing tea cups
1-2	* tea performance (invite parents) * how to store tea

C. post inspection

Post inspection was done from February 21th to February 23th, 2012 with the same testing tools and methods as the preliminary inspection to find out the effects of tea ceremony education on children's prosocial behaviors in this study.

4. research analysis

Independent sample t-test was done on the average points of each group's preliminary inspection and post inspection using SPSS 19.0 program to investigate the effects of tea ceremony education on children's prosocial behaviors in this study.

III. research findings and interpretations

The purpose of this research is to investigate the effects of tea ceremony education on children's prosocial behaviors in this study, and the following are the research findings.

1. The effects of tea ceremony education on prosocial behaviors

The result of comparative analysis of preliminary inspection points and post

inspection points on the experimental group's and the control group's total prosocial behaviors to know the effects of tea ceremony education on prosocial behaviors is shown on the <Table 6>.

<Table 6> the preliminary inspection and the post inspection of prosocial behaviors between two groups according to tea ceremony education (N=18)

	experimentalgroup (*N*=18)		control group (*N*=18)		*t*	*p*
	M	*SD*	*M*	*SD*		
preliminary inspection	9.33	.77	9.06	1.11	.874	.389
post inspection	14.17	1.62	10.33	1.14	8.223	.000

As shown in the <Table 6>, the average figure of experimental group's prosocial behaviors is 14.17 and standard deviation of it is 1.62. The control group's average figure of prosocial behaviors after tea ceremony education was 10.33, and standard deviation after it was 1.14. The t-stat showing whether there are differences between the control group and the experimental group is 8.223, and total meaningful probability is .000, which has meaningful differences of prosocial behavior points in the significance level .05

A. individual emotion controlling ability

The result of comparative analysis of preliminary inspection points and post inspection points on the experimental group's and the control group's individual emotion controlling abilities to know the effects of tea ceremony education on prosocial behaviors is shown on the <Table 7>.

<Table 7> the preliminary inspection and the post inspection of individual emotion controlling abilities between two groups according to tea ceremony education (N=18)

	experimental group(*N*=18)		control group(*N*=18)		*t*	*p*
	M	*SD*	*M*	*SD*		
preliminary inspection	3.17	.38	3.33	.49	-1.144	.261
post inspection	4.83	.71	3.83	.38	5.274	.000

As shown in the <Table 7>, the average figure of experimental group's individual emotion controlling abilities is 4.83 and standard deviation of it is .71. The control group's average figure of individual emotion controlling abilities after tea ceremony education was 3.83, and standard deviation after it was .38. The t-stat showing whether there are differences between the control group and the experimental group is 5.274, and total meaningful probability is .000, which has meaningful differences of

individual emotion controlling ability in the significance level .05

B. making personal relationship ability

The result of comparative analysis of preliminary inspection points and post inspection points on the experimental group's and the control group's making personal relationship abilities to know the effects of tea ceremony education on prosocial behaviors is shown on the<Table 8>.

<Table 8> the preliminary inspection and the post inspection of making personal relationship abilities between two groups according to tea ceremony education (N=18)

	experimental group(*N*=18)		control group(*N*=18)		*t*	*p*
	M	*SD*	*M*	*SD*		
preliminary inspection	3.33	.49	3.22	.80	.500	.620
post inspection	5.33	.77	3.67	.49	7.792	.000

As shown in the <Table 8>, the average figure of experimental group's making personal relationship abilities is 5.33 and standard deviation of it is .77. The control group's average figure of making personal relationship abilities after tea ceremony education was 3.67, and standard deviation after it was .49. The t-stat showing whether there are differences between the control group and the experimental group is 7.792, and total meaningful probability is .000, which has meaningful differences of making personal relationship ability in the significance level .05

C. adapting to child care center ability

The result of comparative analysis of preliminary inspection points and post inspection points on the experimental group's and the control group's adapting to child care center abilities to know the effects of tea ceremony education on prosocial behaviors is shown on the <Table 9>.

<Table 9> the preliminary inspection and the post inspection of adapting to child care center abilities between two groups according to tea ceremony education (N=18)

	experimental group (*N*=18)		control group (*N*=18)		*t*	*p*
	M	*SD*	*M*	*SD*		
preliminary inspection	2.83	.71	2.50	.51	1.617	.115
post inspection	4.00	.59	2.83	.71	5.359	.000

As shown in the <table 8>, the average figure of experimental group's adapting to

child care center abilities is 4.00 and standard deviation of it is .59. The control group's average figure of adapting to child care center abilities after tea ceremony education was 2.83, and standard deviation after it was .71. The t-stat showing whether there are differences between the control group and the experimental group is 5.359, and total meaningful probability is .000, which has meaningful differences of adapting to child care center ability in the significance level .05

IV. Discussion

The purpose of this research is to vitalize tea ceremony education as educational activity in child care institution, and to verify that tea ceremony education can positively affect not only children's manner and emotional quotient, but also the improvement of children's prosocial behaviors. The tea ceremony education for children was done to 18 5 year-old boys and girls from B child care center in Y city to achieve the goal of this study. The following is the conclusion of this research investigating the effects of tea ceremony education on prosocial behaviors.

Tea ceremony education is effective to improve children's prosocial behaviors. Experimental group and control group turned out to be the homogeneous group which has no meaningful differences in the preliminary inspection, but there were meaningful differences between experimental group and control group in the post inspection. These results are in line with researches reporting that tea ceremony education is effective to improve children's basic living habits(Yeo sang in, 2006; Youn ae ra, 2007), and abilities to control their feelings(Lee hye Ja, 2002; Kim soon im, 2005; Jung chang sun, 2007; Lim hee young, 2010). Individual emotion controlling ability, making personal relationship ability, adapting to child care center ability, which are the subordinate categories of prosocial behaviors all turned out to improve. These results are drawn because the experience of treating tea cups carefully and waiting with calm mind and correct posture while the tea is brewed helped children control their feelings.

Furthermore, the process of slowly savoring the tea with correct behaviors and attitudes of mind had children who were not able to control their emotions, used violent words, and behave rudely be altruistic to friends, use refined words, and behave with manners after they participated in the tea ceremony education. This research has significance in that it provides the possibility where tea ceremony education can be developed as the program to improve children's prosocial behaviors in the time when there are insufficient programs using tea ceremony education to improve children's prosocial behaviors.

I could find out that tea ceremony education has positive effects on individual

emotion controlling ability, making personal relationship ability, adapting to child care center ability, which implies that tea ceremony education can be applied as personality education in child care centers. I suggest the succeeding studies based on these research findings as follows. First, practical teacher training is insufficient. Arranging the opportunity for teachers to learn proper knowledges needed for tea ceremony education in early childhood education field should be prioritized. Second, this research has limits of ranges because it is intended for some 5 year-old children in 2 areas, so multifactorial information collecting through direct interviews with teachers and expanding the subjects to broader areas to investigate detailed awareness of the effects of tea ceremony education on prosocial behaviors are needed.

References

Kim soonim(2005). The Effects of a Tea Ceremony Program on the Attention and Prosocial Behavior of Young Children. Graduate School of Education Dong Guk University.

Kim hyunran(2010). The Effect that Childhood Tea Ceremony Education has on Pro-social Behavior. Graduate School of Education Chongshin University.

Kim, heeja(2004). D'arye Education and Human Development. Graduate School of Sungshin Women's University.

Ko hyunju(2006). The Effect of Tea ceremony Project Program on the Development of Infants' Emotional Intelligence. Graduate School of Mokpo. National University.

Korea National Institute for Special Educatio(2009). **Special Education Glossary**. Seoul : how publisher

Yang hyunjung(2000). The Effects of a 'Social skill program Designed to Develop children's Social Behavior' on the Prosocial Behavior and the Capacity to put Social Moral virtue into Practice of Children in Low-Income Families. Graduate School of Chung-Ang University.

Yeo sangin(2006). Effect of integrated education Focus on Tea ceremony on Development of Young Children's Basic Life Habits. Ajou University.

Youn aera(2002). Effect of Traditional Tea-Life Education Activities On the Basic Living Habits of Young Children. Children. Graduate School of Education DongGuk University.

Lee yeonjeong(2004). A study on the tea-ceremony education for young children. Graduate School of Sungshin Women's University.

Lee hyeja(2002). A study on education program for children's tea ceremony**. article 8**(1), 17-42.

Lim heeyoung(2010). The Effects of Tea Ceremony Education on the Emotion and Behavior-Sociality of Infants. Graduate School of Human Life Sciences Sungkyunkwan University.

Jang soonyeoun(2000). The Effect of Green-Tea Manners Education on Infants' Basic Living Habit. Graduate School of Education Catholic University of Taegu-Hyosung.

Jung minja(2008). The Effects of Child-Drama Activities on prosocial behavior of Kindergarten Children. Graduate School of Education Jeonbuk National University.

Jung, youngsuk, Kim, in suk(2001). Experimentary Discussion of Effects of Tea Education for Babyhood. Busan Women's College **22**, 231-244.

Jung changsun(2007). The Effects of Tea Ceremony on the Self-Concept and Self-Control of Infants. Graduate School of Education Changwon University.

Jung haeeun, Kim jungsin & Cho huijin(2004). **Teaching children manners.** Seoul : Gyomunsa.

The effect of tea ceremony education on children's prosocial behavior

WOO Jaeeun

The purpose of this researchis to develop the tea ceremony education program targeting children and to analyze the effect of the education. The subjects of this research are the 18 5 year-old children of B child-care institution in Y city, Jeonnam who are taught tea ceremony and the 18 5 year-old children of D child-care institution in D-gu, Incheon who are not. After comparing group A who are learning tea ceremony with group B not learning tea ceremony by using prosocial behaviors figure assessment tool, I investigated the effects of tea ceremony education on children's prosocial behaviors. The result has shown that the tea ceremony is effective to improve children's prosocial behaviors.

key words : tea ceremony, children, prosocial behaviors

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The Effects of Fine Art Activities Using the Five Senses on Young Children's socio-emotional Behavior

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Ⅰ. Introduction

1. Purpose and Necessity of Research

Developmentally, infants satisfy their desire for curiosity by observing and perceiving outside world with their senses. And express it's inner side based on sensual cognition. That is, direct experience using five senses call intellectual curiosity, increase prior knowledge and aesthetic sense of infant. So infant's development should go through senses.

One of the most effective way to promote developing and learning by prompting interaction with others is art activity. It provides way to express feeling and thinking to infant those whom without proper skill for language expression. It also helps to make interaction with peers while working with diverse materials(Park, 2004). In addition, art activities could refresh one's feelings and give sense of accomplishment by being way of self-expression and self-discovery. Infants can highten an educational effect of art activity by using their senses by exploring color, line, shape, tactile and feel many materials in free, on their daily life(Seok, 1998; Lee, 1996; Lee, 1997; Lee & Jeong, 2000; Lim, 1999). In addition, art activities stimulating five senses could develop ability -perception, comprehension, representation, and judgement- of infant, and useful to develop power to observe objects or shaping visual images(Schirrmacher, 2002). And the process of creating expressive image with reconstructing visible target is helpful for developing infant's cognitional and emotional aspects.

Like this, art activities using five senses could increase cognitive, social, emotional, expressive power. So, providing educational experience utilizing the five senses is necessary to early childhood. Especially, studies insisting art activities using variety of senses are effective for creativity, art skills, self-esteem, emotional intelligence are suggesting that the effect of art activities using five senses could be viewed in different angles(Kim & Shin, 2009; Kim & Oh, 2009; Oh & Lee, 2008; Lee & Nahm & Kim, 2011; Jeong & Mihn, 2011).

Recently art activities in early childhood education is focused on utilizing variety senses. In particular, using variety of materials, peer interaction is emphasized. Such

experiences represent effect of emotional feelings of freedom, emitting anger and aggression. So, art activities using five senses are expected to make desirable influence. Accordingly, the purpose of this study was to evaluate impacts of art activities using five senses on socio-emotional behavior.

2. Questions

Question 1: What is the effect of art activities using five senses on positive behavior of infant?

Question 2: What is the effect of art activities using five senses on negative behavior of infant?

Ⅱ. Research Methods

1. Subjects

The subjects of this study were 15 infants of 'H'kindergarten and 'A'kindergarten each, Yeosu-si, Jeollanam-do. Their gender and age distribution are as below <Table 1>.

<Table 1> Gender and age distribution of infants

Group	Gender		Average age (month)	Total
	Male	Female		
Experimental	8	7	32.00	15
Control	9	6	32.48	15
Total	17	13		30

2. Research Instruments

1) Prosocial behavior test

<Table 2> ITSEA Domains and Subscales

ITSEA Domains	Subscales	Number of Questions (Crobach αCoefficient)
Positive behavior	Compliance	8
	Attention	5
	Imitation/Play	6
	Mastery Motivation	6
	Empathy	7
	Pro-social Peer Relations	5
	Number of Questions	37Questions(.94)
Externalizing problem behavior	Activity/Impulsivity	6
	Aggression/Defiance	15
	Number of Questions	21Questions(.84)
Internalizing problem behavior	Depression/Withdrawal	7
	General Anxiety	8
	Seperation Distress	5
	Inhibition to Novelty	4
	Number of Questions	24Questions(.64)
Total number of Questions		82

In this research revision of Infant Toddler Socio-Emotional Assessment that has designed by Briggs-Gowan(2001) were used. ITSEA is the tools to measure socio-emotional positive behavior and problem behavior of Infants of 12 to 36 months. It has devised separately for teachers and for parents, context of home and everyday life. In this research, for teachers were used. subscales and questions are on <Table 2>

2) Method of test and scoring

Each question of the scale is rating frequency and degree of behavior of infant as 'Not at all'(0 point) to 'sometimes'(1 point), 'always'(2 point). This evaluation is based on the recent action of the infant and checked by class teacher. Scoring was summing each area after modifying reverse scoring item; item 37, for parents and item 35, for child care teachers.

3. Research Procedure

This study applied the experimental treatment for 20time, from the first week of April, 2013 to the second week of June, 2013. Prior to conducting this study, teacher training was conducted and procedure was pretest, experimental treatment, posttest in order.

1) Teacher training

Teacher training was conducted 3times for teachers in charge of experimental group. Contents of teacher training includes purpose of research, experimental treatment, the role for teachers. Also, education on how to conduct socio-emotional behavior test was conducted.

2) Pretest

A class teacher performed pretest of socio-emotional bahavior before experimental treatment.

3) Experimental treatment

The experimental group performed art activities using five senses and the control group performed normal art activities on free activity hours.

<Table 3> Plan for art activity using five senses

Time	Activity	Contents of Activity
1	Be a friend with snail	Observe the snail, Draw the snail, Move like snail
2	Kong Kong Kong with bean sprout	Observe the bean sprout, Stamp with paint daubed bean sprout, Bean sprout objet
3	Go to paint world, putting on the boots	Observe the colors of the paint, Walk on the whole uncut paper with paint daubed boots, Try a mix of colors
4	Orange world	Taste the orange, Draw with orange, Let's make orange juice
5	Take a trip to noodle land	Cracking dry noodles, Drawing the noodle with water plants, Compare with boiled noodles
6	Soap bubbles game	Soap bubbles game, To express the soap bubbles, Making soap bubbles
7	Making dough with bread crumbs	Walk on the bread crumbs, Put it with scoop, Making food loof with food coloring mixed dough
8	dyeing sponge	Observe the sponge, dyeing sponge, Compare the weight of a dry sponge and a wet sponge
9	Play house with bean curd	Observe the bean curd, Mixing various colors of paint and bean curd, Playing house
10	Laundry of our village	Observe the air cap, Draw on the air cap, Daub paint on the air cap and to wash with soap
11	Play with clay	Observe the clay, Shaping with template, Decorate in various way
12	Make Sujebi in three colors	Observe the Three-color paprika and zucchini, Knead the dough and shape with template, Make and try Sujebi
13	Painting flower on kitchen towel	Observe the kitchen towel, Putting dot with felt pen, Wet the brush and put a dot
14	Land of wheat flour	Observe the wheat flour, express with footstep, Indicate the shape using pole, Treasure hunting
15	Land of ocher (Yellow soil)	Observe the ocher, Draw with ocher, Play in the Land of ocher
16	Making bracelet with wrinkled foil	Observe the foil, Draw on the foil, Making bracelet with foil
17	Drawing with leaves	Observe the leaf, Indicate by placing the leaves, stamp with leaves
18	Drawing on biscuits	Observe the biscuit, Draw a face on the biscuits with chocolate, Attach the biscuit with glue
19	Complete the Taegeukgi (Korean Flag)	Observe the cloth, Daub the paint on palm and stamp, To learn about Taegeukgi
20	Making house with cake	Taste the confection, Observe the cream, Make house with cake

<Table 4> A plan for art activity using five senses

Activity	Laundry of our village	
Activity Goals	Observe the air cap actively and participate in play joyful.	
Activity Materials	Simple pool, Large vinyl, Air cap cut in t-shirt shape, Laundry soap, Paint, Water	
Contents of Activity		
Preparation	-Prepare simple pool and large vinyl	
Introduction	1. Observe the air cap - Touch the prepared air cap, that shapen in t-shirt · "Touch the air cap and think about how it feels like." · "How is it feels like break with hand?" · "Crumple the air cap in t-shirt. How it feels like while you twist this?"	

Expansion	- Make expression in language about feelings of pushing and breaking this. 2. Paint with marker on the air cap - Paint with marker on the air cap free. · "Paint free on the air cap t-shirt, with marker." · "It seems like dancing you drawn on the air cap!" · "What you drew, ○○?" · "Paint as you want, so that the air cap gets dirty." 3. Laundry with water only / using soap - Rinse the t-shirt - scrub in the water. · "Is this got clear by scrubbing with water?" · "Why do you think it's still dirty? What we need more on laundry?" - Wash again with using soap · "Is this got clear with using soap?" · "Wash joyful by scrubbing and making bubbles." 4. Scrub the paint and wash again - Paint again on the cleaned laundry and wash again. · "Wash with paints, to know how does the paint-stained clothes be." · "How did it be?" · "Wring the air cap t-shirt and dry this." - Describe the state of laundry and arrange them on the drying rack.	
Arrangement of activity	1. Talk about the feelings of observing air cap. 2. Talk about the feelings of drawing on the air cap. 3. Talk about the opinion of necessity of laundry and feelings after doing laundry.	

4) Posttest

In this study, class teacher carried out Posttest with same testing tools and methods as pretest to investigate the effect of art activities using five senses on infant's socio-emotional behavior.

4. Data Analysis

To measure the effect of art activities using five senses on infant's social -emotional behavior, t verification was carried out.

Ⅲ. Results

This study was for investigate effects of art activities using the five senses on young children's socio-emotional behavior and the result for the study is as follows.

1. Comparing Socio-Emotional Behavior of Each Groups

The result of comparing socio-emotional behavior between each group to

investigate effect of art activities using five senses on socio-emotional behavior of infant is as shown in <Table 5>. In order to assess homogeneity between Experimental group and Control group, t-test has performed. As a result, there were no statistically significant differences between experimental group(M=1.70, SD=.08) and control group(M=1.68, SD=.10) of positive behavior. So, through the results of pretest score for socio-emotional behavior, we could know that the two groups were homojeneous

<Table 5> Certifying equivalence of socio-emotional behavior

		Group	N	M	SD	t	*p*
Pretest	Positive behavior	Exp.	15	1.70	.08	2.44	.061
		Cont.	15	1.68	.10		
	Negative behavior	Exp.	15	1.69	.10	2.00	.056
		Cont.	15	1.62	.08		

2. Changes in Socio-Emotional Positive Behavior

The result of comparing socio-emotional positive behavior score of experimental group and control group after applying five senses using activities to find significant differences is as shown in <Table 6>. The posttest score was statistically significantly different between the experimental group (M=1.14, SD=.06) and the control group (M=1.58, SD=.11) (t=-13.770, p<.001). When the scores were analyzed by sub-scales of positive behavior, 'Attention', 'Mastery Motivation', 'Empathy', 'Pro-social Peer Ralations' were statistically significantly different, but not significantly different on 'Compliance', 'Imitation/Play'.

<Table 6> Changes of socio-emotional positive behavior

	Sub-Scales	Group	N	M(SD)	t	*p*
Positive Behavior	Compliance	Exp.	15	1.72(.13)	1.926	.064
		Cont.	15	1.60(.20)		
	Attention	Exp.	15	1.75(.21)	2.219	.035
		Cont.	15	1.57(.24)		
	Imitation/Play	Exp.	15	1.66(.08)	.418	.679
		Cont.	15	1.63(.19)		
	Mastery Motivation	Exp.	15	.72(.14)	-11.425	.000
		Cont.	15	1.52(.23)		
	Empathy	Exp.	15	.44(.15)	-23.374	.000
		Cont.	15	1.62(.13)		
	Pro-social Peer Relations	Exp.	15	.59(.19)	-14.012	.000
		Cont.	15	1.56(.19)		
Total		Exp.	15	1.14(.06)	-13.770	.000
		Cont.	15	1.58(.11)		

3. Changes in Socio-Emotional Negative Behavior

The result of comparing socio-emotional negative behavior score of experimental

group and control group after applying five senses using activities to find significant differences is as shown in <Table 7>. The posttest score was statistically significantly different between experimental group (M=.51, SD=.12) and the control group (M=1.59, SD=.11). When the scores were analyzed by sub-factors of negative behavior, externalizing problem behavior was statistically significantly different between the experimental group (M=.48, SD=.13) and the control group (M=1.61, SD=.10). And internalizing problem behavior was significantly different between the experimental group (M=.54, SD=.14) and the control group (M=1.58, SD=.13) too. Therefore, art activities using five senses of this research are effective on reducing socio-emotional negative behavior of infants

<Table 7> Changes of socio-emotional negative behavior

Negative Behavior	Sub-Scales	Group	N	M(SD)	t	*p*
Externalizing Problem Behavior	Activity/Impulsivity	Exp.	15	.44(.21)	-16.554	.000
		Cont.	15	1.62(.18)		
	Aggression/Defiance	Exp.	15	.52(.11)	-31.805	.000
		Cont.	15	1.60(.08)		
	Total	Exp.	15	.48(.13)	-26.770	.000
		Cont.	15	1.61(.10)		
Internalizing Problem Behavior	Depression/Withdrawal	Exp.	15	.54(.15)	-16.918	.000
		Cont.	15	1.56(.17)		
	General Anxiety	Exp.	15	.48(.19)	-19.639	.000
		Cont.	15	1.61(.11)		
	Seperation Distress	Exp.	15	.63(.15)	-14.805	.000
		Cont.	15	1.57(.20)		
	Inhibition to Novelty	Exp.	15	.52(.30)	-9.891	.000
		Cont.	15	1.57(.27)		
	Total	Exp.	15	.54(.14)	-21.493	.000
		Cont.	15	1.58(.13)		
Total		Exp.	15	.51(.12)	-25.915	.000
		Cont.	15	1.59(.11)		

Ⅳ. Discussions and Suggestion

This study purposed to investigate effects of art activities using the five senses on young children's socio-emotional behavior. Finding from this study are discussed as follows.

First, art activities using five senses has been shown to increase socio-emotional positive behavior of infant. These results are in line with previous studies that art activities for infant have positive impact on all part of development(Lee & Lee & Kim, 2002; Lee & Lee, 2008). So, that could be interpreted as experiencing Following the teacher's instructions, keeping rules of activity, empathy, prosocial peer relationships while art activities using five senses are in progress.

Second, art activities using five senses has been shown to increase socio-emotional

negative behavior of infant. These results are in line with previous studies that art activities are effective for emotion regulation and reducing negative behaviors of infant(Kim & Oh, 2009; Seo & Kim, 2009).

The reason they could regulate their behavior among peers is expected that infants could express their emotion properly and interact with peers by absorbed in art activities using five senses. While activities were in progress, infants represent pleasure for sensual art materials offered. And they participated in activity positively with expressing pleasure in action. So, art activities using five senses could shown to made infants require help to teacher in case of waiting their turn or in problematic situation occurred, rather than express their anger while participating in art activity including material inspection. It could be interpreted that this program has positive impact on negative behavior of infants.

This research supports the study of high-quality child care can be very positive for overall development as well as socio-emotional development(Melhuish, 2007).

The higher is the service quality level, the better the cooperativity with peers, and lower the instability of interaction. And infants, received high-quality of care tends to be pro-social, such as sociable, good at empathy on others, positive on participating with peers. Based on the results and discussion of this study, we suggest for future studies as follows.

First, this study targeted infants of partial area only, so follow up studies with targeting infant in different region should be conducted.

Second, qualitative research needs to be done to observe the effect more specifically.

Third, multifaceted art programs, like this research, should be developed.

References

Kim Youngsook, Shin Insook(2009). The Effects of Art Appreciation Activities Through Interactions on Children's Artistic Abilities. *Future Early Childhood Education, 16*(1), 165-194.

Kim Haigyoung, Oh Sookhyun(2009). The Effects of Fine Arts Science Integrated Activities Using the Five Senses on Young Children's Art Abilities and Observation Attitude. *Future Early Childhood Education, 16*(2), 119-138.

Suh Nahyun, Kim Yeoju(2009). Effects of Group Art Therapy on Improvement of Emotional Intelligence of Children from Poor Families. *Psychotherapy, 9*(2), 37-55.

Shin Jiyoun(2004). Multiple Attachments to Mothers and Child Care Providers of 2-year-olds and Socio-Emotional Behaviors. *The Graduate School of Seoul Women's University.*

Oh Sookhyun, Lee Soonja(2008). A Study on the Effect of Art Education Program Based on Constructivism on Children's Attitudes to Art and Art Competences at the Small Class in Rural Area. *Future Early Childhood Education, 15*(1). 107-135.

Lee Sunyoung, Nam Youngok, Kim Sooyoung(2011). Effects of using multi-sensory media with therapeutic art education activities on childrens" self-esteem and emotional intelligence. *Research of Early Childhood Education, 31*(2), 169-188.

Lee Sookyung(1996). A Program Development of Curriculum Intergration for Children through Whole-Artistic Approach. *A Collection of Treatises of Art Education, 5*, 65-89.

Yee Younghwan, Joung Namsook(2000). The Effect on Children' s Creativity with Basic Components of Expression - by - Painting Activity. *Journal of Future Early Childhood Education, 7*(2), 57-96

Lee Sookjae, Lee Bongseon, Kim Gyeongran(2002). Early Childhood Art Education. *Seoul: Changjisa*.

Lee Seungmi, Lee, Seungyeon(2008). The Management of Art Activities in Infant Classrooms and Teachers' Perceptions of Difficulties and Needs for Support on Infant Art Activities. *Korea Open Association for Early Childhood Education, 13*(5), 47-69.

Lim Soojin(1999). (The) Effect of an Art Criticism on Children's Aesthetic Response and Expressive Ability. *The Graduate School of Duksung Women's University.*

Jung, Sangnyu, Min Soonok(2011). The Effects of a Performance Art Activity Program to Young Children's Creativity and Drawing Expression Ability. *Korea Open Association for Early Childhood Education, 16*(6), 383-403.

Choi Yunjung, Oh Sookhyun(2013). Study on How Five-sense Art Activity affects Social Interaction and Artistic Expression Ability of Children from Inclusive Classroom. *Future Early Childhood Education, 20*(1), 165-189.

Briggs-Gowan, M. J., & Carter, A. S. (2001). Infant Toddler Social and Emotional Assessment(ITSEA) Manual version 1.1. The Connecticut Early Development project, Yale University.

Melhuish, E. (2007). Long-term effects of education in theearly years and the role of the UK government. PECERA (2007). 39-57.

Schirrmacher, R. (2002). *Art and creative development for young children, 4th Edition*: Albany, NY: Delmar.

The Effects of Fine Art Activities Using the Five Senses on Young Children's socio-emotional Behavior

KIM Kyungha and OH Sookhyun

This study was conducted in order to investigate effects of art activities using the five senses on young children's socio-emotional behavior. The study selected 15 children from 'H'kindergarten and 'Y'kindergarten for each, Yeosu-si, Jeollanam-do. These two groups were divided into experiental group and control group. The experimental group performed art activities using five senses for 20times and the control group performed normal art activities. In conclusion, first, five senses used activity improved infant's Attention, motivation, empathy, prosocial peer relations of socio-emotional positive behavior. second, five senses used activity reduced infant's socio-emotional negative behavior.

key words : five senses, art activity, socio-emotional behavior

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