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A Study of Legible Braille Patterns on Capsule Paper: Diameters of Braille Dots and their Interspaces on the Original Ink-printed Paper

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Abstract: An experiment was conducted using braille readers to search for the suitable range of diameters of braille dots and their interspaces on the original images of capsule paper braille. The result showed that capsule paper braille under the condition of 1.17/1.43 mm diameter and interdot spaces of 1.05 to 1.15 times used in standard Japanese braille was read in a shorter time and with fewer mistakes and rated more highly by the subjects. In contrast, braille with larger diameters and narrower interdot spaces was read in a longer time and with more mistakes and rated lower. Three-dimensional measurement of braille shapes suggests that difficulties in reading braille under latter conditions may arise from the fusion of dots due to the expansion characteristic of microcapsules.

Key Words: Stereo copying, Braille pattern, Reading time, Tactile legibility, Three-dimensional shape

Development of Assistive Technology Devices for Children with Difficulties in Manipulating Objects and Locomotion Due to Myopathy: Development of Special Hand-bells Player and a Low-floored Scooter

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Abstract: This paper describes the development and evaluation of two types of Assistive Technology Devices or technology-based teaching aids for children with disabilities. Firstly, three instruments for playing hand-bells were devised. These aids were designed to help people with difficulties in manipulating objects. Secondly, a low-floored scooter for an infant with difficulty in locomotion due to myopathy was devised and evaluated. In particular, the two devices consist of a micro-controller and stepping motors. The paper illustrates the process involved in the development of these technologies, details of the devices, such as blueprints, flowcharts, pictures, the procedures involved in evaluating these technologies, and the results. Original evaluation forms based on the International Classification of Functioning, Disability and Health(ICF) were used. The results suggest that these technology-based teaching aids are effective. Finally, the future issues involved in the development of these helping technologies, or Assistive Technologies in education are discussed.

Key Words: Assistive technology, Educational materials, Myopathy, Micro-controller, Special Education

The Practice of Consultation for Teachers of Regular Classes who Teach Children with Autism: A Case Study of Two Children Two Cases Using "Order Made Manual"

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Abstract: Based on the findings of a survey of teachers of regular classes who teach children with autism demonstrating the need for more inservice training and a teaching manual for the education of children with autism,a prescriptive teaching manual for two children was devised. This study reports on the effectiveness and problems of this manual in its practical application by teachers.

An outline of the evaluation of the manual is presented as follows. The positive findings were that: 1) teachers could better understand the features and behavior patterns of the children, 2) teachers were able to obtain more concrete information specific to the needs of the children, 3) the anxiety-level of a teacher who taught children with autism for the first time decreased, and 4) manual additions, such as including teaching records in the manual itself were found to enhance teaching performance.

The negative findings were as follows; 1) the manual could not provide all the information that teachers needed, 2) the manual could not cope with the children's rapid development and changes in the pattern of their behavior ,3) in certain situations, the manual might make it hard to enhance the teacher's expertise, and 4) external personnel not directly involved with the child in the school settings, such as an expert of special education, might have difficulty using the manual if they did not have enough information about the child in school, and 5) the issue of privacy of information arises in the use of these records.

Key Words: Children with autism, Order made manual, Regular classroom's teacher, Consultation

Early Intervention for an Infant with a Hearing Impairment: Support in the First Sixteen Months

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Abstract: This paper reports on an individual case of early intervention for an infant with a hearing impairment. The subject is a baby girl who was diagnosed as hearing impaired by Universal Neonatal Hearing Screening (UNHS). We provided the early intervention program for the subject and her parents on educational guidance and counseling. Three areas of support were discussed: First, audiological support, which included the observation of various audiological behaviors, the appropriate fitting and usage of hearing aids and guidance for auditory learning in daily life. Second, developmental support, which included the observation of various physical activities and emotional conditions. Finally, on the support for her parents, it was suggested that the provision of guidance on understanding hearing impairment, interaction and communication between infant and parents, and health care were the major considerations.

Key Words: Universal Neonatal Hearing Screening, Infant, Hearing impairment

An Examination of the Validity of the Kanji Component Learning Method for Children with Blindness

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Abstract: Japanese language can be written using solely the phonetic syllables "kana" or using a combination of "kana" and ideographic characters "kanji." The latter style is predominantly used in Japan, but Japanese Braille letters correspond basically to kana. However, the knowledge of kanji is necessary for Braille users as there are many hononyms in Japanese language represented by different kanjis.

This paper proposes a new method to acquire knowledge of kanji characters based on the following hypothesis; that is, if a child is instructed to extract the components that constitute a kanji character, then further knowledge of kanji can be systematically constructed using this base .

Two children with blindness and who were already familiar with the use of Braille but who had not learned any kanji were the subjects of the study. Shape discrimination and the ability to learn the meaning of some basic kanji was analyzed. In addition, whether or not the shape of new kanji, which are composed of basic kanji, could be imagined by the subjects with the support of verbal explanation from the instructor was investigated.

Firstly, basic kanji were selected from the list of kanji allotted to first grade children to learn in Japanese schools. The standard to select basic kanji was dtermined by the researchers considering the kanji formation rules. Secondly, the composed kanji, which consisted of the basic kanji, were selected from the list of kanji allocated to first and second grade children. These 'composed kanji' were shown in raised dotted lines, and the children were taught to extract basic kanji and their position in the 'composed kanji'. Following this procedure, whether or not the subjects could imagine new 'composed kanji' using verbal explanation from the instructor was evaluated.

The results showed that if children could understand basic kanji they could imagine a new 'composed kanji' with the support of verbal explanation. This finding suggests a new possibility in expanding the knowledge of kanji in children with blindness.

Key Words: Braille users, Basic kanji, The composed kanji, The support of verval explanation

An Overview of the Provision of Educational Support for Children with Attention-Deficit/Hyperactivity Disorder (ADHD) in Ordinary Classes

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Abstract: The provision of educational support for children with ADHD in ordinary classes,and the role of educational counselling were illustrated by the example of one child with ADHD. The educational intervention involved the parents, an ordinary registered class and school, and a resource room, and direct instruction of the child on a monthly basis. Although the child had violent speech and behaviour, including avoidance behaviour initially, improvement was noted in a comparatively brief period. This result suggests that the improvement was due to the integrated nature of the support services provided for the child.

Key Words: ADHD, Vegular, classroom, educational Counselling

The Development of a Teaching Method for the Reading of Braille:
A Case Study Promoting the Efficient Use of Both Hands
from the Introductor Sy Stage

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Abstract: When reading braille, it is desirable to coordinate the use of both hands to achieve greater efficiency in the reading process. Furthermore, to read well with both hands, the ability to read braille using either hand is necessary. In this study, focus was on the importance of the ability to use either hand from the introductory stage of teaching braille. Based on the ability to use either hand, and a new teaching method with the aim of developing cooperative use of both hands in braille reading was attempted. This involved the following strategy. First, the subject was instructed to read with the right hand and then with the left hand. Next, the child was instructed to start reading the line with left hand and then relay to the right hand at about midline. From this stage, the teaching strategy was to complete braille reading utilizing both hands in coordination. A trial of this teaching method revealed the following results. An increase in the reading speed using either hand was observed and the speed of relay reading also improved. In addition, it was easier to monitor how the subject was using his/her hands since hand preference was obvious using this method.

Key Words: Braille, Braille teaching at the introductory stage, Tactile reading, Reading with both hands, School for the Blind

Developing a Special Education Program for a Child with Physical
Disability using the Community Social Support Network:
A Case Study of the Social Resource Management of a Special School

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Abstract: Nowadays special schools are increasingly called on to offer services to,not only children in special schools,but also to people with disabilities in the social resource network of the local community.In 2001 the 'Cooperator's Conference of the Ministry of Education,Culture,Science and Technology stressed in its Final Report that the role of the special schools should provide a more comprehensive service and adopt the role a Special Education Center in community.

  This case study reports on the development of a Special Education Program for a child with physical disability in a special school utilizing,not only the teacher,but also the wider community social support network.

Key Words: Daily lives, Community, Social resource, Special education program , Social support network

A Study of Computer Use in Scools for the Deaf

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Abstract: The purpose of this paper is to clarify the present condition of computer usage and the future of computers in schools for the deaf in Japan. This analysis presupposes that educational change in the future will be a result of the spread of information technolgy in schools at present, and therefore, it is important to provide an overview of current practice in deaf schools. Initially, a literature survey of past practice in schools for the deaf using reports of meetings on deaf education (Zen Nihon Rou Kyouiku Kenkyu Taiki/ ZEN NIHON ROU KYOUIKU KENKYU TAIKAI)was conducted. Four items concerned with the study of current practice were investigated:(1) The purpose of current practice,(2)a device point in current practice,(3) The outcomes of current practice, and (4) the problems of current practice.

Key Words: Computer, The use for education, A deaf school, Communication

Special Educational Support for Students with Mild Developmental Disabilities in Upper Secondary Education

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Abstract: This paper reports on a survey of educational administration and education centers designated by government ordinance in all prefectures and major cities in Japan. The survey was designed based on a analysis of some practice about special educational support for students with mild developmental disabilities in upper secondary education. We found that educational administrators were largely unaware of the number of students with mild developmental disabilities in ordinary high schools and the support services these students are offered.

Furthermore, we found (some?)teachers in ordinary high schools had participated in inservice teacher training about methods of assessment and special support education for students with mild development disabilities, and that there was a demand for that inservice training. Some education centersindicated that there were many from teachers about how to cater for the needs of students with mild developmental disabilities in ordinary high schools.

Takng into account these results and current trends in education policy, we propose that special educational support is necessary for students with mild developmental disabilities in upper secondary education.

Key Words: Mild developmental disabilities, Upper secondary education, Questionnaire investigation, Special educational supports

Problems and Prospects of In-Service training for Teachers Offered by Special Education Centers in Writing kobetsuno-shido-keikaku (individual teaching plans)

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Abstract: The purpose of this study was to clarify the problems facing educational planners in providing in—service training in the preparation of kobetsuno-shido-keikaku(individual teaching plans). Responses to three open-ended questions were analyzed using the KJ method developed by Kawakita (1967). The three questions were as follows:(1) What problems do teachers have in making individual teaching plans in schools? (2)What problems do in-service training planners have in developing programs for the writing of individual teaching plans? And, (3) What problems do Special Education Center staff have in helping teachers in schools develop individual teaching plans?

The findings clarified that that partnerships between teachers and teachers, teachers and parents, among institutions, approach to school organizations, and protection of personal information were very important as well as knowledge and techniques for making individual teaching plans. In addition, by comparing the results of a previous study with the present research, it is suggested that the knowledge and techniques which teachers expected to have would be adapted to specific contexts and current trends in thinking in special education. It is also suggested that theoretical applied knowledge is very important in the development of new in-service training programs.

Key Words: Kobetsuno-shido-keikaku (individual teaching plans), In-Service training, Special education center, KJ method

'The Network for Blind Schools to Utilize Braille Documents Data' : The Current Situation and Prospects for the Future

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Abstract: 'The Network for Blind Schools to Utilize Braille Documents Data' is a system in which electronic data, including Braille documents made by schools for the blind are up-loaded to a host computer and used by all schools by down-loading these data. The system began in April 1992, and was revised in May 2001 to enable it to be acessed through the Internet (URL: http://www.tenji.ne.jp).

This study reports on the current situation, the tasks yet to be solved, and the prospects for the future of the new system. Data were gathered from a questionnaire survey of the teachers -in -charge of the system in schools for the blind.

The results are as follows: 1) The number of computers used to access the Internet is greater than 5 in about 90% of blind schools, but the number used to access the latest system is less than4 in about 50%. We propose that the current restriction on access to the system by ID needs to be relaxed, 2) The frequency of down-loaded data from the system has increased very much compared with the old system, but the number of up-loaded data from schools for the blind is very low. To increase the rate of up-loaded data, asking for volunteer help in translating of Braille documents , with coordination of schools for the blind is needed, 3) The kind of Braille documents already in the system is not always compatible with that needed in schools for the blind because workbooks and reference books for each subject are especially needed. To increase the volume of Braille documents volunteer help is required.

Key Words: Braille, Visual impairments, Network, Internet, Schools for the blind

The Development of Web-based Educational Materials Equipped with Accessibility Features:Revision of Recognized Special Education Software Programs for Use of the Web with the Addition of Accessibility Features

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Abstract: The authors report the development of Web-based educational materials equipped with accessibility features for enhancing special education as a part of the ministerial project named "Development of Web based Education Contents in 2001-2002." They describe the Web-based materials mainly focused on their accessibility features such as keyboard navigation, key scan, voice guidance as well as equipment for their practical use.

 Finally, a summary of results is presented and a discussion of added accessibility features as integral to the materials is presented.

Key Words: Educational software, WWW, Accessibility, The digital classroom, Special education

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Cooperation between Guardians and Resource Room Teachers:
A Comparison of Guardian and Teacher Feelings

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Abstract: Due to the increasing importance of cooperation between guardians and resource room teachers, this paper aims to clearly define the details of that relationship. Two surveys were conducted. The subjects of the first questionnaire were resource room teachers and the subjects of the second survey were guardians associated with those resource rooms. In the first survey teachers were asked, "What words and actions do you believe discouraged the guardian? " and "What words and actions encouraged the guardian? " In the second questionnaire guardians were asked, "What words and actions of teachers discouraged you?" and "What words and actions of the teacher encouraged you?" The results of two surveys were as follows. The words and actions the teacher thought had discouraged the guardian, and the words and actions of the teacher the guardian thought discouraging, and the words and actions the teacher thought had encouraged the guardian, and the words and actions the guardian regarded as having been encouraged by the teacher, were produced in the same situations. They are, "how to tell a child's developmental and actual condition" and "correspondence with a guardian." Although it is the same situation, guardian and teacher feelings differ. We believe that it is important to prevent these differences arising in the relationship. We propose that resource room teachers consider accepting the style of parenting of the guardian, the establishment of a common understanding of guidance between guardian and teacher, developing an awareness of the family context of the child, and providing guardians with greater access to relevant information.

The Applied Use of ICF in Collaboration between Multi-professions:
A Perspective on its Applicability to
"Individual Education Support Plan"

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（**Department of Education for Children with Physical/Motor Disabilities**）

Abstract: Nowadays, professionals in the field of special education are increasingly required to collaborate with professionals in other fields. This paper reports on an attempt to develop ICF as a practical tool in the collaboration between multi-professions. The subjects of the study were five pupils attending a special school. It was found that (1) ICF was a useful tool of collaboration between multi-professions, (2) the ICF checklist and the model chart was effective in the efficient execution of the discussion, (3) further research on the relationship between ICF and the Individual Teaching Plan is required, and (4) a manual system on how to use ICF should be produced.

Support Systems in Remote Communities: A Case Study of the Establishment of a Support Network in Amamioshima

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Abstract: Children with disabilities and their families need a variety of support services. This case study examines the nature of support available for children with disabilities and their families in a community with limited resources. Based on previous research in this community over the past 10 years it has been found that a system and network of community support has been established. This has been achieved through the cooperation of members and a coordinator with abundant knowledge and experience. In particular, it has been found that the community support system now in place has helped children with disabilities living in remote areas. Finally, it is suggested that this case study will contribute to the construction of support systems for children with disabilities living in remote areas of Japan.

Key Words: Community support system, Network, Coordinator

Issues in Educational Support for Individuals with High-Functioning Autism Using Information from Five Case Studies

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Abstract: This paper reports on individuals with high-functioning autism who have been utilizing the services of the guidance and counseling section of the National Institute of Special Education (NISE). The subjects were three adults aged in their late twenties, and two were pupils attending upper secondary schools. Four individuals had FIQ`s of 85 or higher and one had an FIQ of 82 measured by Wechsler Intelligence Scale for Children. Information was collected on each case using reports of the developmental process in infancy, the use of medical and welfare services, educational placement, the practice and process of guidance and counseling at NISE, and the present status of the individual such as degree of social participation. Based on these five case reports, empirical issues in educational support for the people with high-functioning autism were discussed.

Key Words: High-functioning autism, Guidance and counseling, Educational issues

A Review of Working with Deaf Children under Three Years Old and Their Families

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Abstract: In this review, issues of working with deaf children under three years old and their families are discussed. These include the first session after hearing impairment diagnosis through universal neonatal hearing screening (UNHS), educational support and the process of working in a multi-disciplinary team with deaf children.

The results suggest that in the first session after hearing diagnosis through UNHS, that we initially interpret the UNHS results, then, obtain more information on deafness and review the comprehensive development of the child for families, or parents. This is because they are usually distressed about deafness due to the lack of available information given of the UNHS results.

Concerning educational support, it is suggested that how we support children, parents, or families in their communicative relationships is more important than auditory learning, language instruction, and so on. This is because children's parents often disregard attachment to their children and their dependence on children as human beings, which is the basis of communication and the means whereby they can overcome the impairment. It is then suggested we advise parents to accept their child's handicap and participate in activities and opportunities to play with them, regardless of auditory-oral communication through hearing aids.

Finally, on multi-disciplinary working for deaf children, it is suggested that a true multi-disciplinary team supporting deaf children must include parents and named individuals from all services, and there is a need for an individual to coordinate the work from a variety of disciplines.

Key Words: Universal Neonatal Hearing Screening, Infant, Deafness, Support for families

Teaching Adventitiously Blinded Persons with Difficulty in Reading Braille Letters by Touch: A Comparison of the Degree of Ease in Reading by Touch between Two Sizes of Braille Letters

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Abstract: Many of those who have visual impairments after acquiring normal letters can write Braille letters with comparative ease, but have difficulty in reading Braille by touch. The purpose of this study is to clarify the effect of size of Braille on learning in the first training of reading by touch for adventitiously blinded persons. In the first study the effect on reading of the interval between letters was examined by comparing sighted persons not used to reading by touch with Braille users used to reading by touch. Speed of reading, number of error and feeling of ease in reading was measured. In the second study the effect of the size of letters on reading by touch in sighted persons was examined. The results showed that using large size letters was effective in the first training for adventitiously blinded persons who have difficulty in reading by touch.

Key Words: Adventitiously blinded persons, In the first training of braille reading, Size of braille, Braille reading by touch

A Survey on Making and Using Tactile Educational Materials in Schools for the Blind

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（**Department of Education for Children with Visual Impairments**）

Abstract: It is required for future special school having the function as center of education of persons with disabled of community area. In the school for the Blind is have done on the basis of unique teaching methods. Because of that, service of the teaching materials for community area will be more important than ever. Even among those, development of the teaching materials which utilize the tactile perception for children who cannot utilize visual function is important.

In this research, in order to obtain the fundamental data for service to commmunity area, focusing especially of braille and the tactile graphics, actually condition of availability and development of that materials for in school for the visual impairments were researched.

As a result, the school for the visual impairment recognized necessity of organizational correspondence. But, in regard to the compilation and management of the tactual teaching materials, schools where it corresponds organizationally as a school were in a minority. The school for the blind of 40 percents or less did not service the braille textbook as the school library. The school which have teaching material room were few.

Personal computer application has become active, common use of personal computer quality was above the half. Teaching aid compilation was requested to the volunteer in approximately half school. The school which offers the Braille teaching materials outside was 1/3.　We inspected the situation concerning production and utilization of teaching materials for tactile graphics with main subjects. In the elementary section in school for the blind it had utilized positively above the half. In the junior and senior high section the utilization of that marerials for mathematics and science was higher relatively in comparison with national language and social studies. The teaching materials mainly were produced by the teachers.

Microcapsule paper was utilized preponderantly as a format of tactile graphics. In addition,　it became clear that the embossed tactile graphics has produced on a braille printer with personal computer and support from volunteers for production of the tactile graphicis is low as compared to production of braille materials,a great number of　schools didn't set up tactile graphics materials for outside .

Key Words: Tactile educational materials, Braille, Tactile graphics, Role of resource center

A Trial of the Construction of an In-Service Training Course on Computer Literacy in Special Education

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（**Department of Educational and Information technology**）

Abstract: The IT Strategic Headquarters of the Government of Japan has set a goal in its e-Japan Strategy that all school teachers should have the capability to teach using information and communication technologies by 2005. According to the latest statistics, 52.8% of all schoolteachers use computers to teach their children. It is crucial, therefore, to increase the number of opportunities and enrich the contents of in-service training courses in this field. The Department of Educational and Information Technology, the National Institute of Special Education, in collaboration with the Special Education Center, Faculty of Special Education, Fukuoka University of Education, conducted a three-day in-service training course entitled 'In-service training course on Information and Assistive Technologies for Children with Disabilities 2003'. At the conclusion of the course, the opinions of participants were collected using a survey questionnaire followed by an information gathering session dealing with better ways to organize such training courses as well as enriching the essential content of such courses. Future issues regarding in-service training courses in the use of ICT in education were also discussed.

Key Words: Computer literacy, In-Service training course, Assistive Technologies

A History and Perspective on Education for Children
with Speech and Language Disorder

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Abstract: Education for children with speech and language disorder in Japan started as remedial education for children with learning difficulties in reading and the correction of dialect. The influence of the introduction of speech pathology in the U.S.A improved this type of education and it has since become specialized to cater to the educational needs of children with speech and language disorder. This kind of teaching originally began `after-hours`, that is, after the school day had finished. In a short time, it came to be integrated into the system of "special classes," a teaching method that lasted for 40 years, or so. At present, it is based on the system of "Tukyu-sidou" which is one of the systems of the resource room. The education of children with speech and language disorder in Japan has expanded to develop its method, knowledge base and system. In recent years, the licensing of speech therapists has been implemented and this raises the issue of the status of this education and the role of the teacher. This paper expands the debate about the education of children with speech and language disorder.

Key Words: Education for children with speech and language disorder, Special support classes and the resource rooms for the children with speech and language disorder, Speach clinic