



The Inter-Disciplinary Approach in the Education of Orthopedically Handicapped Children

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There is widespread agreement that the treatment, care and education of the orthopedically handicapped calls for the efforts of many persons. This unique group is composed of children with a long list of orthopedic and/or neuromuscular diseases, congenital anomalies, and brain injury. The most prevalent, perplexing, and variable group of children are those with Cerebral Palsy, a motor handicap due to brain injury. These children may have defects of speech, hearing, sight and motor coordination singly or in combination. Epilepsy and psychomotor disturbances may aggravate the condition.

Educators, psychologists, physicians and sociologists are faced with the necessity of carefully observing

and evaluating the child, noting the developmental history, the neurological condition, the child's potentialities for development and proposing a habilitation plan.

Services

The comprehensive services which are available to orthopedically handicapped children are made possible through the joint services of the Crippled Children's Section, State Department of Health, and The Department of Guidance and Special Education. The Orthopedic Unit of Pohukaina School is the setting for this program for the State. The "school within a school" plan affords the opportunity for integrated activities and shared experiences through-

out the school day. The regular school serves as a half-way house for the child who is ready to be transferred to a school in his neighborhood. The immediate staff headed by the principal consists of ten teachers, teacher-aids, a coordinating teacher, speech, occupational, and physical therapists, and a therapy coordinator. The pupils are aged five to twenty-one. They are transported daily from all parts of the island by State taxis and military vehicles. They ambulate in wheel chairs or are supported by braces and crutches. Special cut-out tables and chairs and electric typewriters are provided as needed. In grouping them, mental age, social and emotional needs are considered and they are placed in ungraded classes of

ten each where they will make the best total adjustment.

Habilitation Program

The meaning of education for these children must be considered as (1) education in terms of potential for school learning and academic development and (2) the broader problem of education as social adjustment to any level or degree. The feasibility, type and scope of a habilitation program has to be determined early and individually for each child. The more severely handicapped child will need custodial care and a decision must be made with the family whether he is to remain at home or be institutionalized. The functional group must be admitted to a program which is geared to the self-help skills. Prolonged readiness activities with emphasis on the sensory, language and social skills must be considered. A home living program is offered to the adolescent trainable child. When he is eighteen he is referred to the State Rehabilitation Center, a sheltered workshop. At this time a vocational rehabilitational counselor is added to the team. An "academic" program integrated with enrichment activities and the therapies is offered to the educable child. If he cannot qualify for transfer to a regular school because of the severity of his handicaps, a secondary correspondence course is presently being offered to him at the Orthopedic Unit. Upon termination of the program he is referred to a sheltered workshop. If he cannot qualify, he has no alternative but to remain at home.

Teaching methods for the brain injured must be individualized, modified and sometimes reversed when problems of perception, inability to generalize, distractibility, etc., interfere with his learning. Techniques must be devised for capitalizing on strengths to minimize weaknesses. Audio-visual experiences are utilized

to bring reality into the classroom. Field trips are costly and are provided by the P.T.A. Some recreational equipment and social experiences are contributed by interested service clubs and community organizations.

Referral and Evaluation Procedure

Applicants for the Orthopedic Unit may be referred by private physician, Shriners' and Tripler Hospitals, The Crippled Children's Section and the Division of Mental Retardation. The criteria for acceptance is based on the orthopedic and/or neuromuscular needs of the child. He must be reviewed by a team of specialists. If he qualifies, he is accepted on trial and evaluated periodically to ascertain the adequacy of earlier decisions and re-adjustment in terms of cumulative data.

The physician submits a medical summary including the child's medical history, medical problems such as bladder control, epilepsy, etc., and recommendations to the therapists. The psychologist's evaluation includes only such data as is meaningful to the educational process; descriptive information regarding the child's communicative abilities, emotional behavior, intellectual functions, specific motor and sensory functions and perceptual and conceptual impairments involving the sensory motor functions. Suggestions regarding the child's placement and education are included. The medical social worker appraises the social condition of the child's family, the attitude of his parents and siblings toward him, and all other factors which may influence the educational and medical treatment program.

The teacher is the integral part of the evaluation team. She must be broadly trained in special education and be experienced to cope with the wide and varied chronological, mental and social age spread within the class.

She must be familiar with the assets and liabilities of her charge from the beginning, 'approaching him where she finds him and taking him as far as he is able to go. She carefully interprets the evaluations of the team members, and appraises the child objectively as an individual. She must accept him as he is, despite his lack of abilities, his awkwardness and his behaviorisms. She must be flexible and cognizant that pupils' needs are more important than devotion to any particular plan or procedure. She is responsible for parent conferences and psychological referrals when they are indicated. She must be aware that therapy is a part of the integrated classroom and that no disharmony exist between the dual programs.

The physical therapist carries out a program of education dealing with the extent and function of the muscles and particularly ambulation, assisting the home in the follow through program. The occupational therapist concentrates on training in self-care activities (eye-hand coordination, feeding and dressing) and explores vocational and avocational interests. The speech therapist administers hearing tests and gives treatments based on each child's needs. The public health nurse acts as a liaison between the school personnel and the field nurses and participates as a member of the team.

Summary

The inter-disciplinary approach involves more than sharing information and ideas at the beginning of the treatment. It calls for periodic staff conferences and team evaluations because social and medical situations change and may indicate a need to revise plans. The progress in any area needs to be shared with other members of the team. It calls for open channels of communication in order to help these children grow and develop to their maximum capacity.

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2. The shortage of qualified college staff, budgeted positions and multi-disciplinary cooperation.
3. The difficulties in changing existing educational structure—administrative and operational.

There is no intent to substitute the resource-consultant for the special class teacher. On the contrary it is recognized that there are some children who may be better served in special classes under the direction of a special class teacher. There are, however, far greater numbers of exceptional children who can be maintained in a regular class with the support of a resource consultant.

**Phase 6—International
Special Education**

Hawaii is in a unique position geographically and culturally to serve as a base for Pan-Pacific operations in Special Education. The East-West Center on the University of Hawaii campus is already recognized as a major center for international exchange of technical information. Some initial contacts have already been made with special educators from other nations to develop this phase of the program and the future looks quite promising. Activities such as a Pan-Pacific conference for Special Educators, a Pan-Pacific Training Center, technical assistance programs, student exchanges, special scholarships, and other working relationships are possible.

**Proposed Teacher Certification
In Special Education**

Recommendations to change certification requirements for teachers of exceptional children have been made by a joint committee of the University and the State of Hawaii, Special Education Branch. The pro-

posed changes represent a major innovation in special education. If adopted the proposed certification requirements would give the University an opportunity to explore new approaches in teacher training. The proposed changes strengthen both the State and district certification procedures, and enhances the recruitment of students into special education as a career.

Certification to teach exceptional children in the State of Hawaii will be granted upon completion of the requirements specified in plan A, B, C, or D and subject to fulfilling a two year conditional teaching period in a class for exceptional children in the Hawaii public schools.

PLAN A

The applicant has successfully completed a sequence of courses in special education in the teaching area of specialization for which he is making application. The sequence shall have been taken at an accredited college or university and involved not less than four courses including supervised student teaching with exceptional children.

PLAN B

The applicant (1) has two or more years of successful teaching experience with elementary and/or secondary school children, (2) can meet certification requirements to teach elementary or secondary school children in Hawaii, and (3) has taken the following special education courses (or equivalent thereof):

- a) A course surveying programs and problems of exceptional children.
- b) A course involving intensive study of handicapping conditions in children whom the applicant will be teaching. (Eq. M.R., E.D., etc.)
- c) A course involving the study of curriculum materials and

teaching methods used in educating the type of children the applicant will be teaching.

PLAN C

Out of state applicants certified in their respective states are eligible for certification in the State of Hawaii subject to the conditions listed for all applicants.

PLAN D

If a teacher has obtained certification as a teacher of exceptional children in one area of specialization and wishes to teach in a second area of specialization, the two year conditional period will be required.

Conditional Teaching Period

Every teacher who wishes to obtain certification to teach exceptional children in the State of Hawaii is subject to probationary status for a two year period. During this time the probationer may be required to fulfill certain conditions specified by the State Department of Education, Special Education section. Conditions may include additional course work in specified areas for improvement of teaching efficiency. These conditions may be designated at any time during the probationary period. Final approval for certification will be given upon written recommendation of the district superintendent employing the probationer.

Conclusion

The Special Education program at the University of Hawaii has developed with strong support from the University and the U.S. Office of Education. In the two years of operation the Federal support has exceeded \$200,000 with additional funds forthcoming. The continued support of special education activities will insure a high quality of services to the exceptional children of the State of Hawaii.

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Decentralization

The State Department of Education was reorganized in September, 1965 to decentralize services to meet the needs of seven school districts. Direct services and supervision are provided by the specialists assigned to the districts. Each district has on its staff school social workers, psychological examiners, speech and hearing teachers, and administrators to provide diagnostic services. Plans are being made to create supervisory positions for special education in each district.

Presently the seven District Superintendent's Office include the following professional staff to serve exceptional children:

	Honolulu	Central Oahu	Lee- ward Oahu	Wind- ward Oahu	Maui	Kauai	Hawaii
Staff Specialist							
Special services	1	1	1	1	1	1	1
Psychological							
Examiners	2	1	1	1	1	1	1
Speech and							
Hearing Teachers	7	3	2	2	2	1	2
School Social							
Workers	4	2	2	2	2	1	2

Last fall, the Guidance and Special Education Branch of the State Department of Education reorganized its Branch to improve coordination of services and clarified its role and responsibilities in the State Office to develop statewide standards for programs. The Branch has been reorganized to include two sections, namely, the Guidance Services Section and Special Education Section. All service oriented programs are in the Guidance Section under the Administrator of Guidance who coordinates and provides leadership to the Program Specialists in identifying exceptional children in the public schools and to provide follow-up services in educational planning or referrals to other public or private agencies or profes-

sionals in the community.

Statewide planning for training and instructional programs are developed in the Special Education Section of the Branch under the Administrator of Special Education. Program Specialists in mentally retarded and physically handicapped are on the staff.

Projections

Requests for additional state consultant position in the areas of learning disabilities and emotionally handicapped have been submitted to the State Legislature.

Decentralized services have increased the need for supervisory positions in the District Superintendent's offices. Recommendations are being

made to create supervisors in special education in every District Office throughout the State.

The programs for exceptional children have steadily increased from 1949 and will continue to grow. The programs have the support of the Governor of Hawaii, the State of Legislature, the State Commission on Children and Youth, and public and private agencies serving the community needs of exceptional children.

Federal Funds for State Schools (PL 89-313) and Federal Funds for the training of professional personnel in the education of handicapped (PL 85-926) will have a tremendous impact upon the educational programs for exceptional children served by the State Department of Education.

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the basis of diagnostic category rather than on the basis of functional attributes. Just as health care has not been rendered for "handicapped children", so has educational management been organized by assigning children to classes on the basis of a diagnostic label. This categorizing of children with reference to the principle disability suggests that children may not be treated on the basis of their own particular health and educational needs.

As the conviction in our society grows that health care and education are the right of every disabled child, it is surprising that so little evaluation of better ways to give services to these children has been done.

Health teams, functioning independently, are attempting to invite educators to their group conferences. However, these evaluations are established at the convenience of the health people, and at the times that they feel they are needed. It is most often impossible for the child's teacher to join the group, and if she does, she comes as a guest and an outsider into an already well established group of professional health personnel.

Perhaps it is time that educators should take the leadership, and invite health personnel serving the children into conferences and evaluations called by them. Their close, daily, long-term associations with handicapped children may give them an opportunity to assess the problem and better expose the difficulties to which health personnel can apply their skills.

A Partnership of Joint Staffing

Still another organizational method can be utilized in serving children

with chronic disabilities. This is the joint approach with health and educational personnel being assigned to organized teams which serve specified geographic areas, or designated numbers of special classes for handicapped children. This approach makes it possible to have continuity of personnel, to integrate educators and health personnel into a working unit, and presents a way to by-pass administrative and organizational problems so that the energies and skills of the group can be focused on the children and their needs for care. This pattern also lends itself to a more integrated relationship with parents, and may facilitate the easy transfer of children into the educational setting best suited to their total needs. Extra bonuses from the joint pattern of staffing may be wider use of nonprofessional aides, better communication with the child's physician, less duplication and segmentation of services, and earlier involvement of vocational counselors in planning for future employment.

Learning Disabilities Evaluation Clinic

An attempt at a jointly-staffed health-education evaluation clinic for children in Honolulu has been in operation for six months. The Department of Education, Division of Special Services, placed a speech-language therapist on the Health Department's Learning Disability Evaluation Clinic team. The speech-language therapist, in addition to direct services to children, screened school referrals, and coordinated evaluation conferences so that educators could attend. The results of this experimental venture are promising. Less restricted; and larger cooperative educational and health services for handicapped children will surely develop in the future.

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the Specialists, will be able to provide necessary data to weigh the feasibility and need for establishing different types of programs.

Current Needs and Trends

Today we are finding considerably more multiply handicapped visually impaired children. The number of children who are "only visually impaired" is very small and the feasibility of serving these children by means of an itinerant program is being studied.

Some hearing handicapped children of secondary school age are able to function in a regular intermediate or high school with minimal help from a resource room teacher and are currently being served in this manner. However, there is need for further study before more resource rooms for the orally oriented hearing handicapped children are established.

Another area in need of careful study in terms of program planning is the location of centers for the various handicaps. Population growth will most likely mean corresponding increases in the numbers of physically impaired children. The quality of service should not be sacrificed for the sake of expediency and the Program Administrator has a definite responsibility to study the necessity, and soundness of the move to establish a new program, modify an existing program, or strengthen the supporting services to an on-going program.

The growth of special education programs accompanying population growth will mean an increase in the number of special education teachers. The standards for the certification of special education teachers need to be studied and revisions should be made so that the requirements are in step with the needs of the programs. The Program Administrator has a respon-

sibility to coordinate the efforts of the teacher preparation centers, especially the College of Education of the University of Hawaii, and the Department of Education in setting up realistic requirements for all special education teachers.

Federal Aid to special education programs operated or supported by the state is an area that the Program Administrator is studying as a means of expanding and improving programs for handicapped children.

Summary

The services of the Program Administrator and the Program Specialist at the state level should mean well-coordinated special education programs throughout the state offering equal opportunities to handicapped children regardless of their place of residence.

Through coordination of services of the special services personnel of the various districts, the state office, private and government agencies, it is hoped that services to the exceptional children will be rendered whenever and wherever needed, so that the percentage of handicaps caused by physical impairments is lessened, and more of the children affected by these impairments are able to enter the mainstream of life in their respective communities.

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The responsibility of the psychological examiner does not end with the placement of a student in a special class. The examiner is available to the special class teacher for additional testing and consultation. It is advisable to retest the student periodically in order to determine whether changes have taken place.

Interpretation of Findings

The profile of test scores on the various tests administered may be of

far more importance for educational placement than the total scores themselves. A student who obtains rather uniformly low scores on all subtests of an intelligence test is a more likely candidate for a class for the mentally retarded than a student whose total score may be the same, but whose subtest scores may fluctuate to great extremes. The latter student may be functioning at a low level in the classroom, but may not be a true retardate. He may be, after medical diagnosis, better placed in a class oriented towards helping children with learning disabilities which are sometimes the result of subtle neurological impairment. Or, after psychiatric diagnosis, he may be more suitably placed in a class for the emotionally handicapped.

The psychological examiner, with his unique skills is an important member of the guidance team in the schools. In addition to administering and interpreting tests and observing behavior, he works closely with parents, teachers, principals, and other members of the guidance team. His reports and recommendations are of use, not only to school personnel, but to other agencies which may be involved in the total planning and treatment of the child.

*In Hawaii, many of our "psychological examiners" have training and experience equivalent to "school psychologists" elsewhere.

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vices. The social worker's function goes beyond social treatment of the individual and his family. He is becoming increasingly involved in group counseling programs for the retardates themselves as well as for their parents. He must assume an active role in interpreting to the community the special problems of this group and their needs for specialized services such as nursery school and

day care, foster home care, home-maker and babysitting programs which are often unavailable or inadequate. The social worker must also share responsibility with the other disciplines to extend services into the areas of public education and community planning. Modifying public attitudes and stimulating support for developing and expanding facilities for the retardate within the community are of increasing importance in view of the growing trend toward habilitation and rehabilitation of more and more retarded in the home and community. Expansion of services highlights the need for more trained people. Social work faces a shortage of professionally qualified personnel, both locally and nationally, even to meet existing demands for services.

¹Kanner, Leo. "Parents' Feelings About Retarded Children", *American Journal of Mental Deficiency*, 57:3 (January, 1953), pp. 375-383.

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only road to success when all the customary avenues have been explored without success.

Innovation in method is necessary. Rather than slavishly adhere to one method, it is better to keep the focus on the child's needs and then use an appropriate method. This can be accomplished by spending as much as eighty percent of the time in diagnosis. Accurate diagnosis, though not absolutely necessary, helps make the balance of the teacher's efforts more efficient. The most, in the least time, by the best way is the goal. The "least time" might imply partial integration in the regular school programs. This occasionally meets with administrative resistance but when there is focus on what is best for children, the resistance can be overcome. The "best way" results from diagnosis and experimentation.

All well-trained teachers have had experience in keeping anecdotal records and experienced teachers have put this training to use. The high value of anecdotal records is unquestioned. Even if there is lack of insight as to the significance of these records, other more highly trained people (often in other disciplines) can save hours of diagnostic time by referring to them. Keeping these records as a universal practice would be one valuable innovation in procedure.

Awareness

The teacher's commitment to human values, enthusiasm for the tasks involved, and predisposition to innovate requires an uncommon awareness of the nature of learning. When ordinary methods based primarily on the visual sense fail, an awareness of alternate sensory paths of learning input, retention and output is necessary. Extraordinary methods are necessarily time-consuming and practical with only small groups of children. For this reason, the expense of special education is high. That the investment is worthwhile is evidenced by rewards to society in the forms of salvaged personalities that otherwise would become permanent charges upon social agencies of various kinds.

Awareness leads to increasing facility in handling new cases. Clues to causes of handicaps are more quickly recognized. With experience comes an awesome ability to assess problems, estimate prognoses, and form plans of remediation which can be beneficial even in the absence of needed medication, prosthetics or surgical procedures. The educator's ability to minimize effects of injuries or congenital inadequacies is not primarily the result of the art and science of teaching, but is mainly the manifestation of a marvelously adaptable human organism which continues to confound us all with its complexity and promise of survival.