Selected Readings

on the

Preparation of Personnel

for the

Education of Students

who are

Deaf-Blind

Norma Tedder, Ph.D., C.R.C.

Anjoo Sikka, Ph.D.

Suzanne Ewing, B.A.

Ajay Sikka, M.B.A.

Rehabilitation Research and Training Center on Blindness and Low Vision

Mississippi State University

Table of Contents

iii

RATIONALE FOR THE SELECTION

These readings were selected to survey the field of education of students who are deaf-blind with respect to preparation of its teachers. The selected readings cover a span of 16 years. Most of the materials resulted from ERIC and Psych Abstract database searches of key terms such as in-service, pre-service, personnel preparation, communication, behavior, behavioral intervention, assessment, placement, mainstreaming, psychology, and mobility which were all cross referenced with deaf-blind, deaf, blind, and multihandicapped. Because of a particular interest in the transition years, the terms transition, adolescence, placement, independence and programs were also crossed with blindness, deafness, and deaf-blindness. In addition to data searches, the tables of contents of the *Journal of Vision Impairment and Blindness*, the *Journal of Education of the Visually Handicapped* (later *RE:view*), The *School Psychologist*, and The *Journal of Rehabilitation* were individually examined for the years 1980-1992 in the event that related articles might contain items of interest.

The readings have been divided into two categories. The first category covers the needs of teachers' in-service and pre-service training and includes subsections related to the specific disabilities that might be relevant to deaf-blind students as well as information about how teacher training is, or should be, conducted. The second section more specifically addresses

information about students arranged according to programmatic issues such as "diagnostics" or "transition," most of which have been written concerning students who are blind, deaf, or deaf-blind. The readings focus more on the transitional years of the student's education, but because many students in the transition years are still mastering early elementary skills, information regarding earlier developmental issues is also included.

I. Needs of the Teachers and Preparation Issues

A. Inclusion in the Regular Classroom

B. Vision Impairment

C. Severe Educational Handicaps

D. Hearing Impairment

E. Deaf-Blindness

F. Factors in the Design of Training

I. NEEDS OF THE TEACHERS AND PREPARATION ISSUES

Almost anyone who has administrative or program planning responsibilities for students who are deaf-blind will quickly note that there is a need for more teachers who are trained to respond to the specific needs of this disability group. The group may split into factions related to whether this need is best met by a special pre-service degree in "deaf-blindness" similar to those in blindness and deafness, or whether the need is best met by an add-on endorsement to certification or licensure in general special education or education of the blind or deaf. Nevertheless, there is almost universal agreement among those who have worked with students who are deaf-blind for several years that there is "something missing" in a teacher training program that doesn't provide specific knowledge of deaf-blindness. Many of the team members of established programs have acquired their expertise through many years of experience and in-service, combined with collaboration with other teachers in the program; and other teachers have had special pre-service training related to deaf-blindness. All of them, teachers, supervisors, and administrators, will note that there is "something different" in the approach of a trained or experienced teacher that goes beyond a general knowledge of special education, or the ability to sign, or the ability to teach braille.

As the issue is presented to state and local administrators and supervisors of special education who are responsible for actual placement and programming for a student who is deaf-blind, the desire for "formal" training decreases. In some respects, the closer to the student, the more "practical" the solutions to personnel qualifications. Students who are

deaf-blind are served by general special education teachers, resource teachers for learning disabilities, teachers with endorsement in severe handicaps, or possibly vision impairment or hearing impairment. The personnel in the local school charged with "mainstreaming", or inclusion of a student who is deaf-blind, however, may express an opinion more like that of the national "deaf-blind" planners and administrators. Out of frustration and feelings of inadequacy, they too request that a "teacher of the

deaf-blind" serve the student.

Some of the practicality toward training is related to potential litigation regarding the appropriateness of services which determines, in many instances, how the child who has both hearing and vision problems is classified under the federal child count. If there are no certified or licensed teachers of the deaf-blind available, it is wiser to count the student in a category for which there are qualified teachers. Most students who are termed "deaf-blind" also have other educational handicaps such as retardation, so it is convenient to count those students under that category. If the child has a vision deficit and there is a

9

certified or licensed teacher of the visually impaired available, it is quite likely that the child will be counted under that designation. The child count is unduplicated which means that the primary disability determines the category in which the child is counted. It is readily observable that many states report no "deaf-blind" students because they have no corresponding certification or licensure.

Additionally, the characteristics of children who are deaf-blind is nebulous because each state and each service program has determined the definition of such a student and/or the eligibility standards somewhat differently (see Tedder, 1992, unpublished manuscript). The philosophy of the state education agency and its institutions of higher education regarding specialized training of teachers to serve this population may also be expected to vary from those of another state.

The result of the state of teacher training and corresponding availability of "teachers of the deaf-blind" for this disability group is that more and more unprepared teachers are being asked to "include" a child with this handicap in their classroom for more and more activities. The more enlightened of these teachers are desperate for training that will allow them some glimmer of an idea of how to program for, or even how to communicate with this student. Some of the ideas for meeting these teacher requests are found in the first section. Because few publications are available regarding the specific in-service or

10

preservice training of teachers who will work with students who are deaf-blind,

related articles regarding training in similar low incidence areas have also been

reviewed. The subsections correspond to general issues and mainstreaming,

severe educational handicaps, and some issues to consider in designing training

projects for "mainstream teachers".

A. Inclusion in the Regular Classroom

The concept which has become known as "mainstreaming" came into use as a result of P.L. 94-142, although the term did not appear in the law. The concept has evolved via P. L. 101-476 into "inclusion", which may provide more than lip service to equality of education. Many regular education programs were unsure about the idea that a student with a disability, particularly a more severe disability, could be "mainstreamed" to any extent. In response to the concerns of teachers and to facilitate the intent of the law, many in-service training programs and some research projects were launched to note successful programs and their components. Colleges and universities also responded by requiring one or more courses in special education in order to obtain regular education licensure.

The articles abstracted in this section reflect a desire to include students with handicaps in the regular classroom environment. The projects range from straightforward information sessions regarding legislation to more complex attempts to change teacher attitudes. Most of these abstracts address students with all types of handicapping conditions, but some thoughts are to be found here that apply to students with severe handicaps and deaf-blindness. The role of paraprofessionals in assisting with the inclusion of students is addressed by one abstracted article.

Arick, J., Falco, R., & Brazeau, K. (1989). Prioritizing in-service needs for educators of students with severe handicaps in heterogeneous integrated settings. *Education and Training in Mental Retardation*, *24*(4), 371-380.

This article describes a survey of 333 Oregon personnel who provide services to severely handicapped students in integrated settings. The purpose of the survey was to determine what these service providers considered to be their own most pressing in-service needs. The survey had both written and structured interview components. In the written portion, teachers were asked to prioritize 110 training topics in 11 categories on the basis of the need for training. The structured interview follow-up was designed to collect demographic data on the respondents, elicit additional qualitative information, verify the in-service priorities determined by the written survey, and identify any training needs not included in the written survey.

The top four in-service training need categories as determined by the written survey were: (a) teaching students with specific handicapping conditions, (b) teaching functional communication, (c) teaching appropriate behavior and modifying inappropriate behavior, and
(d) identifying/designing appropriate curriculum materials. The interview data supported these categories as being most important to the responding teachers.

Casey, A., Deno, S., Marston, D., & Skiba, R. (1988). Experimental teaching: Changing beliefs about effective instructional practices. *Teacher Education and Special Education, 11*(3), 123-131.

The purpose of this study was to determine whether training in approaching teaching from an applied researcher stance would change teachers' beliefs and attitudes about the effectiveness of interventions for mildly handicapped students. Twenty-seven special education resource teachers (volunteers) of children in grades kindergarten through six comprised the experimental group. Twenty volunteers (teachers) who agreed to participate in the study but not the experimental project, and 33 teachers who did not volunteer for the study served as two control groups. All teachers were familiar with the concept of Curriculum Based Measurement and used those measures in the classroom. Training consisted of familiarization with (a) nature of time-series data in single subject designs and (b) six sets of student program variables that could be modified (instructional, motivational, curricular, consultative, cognitive, and peer-tutoring variables).

Three measures were employed to answer the research questions: (a) Interventions Strategies Recall and Effectiveness (ISRE), (b) a multiple choice knowledge test (KT), and (c) a Belief Scale (BS). Data were obtained over three occasions: before training, after training, and once more after a lapse

of time. Repeated measures analysis of variance revealed that training did not have a significant effect on the store of available alternatives as measured by ISRE measures. Teachers in the experimental group showed a change in their judgement of effectiveness of specific teaching strategies as compared to teachers from the control group. The experimental teachers also became less certain of their judgements about intervention effectiveness, while the teachers in the control groups were at essentially the same level in their certainty at the year's end.

Conway, A., Sr. (1979). Mainstreaming from a school for the deaf. *The Volta Review*, *81*, 237-241.

The article addresses the issue of mainstreaming students who are deaf in a typical public school classroom. A survey was administered to 24 students (grade 5-12) who had participated in a mainstreaming program for at least one year. While agreeing on the importance of intelligible speech and hearing aids, the students showed varying degrees of psycho-social adjustment depending upon the level of supportiveness from teachers and non-handicapped students.

The author argues that given the current situation, mainstreaming does not result in any changes in students' motivation, primarily because regular education students do not receive training/support to help them accept or interact with classmates who have handicaps. The author recommends crucial issues to be addressed before mainstreaming: (a) the importance of interaction with non-handicapped peers, (b) characteristics of effective programs of orientation for staff and students, and (c) criteria for mainstreaming students with handicaps.

The author suggests that mainstreaming will be successful when it is based on a thorough assessment of the child and receiving systems, and there is a provision for preparing personnel and frequent evaluation.

Dummer, G. M., & Windham, G. M. (1982). Mainstreaming in physical education: An in-service teacher training model that works. *Physical Educator*, *3*(3), 16-19.

This article describes an in-service training model for mainstreaming of physical education. The proposed objectives of the Montgomery County Public School (MCPS) teacher training program were to: (a) raise the comfort level and increase the effectiveness of the physical education teacher with the mainstreamed student and (b) to provide a framework for creating alternatives within physical education programs for children with special needs.

The authors report inclusion of the following special features in the program to improve its effectiveness: (a) consideration of the local school system's characteristics, (b) peer training, (c) consideration of the participant's personal and instructional needs, (d) active involvement of participants, (e) availability of brochures providing supplementary information for training sessions, (f) promoting interdisciplinary cooperation in mainstreaming, and (g) follow up and evaluation (which included evaluation at the end of the day, pretest-posttest evaluation, and follow up evaluation).

The sample participating in the program included 150 teachers providing physical education services. Responses of participants on a self-report inventory revealed a positive evaluation of the workshop (average response being 4.20 on a 5-point scale, Low=1 and High=5). Chi-square analysis of pretest/posttest scores on the evaluation instrument revealed significant differences. In brief, at the completion of training, teachers developed a more positive attitude towards mainstreaming and its effects on the education of handicapped children. Evaluation of the second objective of the program was obtained by using participant reports on the extent to which they had been successful in increasing the involvement of physical educators in planning for the education of handicapped students.

Hart, L., Hill, J. M., Healy, S., & Fagen, S. A. (1983). Objectives and types of in-service training for mainstreaming. *The Pointer*, *28*(1), 25-28.

In this article, the authors present data from progress reports of a Maryland pilot project in which teachers were trained to work with mainstreamed special needs students. They analyzed the extent to which in-service training programs fell into each of four levels:
(a) orientation/awareness level, (b) knowledge level (increasing teacher knowledge of a particular skill), (c) attitude/understanding, and (d) skill level (changing teachers' practices and behavior). They found that 5% of the programs were at Level 1; 47% were at Level 2; 33% were at Level 3; and 15% were at Level 4. The authors also examined formats used by schools for in-service training programs. The three most popular formats were:

(a) authorized release time workshops (47% of schools used), (b) required faculty meetings (45%), and (c) dissemination/use of professional or child-centered materials and individualized study projects (both were 15%). The three least popular formats were: (a) school-based seminar (1%),
(b) group sessions during non-teaching time (3%), and (c) out-of-school visitations (5%).

Thompson, R. H., White, K. R., & Morgan, D. P. (1982). Teacher-student interaction patterns in classrooms with mainstreamed mildly handicapped students. *American Educational Research Journal*, *19*(2), 220-236.

Teacher-student interaction patterns in 12 third-grade mainstreamed classrooms were observed with four groups of students: (a) non-handicapped high achievers, (b) non-handicapped low achievers, (c) learning disabled, and (d) behaviorally dependent. The teacher-student interaction was defined using 16 dependent measures derived from the Brophy-Good Teacher-Child Dyadic Interaction System. Multivariate and univariate analysis of variance procedures demonstrated that the groups were significantly different on 8 of the 16 dependent measures.

The results of this study indicate that learning disabled students received more interaction than high or low-achieving non-handicapped students, and that students who have been identified as disruptive and aggressive received more total teacher interaction than their
non-handicapped peers.

The study's overall conclusion is that although there is substantial evidence that teacher-student interaction varies among the four groups of students observed, there is no strong evidence that general preferential treatment is likely to result in better educational gains, or a more effective learning environment for any single group of students.

The authors conclude that handicapped children who are being mainstreamed into regular education classrooms will be at a severe disadvantage because of preferential teacher interactions provided to non-handicapped students. However, the results do indicate that (a) more effective learning environments need to be designed for all students,
(b) regular classroom teachers need to increase the proportion of positive feedback and initiation, and decrease neutral and disapproving feedback,
(c) better balance between academic and procedural activities needs to be achieved, and (d) teachers focus more on teaching independent work habits to students so that the disproportionate amount of procedural time now being spend in the classroom can be reduced.

Adamson, D. R., Matthews, P., & Schuller, J. (1990). Five ways to bridge the resource room-to-regular classroom gap. *Teaching Exceptional Children*, *22*(2),

74-77.

The article describes a resource program which incorporates a variety of generalization techniques aimed to bridge the gap between the resource room and the classroom. The authors use an elementary school in Utah as an example to illustrate five different program components found to be effective by classroom teachers. These program components are:

1. *Consultation services*. To strengthen the mutual respect and trust between regular and resource teachers, a daily interaction on an informal and on-going basis is incorporated in this component.
2. *Collaborative teaching/co-teaching*. Lowest groups in each grade level are identified, and resource teachers arrange the schedule so as to assist the regular teacher in teaching these students with special needs.
3. *Structured Recess Program*. Specific intervention in a specific setting is provided to identified students who display inappropriate behavior during recess and less structured activities in and around school.
4. *Work Completion Groups*. Resource students with incomplete and complete class work are sent to the resource room at the end of each day to enable the resource teacher to monitor their progress.
5. *Daily checkouts for contract monitoring*. Regular teachers submit a daily form to the resource teacher listing specific behaviors of students with poor conduct so that individual progress can be assessed.

The authors conclude that children with problems are not perceived to "belong" to the resource program, and that this attitude needs to be changed so that responsibility of such pupils is shared. Students with mild handicaps and low performance can succeed in regular class environments with assistance from a resource program which has been redesigned to include the above components.

Rikhye, C. H., Gothelf, C. R., & Appell, M. W. (1989). A classroom environment checklist for students. *Teaching Exceptional Children*, *22*(1), 44-46.

This article provides a checklist that may serve as a useful model for the design of classrooms serving students with disabilities. The authors suggest that it be used on a periodic basis to monitor progress and pinpoint on-going and changing needs. Use of the checklist can help teachers identify incongruities between environmental arrangements and students' assets and needs.

The checklist has 20 items, each with a simple yes/no response format. The items reflect a variety of considerations, including ambience, safety, equipment specifications, and environmental characteristics. In preparing the checklist, the authors consider that it is important to structure an environment that will help students with dual sensory impairments interact, provide a stable and structured classroom that highlights relevant information, and establish clear routines and boundaries. The primary goal, according to the author, should be to promote and facilitate independence.

The list can also be used by the school personnel to identify critical environmental features that promote student anticipation of events, communication, independent mobility, and self-initiation of activities.

Brady, M. P., Swank, P. R., Taylor, R. D., & Freiberg, H. J. (1988). Teacher-student interactions in middle school mainstreamed classes: Differences with special and regular education students. *Journal of Educational Research*, *81*(6), 332-340.

In this study, differences in teacher/student interactions in junior high social studies classrooms with and without at least one mainstreamed special education student are examined. This study employed a control group factorial design with three independent variables: experimental variable (condition), classroom type (heterogenous vs. homogeneous), and student type (mainstreamed vs. non-mainstreamed). The dependent variable was observed frequency of behaviors (interactions) falling into 18 different categories. The authors devised a form to measure classroom interactions and other behavior, and the activity during a 50-minute social studies class was coded by two independent raters. Observations took place before and after an intervention designed to increase the ratio of academic interactions to other interactions (e.g., discipline, classroom management and organization, and off-task student behavior). The intervention was composed of six workshop sessions over a six-week period, with units on:
(a) time usage; (b) classroom organization; (c) classroom management;
(d) instructional interactions and questioning; (e) self-assessment, monitoring

and instruction; and (f) mainstreamed and low-achieving students. In addition to the pre- and post-intervention observations, a follow-up observation was conducted to measure longer-term changes in teacher/student interaction patterns.

Larrivee, B. (1981). Effect of in-service training intensity on teachers' attitudes toward mainstreaming. *Exceptional Children*, *48*(1), 34-39.

In this study, regular classroom teachers (*n*=941) were provided with three levels of in-service training and were then questioned about their attitudes toward the mainstreaming process. The three training categories are: (a) no special training, (b) monthly in-service training during the school year, and (c) an intensive summer training program on special education issues, followed by weekly training sessions during the school year. The eight two-hour monthly sessions focused on behavior management, diagnostic-prescriptive teaching, individualized instruction, and teaching and learning styles. The intensively-trained group attended a six-week summer workshop that met for four hours each day. The training was divided into the general areas of introduction to special education, classroom management for special needs children, adaptation, and informal diagnostic assessment. In addition, teachers in this group attended weekly sessions during the school year in which training was individualized to fit specific special students' needs.

The author hypothesizes that eight dimensions of teachers' attitudes toward mainstreaming might vary as a result of the level of in-service training provided. These eight dimensions are attitudes toward:
(a) education in general, (b) philosophy of mainstreaming, (c) effect of mainstreaming on the special needs child, (d) effect of mainstreaming on the normal child, (e) mainstreamed children's behavior, (f) mainstreamed children's cognitive functioning, (g) parents of mainstreamed children, and (h) perceived ability to teach a special needs child. A scale was developed to measure attitude change using at least five items related to each of these eight dimensions.

Teachers who attended the intensive training program rated higher (i.e., more positive toward mainstreaming) than did the other two groups. Those teachers receiving the medium level of training (monthly sessions) rated lower than the teachers who received no special training. The most significant differences among the three groups appeared in their perceived ability to teach special needs children, general philosophy of mainstreaming, and attitudes toward academic and social growth of the special needs child. The author suggests that increasing teacher knowledge and contact with special needs children creates more positive attitudes about mainstreaming. According to the author, previous research results that have been inconclusive about the effects of in-service training may be due to failure to control for the intensity of the training

program.

McLaughlin, M. J., Valdivieso, C. H., Spence, K. L., & Fuller, B. C. (1988). Special education teacher preparation: A synthesis of four research studies. *Exceptional Children*, *55*(3), 215-221.

       This article combines the results from four research studies addressing teacher preparation issues. In the first two studies, state education agency personnel were questioned in 1984 and again in 1986 about special education personnel preparation and special education policy issues (n=66 and n=72, respectively). The officials surveyed felt that new teachers lacked knowledge of how to function effectively as team members, did not know how to write IEPs, and knew little of the rules and regulations governing special education services. They noted that the in-service training programs that were being used did not seem to be improving teachers' collaborative skills.

       In the third study, undergraduate and graduate students in special education (n=2307) were questioned about their career goals and training. The authors found that education students are most likely to expect to teach elementary-level, mildly handicapped children. However, the authors note that most job openings were anticipated to be at the secondary and severe handicap levels. The authors conclude that special education students may not be receiving adequate and/or accurate career planning information. They note that, although many students are full-time teachers returning to graduate school part-time while continuing to teach, special education departments do not reflect this in their curricula.

       In the fourth study, special education department faculty (n=68) were questioned about their programs, their students, and their interactions with the state and federal government. Unlike state officials, faculty members were generally satisfied with the caliber of special education students. Many of their students were full-time teachers returning to school part-time in order to upgrade their skills or get the credentials necessary for a promotion, but few departments had made changes or planned to make changes in their curricula to reflect this fact. In contrast with state officials, special education faculty members consider assessment skills and instructional program development to be most important for future special education teachers to learn rather than IEP writing or collaborative skills.

Shapiro, H. S. (1981). Implementing P.L. 94-142 in the high school: A successful in-service training model. *Education*, *102*(1), 47-52.

       This article describes the author's experience with an in-service program designed to assist high schools in implementing PL 94-142. In this program,

titled the *Comprehensive Secondary School Planning Project* or CSSPP, 1700 teachers and administrators were trained in methods of integrating special education students into regular classrooms.

The CSSPP was administered in four phases: (a) Administrative orientation: the in-service process was explained, commitments were obtained from administrators to allow staff members to attend, and future follow-up activities were encouraged; (b) Selection of Trainers and Identification of School Needs: the content of the in-service was planned, and the selected peer trainers were invited to participate;
(c) implementation of the two-day training workshop; (d) Planning the faculty in-service program: the teachers/administrators who attended the first training workshop and the program facilitators worked out an agenda for the peer training day; and (e) The faculty in-service day: members of the first training group presented the workshop to the rest of the staff with assistance and support from the program facilitators.

The author comments that input of staff members and administrators into the format and content of the training session is crucial to the success of the program.

Frank, A. R., Keith, T. Z., & Steil, D. A. (1988). Training needs of special
     education paraprofessionals. *Exceptional Children*, *55*(3), 253-258.

The purpose of this study was to identify those tasks rated as important by special education teachers for their paraprofessionals. in addition, paraprofessional were asked which tasks they considered most important to their own work. Teacher ratings of the paraprofessionals' skills on completing these tasks were also obtained, and the effects on ratings of program instructional model and age of students served were also examined.

A random sample of 385 teacher/paraprofessional pairs were mailed questionnaires which were composed of four-point scales rating importance and skill level for each of 18 tasks. Using arithmetic means and *t* tests, the tasks where teacher ratings of task *importance* were significantly higher than teacher ratings of paraprofessional *skill* in completing the task were identified.

In general, findings indicate that:
1.   Teachers viewed clerical and supervision skills as more important than mainstreaming, direct instruction, or health-related skills.
2.   Special education teachers were satisfied with the performance of their paraprofessionals and indicated that no additional training was warranted.
3.   When the teacher and the paraprofessional agree on the tasks of the paraprofessional, the working climate will be enhanced.

The two tasks rated by all special education teachers as most important were preparation of classroom materials and helping student practice skills previously presented by the teacher. Additional task statements/comments mentioned in the survey instrument concerned in-service training for paraprofessionals.

Hale, S., McClain, N., & Samson, J. (1976). *Project S.E.R.T. Special Education for Regular Teachers*. East Texas State University.

This document describes an 8-module training program on special education issues for regular teachers. Pre- and post-tests for each module are provided. The modules include: (a) Comprehensive Special Education (containing readings describing alternatives to self-contained special education classrooms for mildly handicapped children, and an article simulating what it is like to attempt to read for someone with a perceptual problem such as dyslexia); (b) Formal Appraisal (methods of evaluating children's academic strengths and weaknesses to better plan programs for special-needs children); (c) Team Planning for Student Program Management (how classroom teachers can provide input into the educational program planning process); (d) Informal Assessment, which "ranges from casual observation of seatwork and behavior to brief test-like checks on specific skills in specific subject areas"; (e) Organizing Content for Individual Differences; (f) Materials Selection; (g) Classroom Management (identifying and changing maladaptive behavior); and (h) Evaluation of Instruction (monitoring student performance and auditing instructional performance).

B. Vision Impairment

Teachers of students with visual handicaps have enjoyed the influence of a group of teacher educators who are aware of the difficulties of maintaining quality preparation programs in the face of diminishing numbers. Their lengthy experience in "doing more with less and less" has resulted in innovative thinking about the process and the components of education. More than any other group of special teachers, teachers of the visually impaired are stretched across a continuum of services, and usually a broad expanse of real estate. Which is to say, teachers of students with visual handicaps may teach in residential schools, special programs in regular schools, resource rooms, or may be itinerant teachers. Their students typically range across all levels of disability and ability. In addition to the teachers, there are other specialists, such as orientation and mobility instructors, who play a vital role in the education of these children.

The following abstracts address some of the primary issues facing educators within this specialization and reflect ideas of their best thinkers regarding teacher needs and training resources. Because students who are deaf-blind often have teachers trained to educate students with vision impairments, and because they are an even "lower incidence" than students with vision handicaps, the issues important to the "vision teacher" are included in this

section.

Erin, J. N. (1986). Teachers of the visually handicapped: How can they best serve children with profound handicaps? *Education of the Visually Handicapped*, *18*(1), 15-25.

This article outlines several issues facing teachers of the visually handicapped who serve children who are severely/profoundly handicapped as well as visually impaired: (a) Usefulness of training profoundly retarded children to use their residual vision or other senses (some argue that stimulation of residual vision does not lead to significant improvement in these children's lives; others argue that severely/profoundly handicapped children deserve the highest level of sensory training that can be provided); (b) level of involvement of the vision teacher (as a consultant to other staff only, as a consultant and limited direct service provider, or as the primary direct service provider); (c) viability of vision stimulation activities (as opposed to general behavioral modification, in which teachers of severely/profoundly handicapped children are already trained); and
(d) choice of vision teacher as primary service provider for children who are severely/profoundly handicapped.

Certified teachers of visually impaired students are often required to provide services to severely and profoundly handicapped children who have visual impairments, yet teachers of the visually handicapped often consider themselves "unqualified" or "lacking preparation" to provide services to the severely/profoundly handicapped child. By default, much of the training that a teacher receives in working with this population takes place on the job. The author argues that more attention should be given to this population's needs and capabilities in training programs for teachers of the visually handicapped.

Head, D. N. (1989). The future of low incidence training programs: A national problem. *RE:view*, *21*(3), 145-152.

The article describes the scarcity of teachers of visually impaired children and youth and emphasizes the need for more teachers trained in this area. The author explores factors that tend to have a negative impact on efforts to recruit and train teachers and offers several possible solutions.

The author proposes the following solutions to current problems in training personnel to work with visually impaired students:

1. Legislate appropriate reporting from local education agencies to state and federal governments. Any child with visual acuity of 20/70 to 20/100 or worse should be identified as having visual impairment as the primary handicapping designation.

2. Develop novel approaches to funding personnel training programs which encourage cooperation among existing programs as well as cooperative efforts at recruitment of personnel into the field of education of the visually handicapped (e.g., expansion and implementation of some of the innovative training practices that have been initiated in various states, cooperative effort in recruitment by states and universities, higher salary increments, stipends for study, grant support for extended periods, etc.).

The author concludes that unless leaders in the field make a conscious decision to implement policy changes and accept responsibility for the existing problems, the profession may lose its separate identity.

Lowenfield, B. (1989). Professional self-esteem or the evolution of a profession. *Journal of Visual Impairment and Blindness*, *83*, 336-339.

The article provides a historical background on several important challenges that professionals in the blindness field have met (i.e., Retrolental fibroplasia, Rubella, and use of residual vision), and outlines changes in the education of blind and visually impaired children, particularly increased integration of students who are blind. The author argues that two important issues remain: (a) the future of residential schools, and (b) preparation of personnel with the specialized knowledge and skills that blind and visually handicapped children will need.

In the future, residential schools will increasingly be asked to provide diagnostic services, giving impetus to the use of multidisciplinary teams. In addition, they are likely to assume the role of educational rehabilitation centers for students who need more training in specialized skills (e.g., Braille or mobility) than most public school facilities can offer.

Teacher preparation programs should take advantage of the professional literature in the areas of psychological, developmental, and social aspects of blindness. Professionals need to reverse the trend toward generic placement that was caused by a lack of recognition of the need for specialized teachers of blind and visually handicapped children.

Swallow, R. M. (1990). The future of training programs for teachers of the visually handicapped: A commitment to life-long learning. *RE:view*, *22*(1), 13-22.

The paper outlines the inadequacies of traditional inflexible training programs in meeting personnel preparation needs. It lists several problems confronted by teacher preparation programs in the field of blindness and visual impairment and explores possible remedial actions. Reforms suggested by the author include: (a) alternative training options to alleviate teacher shortage, (b) continuing education that trains teachers for a specific disability, (c) additional advanced specialized training beyond certification level, (d) pedagogical reform and clinical changes in teacher preparation,
(e) attention to the transition years of new teachers, and (f) substantial changes in-service education. These changes would result in highly professionalized, diversely trained, and better prepared teachers. In short, the teachers would be better equipped to meet the special education needs of the 21st century.

Allman, C. (1987). Education reform: Implications for the preparation of teachers of visually impaired children. *Education of the Visually Handicapped*, *19*(1), 19-25.

The author discusses the recommendations for education reform made in the book *Tomorrow's Teachers*, by the Holmes Group and comments upon the implications for training teachers of visually impaired children. Suggestions by the Holmes Group were offered in four areas, and the author adds a fifth:

1.   *Education of teachers*: The Holmes Group recommends that 4-year education   degrees be eliminated. Instead, prospective teachers should pursue a 4-year degree in a substantive area, followed by a graduate degree in teacher education. The author notes that requiring the extra year of school might prevent some people from becoming teachers of the visually impaired. Instead, she suggests that specialized skills be taught through in-service training, and that practica be required during academic training.

2.   *Recognizing differences in teacher commitment*: The Holmes Group recommends three levels of teacher licensure: (a) career professional teacher (assuming responsibility at the school level), (b) professional teacher (assuming responsibility for a classroom only), and (c) instructor (teaching under the supervision of a career professional teacher). The author argues that three levels are unnecessary, but that a two-tier approach (provisional and career teacher) would provide recognition and status for teachers who consider teaching students with visual impairments as their career.

3.   *Standards of entry*: The Holmes Group recommends a revised NTE, requiring prospective teachers to demonstrate a strong liberal arts background at the elementary level and an additional mastery of an academic subject at the secondary level. The author argues that because very specific skills are needed to work in various

27

capacities with visually impaired children, training should be provided on-the-job, with certification remaining the responsibility of professional organizations.

4.   *Connecting universities to schools*: The Holmes Group advocates establishing professional development/training centers in universities. The author agrees that close ties are needed, but argues that this can be achieved by maintaining reciprocal agreements between university programs and school systems.

5.   *Making schools a better place*: The author argues that teachers of visually impaired children should become more involved in decision-making at the school and district level, and that some of the non-teaching functions which they perform should be handled by volunteers and aids.

Erin, J. (1988). The teacher-consultant: The teacher of visually handicapped students and collaborative consultation. *Education of the Visually Handicapped*, *20*(2), 57-63.

　　　This article discusses the consultative roles that teachers of students who are visually handicapped often take on. Because visually handicapped students have such widely varying needs and visual impairment is a low-incidence condition among students, classroom teachers are often unfamiliar with the medical and functional aspects of visual impairment. It is for these teachers that the itinerant vision teacher most often serves as a consultant.

　　　A vision teacher/consultant may fill several roles. First, he or she may provide information to the child's teacher which will help the teacher understand the visually impaired child's eye condition and educational needs. Second, the consultant may work to enhance the child's learning process by offering suggestions about media, environmental changes, and other techniques which will assist the child with learning to the best of his/her ability. Third, the consultant may be charged with recommending and procuring adaptive materials and devices for the visually impaired child. Finally, the vision teacher/consultant may have an important role as an advocate for visually impaired students, making sure that education officials are aware of the services that can, and must, be provided.

　　　The author notes that certain skills are needed to be an effective teacher/consultant (e.g., establishing rapport, adjusting one's approach to the knowledge level of the classroom teacher, and active listening). Training in these skills, however, is not usually provided in teacher preparation programs.

McLinden, D. J. (1990). Beliefs about effective education among teachers of visually impaired children. *Journal of Visual Impairment and Blindness*, *84*, 465-469.

The purpose of this study is to examine how personal beliefs about effective education guide the actions of teachers of visually impaired children. Subjects were 26 experienced vision teachers nominated by their supervisors for exemplary work. Participating teachers worked in a variety of settings (itinerant, resource room, urban, rural, and with or without multiply handicapped students). Each subject was asked to list five beliefs about effective teaching. Next, each teacher was shown the complete list of beliefs generated by all the participants, and was asked to rate each belief on a 1 to 10 scale according to its similarity to his or her beliefs. Cluster analysis was used to divide the set of beliefs into coherent categories. Through telephone interviews, subjects then participated in assigning descriptive titles to each cluster, and in explaining the existence and interpretation of the belief clusters.

Three useful clusters of beliefs emerged: (a) personal/professional beliefs having to do with specific practices used in teaching visually impaired students, (b) public/professional beliefs having to do with general guidelines for and philosophy of teaching visually impaired students, and (c) general principals of practice or beliefs about education in general which apply to non-handicapped as well as handicapped students. The author argues that teachers' deeply held beliefs about education are an important factor affecting teaching style and effectiveness.

Erin, J., Daugherty, W., Dignan, K., & Pearson, N. (1990). Teachers of visually handicapped students with multiple disabilities: Perceptions of adequacy. *Journal of Visual Impairment and Blindness*, *84*(1), 16-20.

This article reports the results of a survey of teachers of children with severe multiple handicaps, defined here as "a child who has no language system and depends on caregivers for survival needs." The purpose of the survey was to determine what services were being provided to children with severe multiple handicaps by teachers of the visually impaired, how many such children were being served, what kind of training these service providers had received, and how well-prepared the teachers felt they were for this task.

One hundred and thirty four teachers responded to the survey. Results indicated that most of the respondents were either itinerant teachers in public schools (44%), or teachers in residential schools (41%). The remainder taught in public school resource rooms or self-contained classrooms (15%). Most had a master's degree (79), followed by bachelor's degree with additional coursework, bachelor's only, and doctorate. The year and type of special teaching certification have been listed; the most common certification was in visual handicaps, followed by elementary education, generic special education, mental retardation, other, secondary education, multiple handicaps, and physical handicaps. Most teachers (99) had two or three certifications. An average of three students per teacher were severely multiply handicapped, out of an average load of 14 students. Fifty-nine of the 134 respondents served no severely multihandicapped children.

Perception of adequacy was measured with the question, "do you believe that you are adequately prepared to provide service to severely multiply handicapped children with visual impairments?" Fifty-four (40%) answered "yes", Seventy-two (50%) answered "no", and eight (6%) checked both or neither. Of the 75 teachers who were currently serving severely multiply handicapped children, 37 (49%) considered themselves poorly prepared for the job. Year certified, setting, and years of experience were not statistically significant predictors of perception of adequacy. Type of certification and degree, however, were significant. Teachers who were certified in mental retardation, multiple handicaps, or physical handicaps considered themselves better prepared to teach severely multiply handicapped children than did teachers with other types of certification. Similarly, the more advanced the degree held, the more likely the teacher was to report adequate preparation.
Note: The authors caution that the teacher's perception of adequacy does not necessarily correspond to actual teacher performance.

Best, A. B. (1989). Distance education for teachers of visually handicapped students. *Journal of Visual Impairment and Blindness*, *83*(1), 76-80.

This article describes the University of Birmingham, England's distance education program (correspondence course) for experienced teachers wishing to become specialists in education of the visually handicapped student. The author argues that distance education holds several advantages for students who are already employed as teachers:
(a) cost, (b) accessibility (less time away from home or job responsibilities), and (c) fluctuating numbers of students do not present a problem as they do for on-site educational programs.

Teaching materials, which are either written text, audiotape, or videotape, are mailed to students monthly. Students are given deadlines for completion of assignments, and faculty members are available by telephone to assist. The program is divided into four content areas: (a) introduction to visual handicaps, (b) development of the child with a visual handicap,
(c) curriculum and teaching, and (d) assessment of the visually handicapped child. Each content area is revised every five years (or as necessary) to incorporate new research results. The students attend summer courses at the university to learn practical skills, and complete a period of supervised student teaching of visually impaired children.

Although course evaluations show that distance education programs are not rated as highly as on-site programs (specifically, on access to staff training and to literature in the field), they allow individuals who would not be able to attend a traditional program to obtain specialized knowledge in teaching students with visual impairments.

Rosen, S., & Sowell, V. (1989). Training of orientation and mobility specialists for rural areas. *Education of the Visually Handicapped*, *20*(4), 173-179.

The authors outline five unique problems faced by rural orientation and mobility (O & M) practitioners: (a) difficulty in recruiting qualified people to adequately serve low-incidence populations in rural areas,
(b) access to sites suitable to teach urban skills to rural clients, (c) lack of professional training in rural travel techniques, (d) difficulty in travelling long distances to in-service training sites, and (e) lack of O&M preparation programs in rural colleges and universities.

Outreach training programs are suggested as the best solution to these difficulties. In outreach programs, a college course identical to that offered on a main campus is brought to sites accessible to rural O & M practitioners. The course content and length is the same, although classes may be held during weekends or vacations. Any core departmental classes can be taken on the main university campus at a time convenient to the student. The course content is based on orientation and mobility training needs of service providers, on the basis of input from local professionals. Faculty salaries are paid by universities, however, faculty travel and recruitment expenses may be funded by local and/or

state agencies.

The authors noted that there are several advantages of O & M outreach training programs in rural areas: (a) Students committed to living and working in rural areas are better able to receive training through local outreach programs than by travelling long distances to a university campus; (b) local practicum sites emphasizing rural orientation and mobility skills are developed; (c) students can make university faculty aware of the local orientation and mobility issues, and the needs of specific future clients;
(d) students have intimate knowledge of local travel routes and local resources for the visually impaired, and may already have a good rapport with their clients and their clients' families; (e) outreach training provides a pool of potential students for university-based programs; and (f) students in outreach programs tend to be experienced teachers, and will be able to apply this experience to O & M.

Thorburn, J. (1989). Course for teachers of visually impaired students in New Zealand. *Journal of Visual Impairment and Blindness*, *83*, 82-83.

This article describes New Zealand's training program for teachers of visually impaired children. Students are required to write eight papers, covering both generalized special education competencies and skills specific to teaching visually impaired children. Students complete an independent study in an area of special interest. The papers that result from independent studies are used as resource material for future students. The author describes the teacher handbooks and other training materials used in the course of study.

Williams, J. K. (1990). Consumer skills for multiply handicapped students with low vision. *RE:view*, *21*(4), 234-235.

This article describes methods that the author (an itinerant vision teacher) has developed to teach consumer skills to multiply handicapped visually impaired clients.

For instance, students learn to prepare a shopping list by cutting store flyers into squares, stapling them together, and then locating the correct size and brand in the store with the help of telescopic vision aids. Older students who are able to use a checking account are taught to estimate how much money would be spent, calculate sales tax, and deduct the amount of the check from the bank account.

Teaching coin discrimination by identifying milled edges and placing one coin on top of another to compare size is also described. Most students can learn exchanging pennies for a nickel and nickels for a dime. The student learns to count up to the purchase price by counting the change into the teacher's hand, then into his or her own hand, and finally into a fluorescent sheet of paper.

The level of cognitive functioning of the students often precludes using conventional methods to teach essential consumer skills. Therefore, the author suggests that teachers devise their own activities to help students adapt more independently to their world.

Corn, A. L. (1989). Instruction in use of vision for children and adults with low vision: A proposed program model. *RE:view*. *21*(1), 26-38.

The author proposes a comprehensive program of instruction in the use of low vision, which consists of seven components. These components are: (a) definitions, (b) a philosophy of low vision, (c) theoretical constructs, (d) a flow chart of professionals involved with instruction, (e) goals, (f) curriculum, and (g) an evaluation system. In addition, the article presents definitions of visual abilities, functional vision, and low vision.

It is advocated that potential for vision use, rather than current visual skills, should guide the choice of instructional goals. Answers must be sought to the question, "For what purpose do we use vision?". A flow chart of professionals involved in instruction is presented in relation to the prescription and instruction in the use of optical aids. The author advises that a curriculum in the use of low vision should be comprehensive and should incorporate all skills used by those with "normal" vision, and those employed by individuals with low vision who are efficient in their use of vision. Evaluation of the effectiveness of the components of the education or rehabilitation program, and a plan for measuring pre- and post-levels of functioning also need to be included.

Downing, J., & Bailey, B. (1990). Developing vision use within functional daily

activities for students with visual and multiple disabilities. *RE:view*, *21*(4), 209-22.

The authors offer an alternative strategy to out-of context visual stimulation training for students with concomitant visual and multiple disabilities. They present a decision making process for determining the need to intervene in the area of vision use. This instructional format incorporates intervention with functional, age appropriate activities and emphasizes assisting the student to achieve efficient use of vision within natural contexts.

The authors illustrate the intervention strategies by providing an example of a student with profound mental disabilities. They suggest the following process be followed by vision specialists: (a) assess visual skills (e.g., localizing, shifting gaze, scanning within context); (b) determine the need for intervention with strategies such as adaptive aids or devices, changing sequence of steps, etc.; (c) identify needed visual behaviors (e.g., scanning for an empty restaurant seat); (d) develop techniques to teach the behavior (e.g., illuminating the object requiring visual attention, highlighting materials by colored borders); (e) teach other direct service providers (teachers, parents, paraprofessionals) to complement the program; and (f) monitor the effectiveness of interventions and implement revisions and/or adjustments.

In conclusion, the article emphasizes the role of the vision specialist as a consultant, integrating training in visual skills into functional activities for the student with visual and multiple disabilities.

Raver, S. A. (1987). Training blind children to employ appropriate gaze direction and sitting behavior during conversation. *Education and Treatment of Children*, *10*(3), 237-246.

This article outlines a training program designed to teach visually impaired children appropriate eye contact and sitting posture during conversation with sighted people. Five congenitally blind children between the ages of five and eight years were simultaneously trained for appropriate gaze direction and appropriate sitting while either speaking or listening to the trainer. The trainer randomly stood around the child and asked different generalized questions. If the child did not display the appropriate behavior, the trainer physically positioned the child's head or body correctly. Training did not exceed one session per day and continued until the correct behaviors were displayed for 15 different questions for three consecutive days. The total number of training sessions required by the students to reach a mastery level of 100% ranged from 19 to 25.

The results of the study show that physical prompting, social reinforcement coupled with discussion, modeling, and feedback were effective in training the simultaneous use of proper gaze direction and sitting behavior. The author suggests that periodic maintenance training would be important in

integrating the above skills into a child's interactive repertoire.

Griffin-Shirley, N., McNeely, E., & Karwisch, A. (1990). Videotape simulations to teach staff of long-term care facilities about residents' vision loss. *Journal of Visual Impairment and Blindness*, *84*, 530-531.

The purpose of the study is to determine whether training information in narrative or text overlay format is retained better. Subjects were nursing home staff (*n*=87) who first took a pretest to determine their knowledge of visual impairment. Subjects were then divided into two groups; each was shown the same videotape titled *Caring for Nursing Home Residents with Impaired Vision*. The verbal information in the videotape was presented as narration to one group, and as text overlay to the other group. Subjects were administered a 16-item posttest immediately after viewing the videotape and another after two weeks. The authors found no significant differences between the two groups. Both groups, however, did significantly better on the posttests than on the pretest (10.1 mean score for pretest; 12.2 mean score for first posttest; 12.8 mean score for 2- week posttest). The authors conclude that videotapes of either type are an effective way of presenting training information.

C. Severe Educational Handicaps

Children with severe educational handicaps are generally regarded as those with more than one handicapping condition, severe forms of any other disability, or vision impairment, hearing impairment, or deaf-blindness. The abstracts included in this section are notable because they address students with severe handicaps in general, and present multiple methods for teaching them. Some techniques are more appropriate for one type of student than another. Age appropriate goals and appropriate social behaviors are stressed. Articles regarding program quality indicators and teachers' feelings of improved efficacy as a result of in-service training are included. The importance of teachers maintaining time-based data to evaluate the effectiveness of a specific technique is stressed.

Gothelf, C. R., Rikhye, C. H., & Silberman, R. K. (1988). *Working with students who have dual sensory impairments and cognitive disabilities: A handbook for special education teachers and related service personnel.* New York State Education Department, Office for Education of Children with Handicapping Conditions, Title 6(c): Albany, New York.

This manual provides experience- and research-based age-appropriate teaching techniques and strategies which can be easily implemented by special education teachers with minimal experience in serving students with dual-sensory and cognitive impairments. Chapters address the following issues: (a) auditory assessment and auditory training (detecting hearing loss, assessing functional hearing, use of hearing aids, and audiometry training); (b) vision assessment and vision training (conditions causing vision loss, functional vision assessment, low vision aids and devices);
(c) orientation and mobility (teaching basic travel skills, orienting to new environments, arranging the classroom environment); and (d) curriculum development (daily living skills, work readiness activities, transition activities).

The manual also contains lists of suggested readings, references, addresses of related consumer and professional organizations, early childhood direction centers, and special education training and resource centers.

Ault, M. J., Wolery, M., Doyle, P. M., & Gast, D. L. (1989). Review of comparative studies in the instruction of students with moderate and severe handicaps. *Exceptional Children*, *55*(4), 346-356.

The article identifies and defines systematic instructional strategies for students who have moderate to severe handicaps. Thirty-one studies comparing two or more strategies are analyzed, and summary statements/recommendations about the relative effectiveness and efficiency of the strategies are made. Evaluation of effectiveness involved success teaching skills to subjects, while efficiency involved measures indicating that the skills were taught in a productive and timely manner (i.e., trials to criterion, sessions to criterion , errors to criterion, direct instruction time).

All of the strategies in the 31 studies were effective in teaching students new behaviors. There were differences, however, in terms of efficiency. Stimulus modification procedures appeared to be more efficient in terms of error and direct instructions, but were limited by the extensive material preparation time required, the difficulty in modifying the stimuli for some behaviors and tasks, and the general complexity. Response prompting strategies were more efficient in terms of errors to criterion. The authors note that there appears to be little justification for trial-and-error or error-correction procedures unless they appear

to be equally efficient for certain students. Finally, combining stimulus shaping and stimulus fading, or combining one of them with a response-prompting strategy appeared to be more effective and efficient than any single strategy.

The authors argue that instructors should consider several variables when selecting instructional strategies. These include (a) the potential harm of each procedure, (b) the extent to which they are intrusive and restrictive, (c) the response patterns of individual students, (d) the phase of learning, (e) the law of parsimony, (f) social validity of the procedure, and (g) the existing data base of related empirical research.

Baken, J. W. (1976). In-service teacher training in a summer program for severely handicapped children: A summer can make the difference. *Rehabilitation Literature*, *37*(3), 74-77.

This article describes a three-year model program designed to instruct teachers in techniques for working with multiply handicapped children. The program involved a series of six-week summer camps for children aged 3-18 years who had cerebral palsy or other central nervous system disorders. Participating children had widely varying levels of cognitive, speech, and mobility skills. Participating teachers had at least one year of experience with handicapped students.

The teachers were trained by project staff in instruction using continuous measurement of performance. A criterion level for a particular task was selected, then interventions were developed by the teacher to achieve the objective. Once the child met the performance criteria, a more challenging objective was selected. After working with a particular child for the duration of the summer camp, the teacher was asked to write a final report outlining materials, reinforcers, and other techniques that worked for that child.

The author notes that the project provided desirable summer activity for the students as well as training for participating teachers. In addition, the project demonstrated that children who had been declared ineligible for educational services because they could not benefit could, in fact, make progress when specialized techniques were used.

Jones, T. W. (1980). Effective short-term training of teachers of the severely handicapped: A pilot study. *Texas Tech Journal of Education*, *7*(2), 161-166.

This article describes a three-week model workshop designed for teachers of severely handicapped students. The program is based on mastering nine competencies (assessment of entry level behavior, task analysis, record keeping, selection of instructional materials, communication with learner, discipline, facilitation of learning, teaching groups of two or more, interacting with adults)

developed as the core of Texas Tech University's preparation program for teachers of the severely handicapped.

Twelve participating teachers with varying levels of experience with severely handicapped children (from birth to six years) rated their perceived competency level in each of these nine areas on a scale of one ("no awareness of that competency") to five ("highly competent"). Information on each competency was presented during the training session, and teachers were required to demonstrate proficiency in a simulated teaching situation. In addition to the simulated teaching experience, each teacher was assigned to a severely handicapped child in a real classroom and asked to teach the child a skill. Finally, each teacher was required to complete a written
long- and short-term education plan and lesson plans for a videotaped severely handicapped child. After completing the program, teachers again rated their perceived competence.

Self-ratings of competence increased significantly after receiving training, from a mean of 2.55 to a mean of 3.80. The author cautions, however, that more research is needed to determine if improvement in competency self ratings is linked to improved performance.

Snell, M. E., Thompson, M. S., & Taylor, K. G. (1979). Providing in-service to educators of the severely handicapped: The active response in-service training model. *Education and Training of the Mentally Retarded*, *14*(1), 25-33.

This article describes a model in-service training program based on the Active Response Training Method (ARITM), and adapted specifically for teachers of severely handicapped students. It is designed to overcome several common problems associated with short-term in-service programs such as lack of hands-on training, lack of attention to teacher needs, and little feedback.

The training has seven stages: (a) the training procedure is explained to participating teachers; (b) A needs assessment is conducted, in which each teacher outlines problem areas, a consultant confirms them and provides input with a site visit, and together the teacher and the consultant create training goals; (c) pre-training teacher diagnosis and planning skills are assessed using hypothetical student cases; (d) one-on-one training in the classroom is provided; (e) A post-test is conducted, in which teacher comprehension is assessed; (f) a group in-service instruction session is held for all participating teachers (topics are chosen according to the individual teacher's strengths and weaknesses); and (g) teacher performance is assessed by observation of a teacher selecting and teaching a lesson to one child and then to a small group. The assessment instrument was a 19-point checklist which was in the process of being field tested.

Thousand, J., Nevin-Parta, A., & Fox, W. (1987). In-service training to support the education of learners with severe handicaps in their local public schools. *Teacher Education and Special Education*, *10*(1), 4-13.

This study outlines the in-service training model used to train special education teachers in five school districts in Vermont. The authors argue that this model is successful at educating severely handicapped transition-age children in integrated settings because of three factors:
(a) administrative leadership in developing policies and in planning for individual students, (b) use of a collaborative approach with regular and special education teachers mutually defining problems and working out solutions, and (c) intensive instruction throughout the participating school systems on nine "best practices" for educating severely handicapped children. These best practices are: (a) chronologically age-appropriate public school placement (mainstreaming); (b) providing opportunities for social interaction with non-handicapped peers; (c) establishing functional curricula (teaching skills that will be needed after the student leaves school; (d) teaching some skills in "real-world" settings rather than in the classroom; (e) encouraging parent involvement in decision making and planning; (f) providing related services, including physical and occupational therapy and psychological services, during the regular school day;
(g) transition planning; and (h) ongoing evaluation of students' educational programs with input from the entire staff.

The in-service training included a day-long district-wide session, followed by eight weekly 3-hour modules. Content areas covered in the modules were:
(a) historical perspectives, (b) state of the art in educating severely handicapped students, (c) least restrictive environments and best educational practices, (d) mainstreaming practices, and (e) teamwork between parents and educators. Open-ended evaluation surveys were administered annually to parents and school staff. Evaluations were favorable, with both parents and teachers listing increased social relationships between handicapped and non-handicapped peers as the biggest benefit of the program. District school officials noted that costs did not increase, and that they found the program flexible enough to accommodate the variety of needs present in each school system. Each school district's program was set up differently, but all had three common characteristics: (a) school-based educational teams, (b) established written procedures for implementing best educational practices, and (c) a district- wide special education consultant who provides technical assistance to staff, and assists in developing and monitoring individual programs.

The authors also discuss strategies for overcoming several pervasive issues that emerged during the in-service training process: (a) "I'm not trained to teach these learners", (b) "I'm not in charge here", (c) "I don't have the time", (d) "no one knows how hard I work", and (e) "I won't do this".

Cartledge, G., & Kleefeld, J. (1989). Teaching social communication skills to elementary school students with handicaps. *Teaching Exceptional Children*, *22*(1), 14-17.

The authors stress the importance of social communication skills for academic, social, and vocational success. They assert that teachers need to be aware that children with handicaps tend to have pronounced and persistent social communication problems warranting direct instruction to increase their communication proficiency to the desired levels.

In view of the importance of these skills to children with handicaps, the authors describe an instructional model consisting of strategies which can be easily modified to accommodate differences in developmental and skill levels. Procedures prescribed in the model were used to teach 8 to 10 year-old students with developmental handicaps how to greet others, welcome a new student to the class, and contribute to a conversation. Students who received instruction improved in these skills, whereas comparable gains were not observed for children who did not receive instruction. The model involves: (a) determining behaviors to be taught;

(b) assessing social communication skills; (c) teaching social communication skills, motivating student performances, demonstrating the skill and practicing the skill; and (d) maintaining and transferring skills.

Illustrations and examples are provided for every step, leading to a better understanding and implementation of the model.

Meyer, L. H., Eichinger, J., & Seunghee, P. (1987). A validation of program quality indicators in educational services for students with severe disabilities. *Journal of the Association for Persons with Severe Handicaps*, *12*(4), 251-263.

The authors developed a list of program quality indicators and administered it to six respondent groups: (a) behavior therapy experts ($n = 27$), (b) experts in the area of severe disabilities ($n = 60$), (c) experts in the area of services for persons who are deaf-blind ($n = 41$), (d) mental retardation researchers ($n = 32$), (e) state directors of special education ($n = 41$), and (f) parents of persons with disabilities who acted as advocates on behalf of their children ($n = 53$).

The list of program quality indicators was developed on the bases of empirical research, litigation, legislation, curricula, and position papers on programs considered to be important indicators of program quality. The list was reviewed by twelve professionals in educational program development for students with severe disabilities. On the basis of these items, a rating scale of 122 items was developed, each item to be ranked from 0 to 20 with likert type

(five) anchors. Items receiving the highest (positive) rankings related to the concepts of Least Restrictive Environment, use of alternative communication modes, adaptive equipment, individualization of instructional activities, educability and program accountability for student gains, provision of training in settings where skills will be used, parent training, and use of caregiving interactions for instruction. Factor analysis yielded five factors: (a) integration, (b) professional practices and
home-school cooperation/involvement, (c) staff development, (d) data-based instruction, and (e) criterion of ultimate functioning.

Analyses of Variance revealed: (a) TASH experts and parent group ratings were significantly higher than those of the other groups for items related to Integration; (b) higher parent ratings (compared to TASH,
deaf-blind experts, and state director groups) on Staff Development; and
(c) higher TASH group ratings than all other groups for items related to DataBased Instruction. The list of program quality indicators is included.

Billingsley, F. F., & Liberty, K. A. (1982). The use of time based data in instructional programs for the severely handicapped. *Journal of the Association of the Severely Handicapped*, *7*, 47-55.

The purpose of this article is to advocate the efficacy of time based measures in evaluating classroom performance of severely handicapped pupils over those that focus only on the accuracy dimension. The merits of data that relate behavior to a time base are: (a) functional skill levels can be assessed adequately, (b) changes in performance are not affected by artificial response ceilings, and (c) the quality of instructional decisions can be improved during fluency building, and acquisition phases of learning.

The authors classify time based measures according to differences in purpose, manner of collection, operations required to summarize raw data, and the use of data in making decisions. Information about various data types like latency, interrupted and uninterrupted rate, interrupted and uninterrupted duration, as well as methods used for collecting and transforming them within specific programs is listed along with illustrations. Every data type has components of target behavior, goals to be achieved, procedures to be employed, and explanatory notes for measuring behavior with a time base.

The authors conclude that diverse instructional programs would be required for different data types. Teachers of severely handicapped populations require instructional procedures which differ from those appropriate for mildly handicapped populations, and use of time based data is a valid option. All that is additionally required of the teacher is familiarity with training devices used for establishing time intervals upon which rates of performance could be calculated. Research has established that teachers serving severely handicapped

populations are willing to use experimental procedures utilizing time based data collection and data based decision rules even after project staff support is withdrawn. The implementation of a standardized plan for data types, methods of data collection and visual interpretation, and data decision rules in a classroom evaluation process reduces teacher planning time from 1 to 10 hours per week. Also, this results in appreciable gains in pupil progress and the quality of educational process for both teacher and pupils.

Repp, A. C., Nieminen, G. S., Olinger, E., & Brusca, R. (1988). Direct observation: Factors affecting the accuracy of observers. *Exceptional Children*, *55*(1), 29-36.

The purposes of this article were to view research on factors that adversely affect the accuracy of observers and to provide recommendations for reducing their possible influence. Areas discussed include:
(a) reactivity; (b) observer drift; (c) the recording procedure; (d) location of the observation; (e) reliability, expectancy and feedback; and (f) the characteristics of the subjects, observers, and settings.

Reactivity is the tendency of subjects to respond to the observer's presence by increasing socially desirable behaviors, and the propensity of observers to increase their rate of instructing and giving positive feedback. Observer drift is a cognitive phenomenon that involves a gradual shift by the observer from the original response definition, and results in behavior being inconsistently recorded. Recording procedures do contribute errors to the data, but location of the observation does not seem to affect the process.

Observers are more accurate when they believe that they are being monitored, leading to inter-observer agreement. Observer expectancy about subject performances based on factors such as gender, the behavior of peers, or the purpose of the intervention has found to produce bias. Experimenter feedback may also affect the behavior of observers.

The author provides five recommendations for increasing observer accuracy in general. They include: (a) proper training of observers, (b) using uncomplicated observation codes, (c) using male and female observers, (d) not divulging the experimental hypothesis, (e) avoiding interaction between observers, and (f) checking accuracy against a criterion.

Reactivity can be corrected by using adaptation periods, wherein both subjects and observers can become familiar with the observation process. Steps taken to ensure that subjects are relatively unaware of assessment, and that observers are unaware of reliability evaluations can reduce reactivity and increase reliability. Using permanent products of behavior and observing frequently and systematically are practices which can go a long way to correct observer error.

Finally, the authors suggest that more caution should be exercised in conducting observational studies than is generally evidenced.

D. Hearing Impairment

Only one article was found which addressed students with hearing impairments and the training of their teachers. It concerns using an FM loop, which may not be of interest to many charged with the education of students who are deaf-blind, but it also references audiological terms, and the basics of audiograms and amplification which should be of interest to a teacher with a student who is deaf-blind.

Van Dyke, L. (1982). An in-service training model for using the classroom FM system. *The Volta Review, 84*(7), 344-351.

This article describes an in-service training program to introduce teachers to the classroom FM system. It is oriented toward teachers with one or more hearing-impaired children in a regular classroom.

With a classroom FM system, the teacher holds or wears a microphone which transmits to a receiver on the hearing-impaired student's hearing aid. The microphone can be passed around to other children, allowing the hearing-impaired child to participate freely in class discussions. Distance from the sound source does not affect the sound volume heard through the receiver. When it is not convenient to use the hand-held microphone, an environmental microphone may be used which may serve as a regular hearing aid.

Components of the in-service include: (a) audiology terms, explanation of audiograms, and amplification; (b) mechanics of the classroom FM system; and (c) management of the classroom FM system (usage during various activities, maintenance of the equipment, etc.).

E. Deaf-Blindness

The following abstracts start with a survey of several programs for students who are deaf-blind which describes (a) administrative structure; (b) teacher certification requirements; (c) program issues, placement and eligibility; and (d) curricula. An important issue, vision assessment and stimulation, is addressed in detail in another abstracted article. Additional abstracts review articles which represent the needs of paraprofessionals and the use of peer tutors in serving students who are deaf-blind.

Bullis, M., & Otos, M. (1988). Characteristics of programs for children with deaf-blindness: Results of a national survey. *Journal of the Association for Persons with Severe Handicaps*, *13*(2), 110-115.

Surveys regarding structure and types of deaf-blindness programs were sent to the individuals in all U.S. states and territories who are responsible for providing services to children with deaf-blindness.

The authors found that some states teamed up with neighboring states to provide deaf-blindness services. In most states, one individual was responsible for programs for children with deaf-blindness, but was usually not employed full-time at this task. Besides program development, implementation and monitoring, job requirements for deaf-blindness coordinators included: (a) maintaining the state registry, (b) writing grants, (c) disseminating information, and (d) working with an advisory committee.

Certification in hearing or visual impairments or severe/multiple handicaps was generally required to teach students with deaf-blindness. The placement option most often reported was a self-contained classroom for children with multiple disabilities, followed by residential schools, and, for secondary students, vocational programs. Commercially available curricula for students with multiple disabilities (not specifically deaf-blindness) were used most with pre-schoolers, but less as the students become older. Most instruction took place in the classroom as opposed to resource rooms or other settings. Approximately two-thirds of respondents reported a formal transition-planning mechanism. Only a quarter of the responding programs required an individualized transition plan for each student with deaf-blindness. In most cases, vocational rehabilitation counselors, school personnel, social workers, and parents were involved in the process; more rarely, the state commissions for the blind and deaf were involved. Almost all respondents reported provided technical assistance to teachers through consultations, workshops, and materials dissemination. Less common methods included demonstration classrooms and practicum training. Family technical assistance needs were provided through direct training, counseling, support groups, and establishing respite services.

The four specialists most likely to determine eligibility for deaf-blindness services were: (a) the audiologist, (b) ophthalmologist, (c) special education teacher, and (d) psychologist. Vision and hearing reports, educational reports, and functional vision and hearing assessments were most often used to establish eligibility.

Respondents were also questioned about unmet educational or service needs they saw in their states. At the preschool level, family support and early identification and diagnosis were seen as most urgent: at the elementary level, the issue of availability of educational curricula; and at the secondary level,

transitions were perceived as urgent needs.

Maxson, B. J., Tedder, N. E., Lamb, A. M., Giesen, J. M., & Marmion, S. (1989). The education of deaf-blind youth: Teacher characteristics and program issues. *RE:view*, *21*(1), 39-48.

Teachers/administrators from 25 states were surveyed regarding teacher experience, training, program characteristics, communication methods, certification, and prevalence of deaf-blind students in their programs. *Experience*: Experience varied broadly among the 124 respondents, but the largest group (40%) had under five years experience, with the largest number in their third year of teaching. *Training*: 38% of the teachers had a bachelor's degree, 54% a master's degree, 2% a doctoral degree, 3% were non-degreed or agency-trained, and 2% indicated another type of degree. Teachers reported attending many types of in-service training activities addressing deaf-blindness. *Certification*: 85% of the responding teachers were certified by state agencies, 9% by national agencies, 2% by a university, and 4% were uncertified. *Program characteristics*: A special education teacher in a self-contained classroom was the most common service delivery model (63%), followed by itinerant teachers (19%), resource teachers (8%), and regular education teachers (4%). Three quarters (75%) of the respondents reported serving students other than those classified deaf-blind. *Prevalence*: The respondents reported serving a total of 1,791 students. Deaf-blind students comprised 26.7% of this number. *Communication methods*: The most common communication method was gross sign gestures (69%), followed by voice (65%), tactile/not signed (59%), sign language combined with another method (44%), ASL (33%), large print (25%), finger spelling (23%), signed exact English (21%), Braille (16%), computers or other (12%), regular print (10%), and Tadoma (.03%).

Results indicated that most teachers of deaf-blind students are located in programs for multihandicapped students. Multihandicapped students appear to be placed most often into administratively designed groups in which the identity of their special needs are often lost. The authors found that teachers continued to recognize these subgroups and attempted to provide better service by taking courses and acquiring certifications.

Gates, C. (1981). Vision assessment and stimulation for deaf-blind/severely-profoundly handicapped children. *Viewpoints in Teaching and Learning*, *57*(1), 43-53.

This article discusses the history of vision stimulation programs, the structure and function of the eye, and common visual disorders of deaf-blind/severely-profoundly handicapped children. Detailed instructions for

assessing visual functioning cover four major areas: (a) sensation, (b) visual-motor skills, (c) cognitive/perceptual skills, and (d) general observation.

In addition, the article points out the importance of an Individualized Education Plan (IEP), which should be designed to meet each child's level of functioning. The author argues that IEPs should set long-term goals and short-term objectives that guide the selection of sequences, activities, and materials, and provide for documentation of the child's progress.

The importance of planning activities which incorporate several goals is also noted. This ensures that the child is given an integrated program and does not develop "splinter" skills. Teaching materials should be selected from objects found in the child's everyday surroundings so that (s)he gains experience with these objects and develops an awareness and understanding of the environment.

Jensema, C. K. (1978). Paraprofessionals working with deaf-blind children: Why we need them; what training they need. *American Annals of the Deaf*, *123*, 914-917.

In this article, the results of a survey of individuals who work with deaf-blind children are presented. Responses from 31 facilities serving deaf-blind children were received. Surveys were filled out by a teacher, teacher's aide, dormitory supervisor, and dormitory aide at each facility. Respondents were asked to rank a list of competencies in order of importance for paraprofessionals working with deaf-blind children. Five sub-areas under each broad training area were also ranked by perceived importance.

The nine training areas were ranked as follows: (a) child development, (b) interpersonal relations, (c) sign language, (d) methods of utilizing low vision and hearing, (e) speech and language development, (f) recreation for the handicapped, (g) anatomical and medical aspects of vision and hearing losses, (h) custodial skills, and (i) clerical skills. The author points out that the training areas listed as most important by the respondents differed from the traditional role of special education paraprofessionals, which is mainly to provide clerical support for the teacher and custodial care for the child.

Romer, L. T., Busse, D. G., Fewell, R. R., & Vadasy, P. F. (1985). The relative effectiveness of special education teachers and peer tutors. *Education of the Visually Handicapped*, *17*(3), 99-115.

In this study, effectiveness of peer tutors versus special education teachers as instructors of students with severe handicaps and deaf-blindness were compared. The sample comprised four male students aged 16-20 years, with severe mental retardation and deaf-blindness. In general, their communication level ranged from 15-50 expressive signs and 75-100 expressive

signs. Tutors were three females and one male with varying amounts of experience with handicapped individuals. The teachers were four females with master's degrees in education of individuals with deaf-blindness, blindness, or visual impairments.

Tutors were provided two hour-long lectures on each of four days on the general topics of deaf-blindness and on communication training and task analytic and vocational training methods. Each student was assigned six basic tasks, three of which were taught by a tutor and three of which were taught by a special education teacher. Dependent variables consisted of: (a) movement time (reciprocal of time taken to finish the task), (b) number of steps upon which assistance was rendered, and (c) the time required to complete the task. Overall, students taught by peer tutors had a high movement rate compared to students taught by special education teachers. When compared to teachers, tutors also provided the students with more assistance during the five sessions, even though the number of steps on which assistance was provided did decrease over these sessions. The teachers also presented more trials per unit of instructional time compared to the tutors.

F. Factors in the Design of Training

The final section of the category related to teachers and their needs

contains abstracts which address training design, a method of teacher

evaluation, and the measurement of job satisfaction which might be used to

judge the effectiveness of various types of in-service programs. At least three

abstracts describe in-service models in rural areas, a topic of growing importance

as students in remote areas are "included" in local classes.

Doyle, W. (1979). Classroom effects. *Theory into Practice*, *18*(3), 138-144.

The article brings together evidence that a classroom has independent effects on the behavior of teachers and students and on the outcome of teaching. It also outlines a framework for integrating and extending knowledge in this area. The author emphasizes that the study of classroom effects is important for research on teaching and teacher education.

The author contends that classroom relationships are reciprocal and that teachers face a complex set of demands engendered by the distinctive features of the classroom environment. Recent research has consistently found that students affect the classroom performance of teachers and this influence ranges from the general teaching methods and patterns of language teachers use in classrooms to the type and frequency of teacher questions and feedback given to individual students. Those teachers who used strategies of withitness, overlap, group focus, and movement management tended to have higher levels of work involvement among students. This analysis calls attention to a neglected aspect of teacher competence, namely, the specialized knowledge and skill required to manage the demands of a classroom.

Learning in classrooms takes place over a long period of time, in a group setting with multiple resources, and in an evaluation context, shaping student learning processes in distinctive ways. Studies of students suggest that they use a variety of strategies for circumventing the demands of the subject matter, thus indicating that academic tasks can be, and often are, accomplished with skills that are tuned to classroom demands rather than the subject matter.

The information about classroom effects is useful for interpreting observations of teacher-students interaction and results of research on teaching effectiveness. It also emphasizes the need for a more thorough understanding of students in classrooms, as student learning depends, in part, on how students use the resource available in classrooms.

Hardin, V. B. (1982). Designing continuing education programs for special educators. *Exceptional Education Quarterly*, *2*, 69-76.

An approach to the development of in-service training programs for special education professionals is outlined in the article. The author argues that in-service program development should proceed through the following stages: (a) Needs assessment in which the participants in the program provide input into what would be the most appropriate and useful content which would best meet their training needs; (b) Format selection, in which participants decide upon the learning format which best suits their needs (weekend workshop, independent study, etc.); (c) the training itself; and (d) evaluation of the training program and dissemination of results. The

evaluation process should take into account: (a) components of training sessions, (b) pre/post competence levels of participants, (c) professional benefits derived from completing the program (e.g., promotions), and
(d) benefits that handicapped individuals derive from the training process. "Project RETOOL," a training program for university special education faculty sponsored by the Council for Exceptional Children, is used as an example of how the above model can be applied.

Healy, S. (1983). Planning in-service programs. *The Pointer*, *28*(1), 12-15.

This article describes ways to implement five components of a successful in-service training program for teachers:

1. *Assess needs.* Teachers will have a better attitude about attending in-service training sessions if they are asked to participate in the needs assessment process. A list of possible topics could be distributed at faculty meetings, and teachers could be asked to prioritize them. Needs may differ among departments. A more direct but time-consuming method is to interview teachers individually about their perceived training needs.
2. Establish priorities, using system-wide objectives and school and departmental needs as a guideline.
3. *Select delivery strategy.* The author suggests alternatives to the usual after-school workshop: before-school programs, a half-day workshop with a potluck luncheon, posted information, individual consultations, small group sessions during the school day or during non-teaching time, independent study, or school-based courses or seminars.
4. *Design content and methods.* Promote active involvement of group members, vary activities and include enough breaks, maintain contact with consultants during the planning process, make sure that the content of the program meets the objectives, and have back-up plans for problems or questions that might arise. A sample "In-service Session Planning/Record Form" is included in the article.

5. *Evaluate the session* using written, anonymous evaluations by the participants. Use this information in planning future in-service training sessions. A sample "Session Feedback Form" is included.

Jamison, P. J. (1983). Systematic development and evaluation of quality practices for in-service education. *Teacher Education and Special Education*, *6*(2), 151-158.

This article outlines a model for designing effective in-service training programs for teachers. A conceptual model for in-service design, implementation and evaluation, and a set of "quality practices" necessary for effective training is included.

The model in-service development process was accomplished in three phases:

1. A group of in-service experts met and were asked to list quality practices that they felt were most necessary for effective in-service programs. A conceptual framework was agreed upon: (a) in-service education should involve planning, implementation, and evaluation phases; (b) the three key groups that should be positively affected by in-service training are students, participants, and management.

2. A larger group of education experts were asked to evaluate and comment upon the conceptual model and the quality practices that were developed by the in-service expert group. The model and quality practices list were then edited and modified according to the feedback from the education expert group.

3. An even larger national sample of education experts, including state officials, local officials, teacher center directors, and NEA members evaluated and commented upon the model by rating each statement on a 4-point scale of importance. The model was then edited and revised again, based on the results of this evaluation.

The author points out that the result of this process is a model and list of quality practices that has been found acceptable by a nation-wide group of education professionals and experts.

Rose, T. L. (1989). Improving practice through research. *Teaching Exceptional Children, 21*(2), 69-70.

The article stresses the need for empirically validated instructional procedures. The author believes that the function of special education is to promote the development of the most difficult-to-teach students, the least supported, least resourceful, and least curious in the american society. To meet this goal, special educators must understand the teaching process as completely as the behavioral sciences will allow.

Educators will have to understand the structure of what they are teaching as well as the process of the students' learning. In order to be effective, teachers need to be aware of instructional practices which have been shown to be effective through empirical research.

The goal of applied research can be met if researchers do a better job of communicating the significance of their findings to practitioners in the field. This is particularly relevant to special education because a dichotomy exists between research and teaching, and at another level, between researchers and teachers.

Nevin, A. (1989). Cooperative learning with adults. *Teaching Exceptional Children*, *21*(3), 66-67.

The authors assert that cooperative learning strategies are most effective for adult learners (i.e., teachers). This article outlines a plan for implementing a successful cooperative learning program for teacher in-service.

There are ten steps to the author's program: (a) select an academic objective; (b) select the group size (experiment to find what works best); (c) assign participants to a group (heterogeneous groups work best); (d) arrange the classroom in a manner that facilitates small group discussion (e.g., small clusters of chairs); (e) provide the appropriate materials; (f) set the task and clearly define requirements for a successful finished product; (g) monitor small group interactions, making sure that all members participate as team members; (h) provide training in the skills needed to solve problems that arise; (i) evaluate outcomes, taking into account how well the group worked together and the quality of the finished product; and (j) celebrate extraordinary achievement, praising excellence in both results and in cooperation.

The remainder of the article describes strategies for implementing three important elements of a cooperative learning environment for teachers. These three elements are: (a) positive interdependence with individual accountability, (b) guided practice of collaborative teaming skills, and (c) scheduled time to process and evaluate the relationship between achievement and collaborative skills.

Ross, J. A. (1990). Student achievement effects of the key teacher method of delivering in-service. *Science Education*, *74*(5), 507-516.

In the "key teacher" method of in-service training, selected individuals receive training and are then expected to pass these new skills on to others. Although this method is currently in favor due to the low cost involved, little is known about the relative effectiveness of the key teacher method as opposed to traditional all-teacher in-service training methods. This article describes a study in which the effectiveness (as measured by student pre-in-service and post-in-service test scores) of the key teacher method of in-service training in science is compared to the traditional
all-teacher method.

Nineteen schools participated in this study. For ten schools, training was given to one key fourth grade teacher per school; for nine schools, training was given to all 20 fourth grade teachers. For both groups, training consisted of explanation of a theory, followed by a small-group exercise, and then by feedback from the whole group and the trainers. Written instructional materials were distributed, as was an instrument for testing student achievement. In addition, the key teachers were requested to train the other fourth grade teachers in their school in the use of the instructional unit. After one month, teachers attended another session in which they discussed positive and negative reactions to the instructional units. A third session was held two months after the second, in which data were collected and feedback was again solicited.

Results indicate that, while both types of training positively affected student achievement, there was no significant difference in student achievement between the two groups. The authors caution, however, that these results do not necessarily imply that the two methods are equally effective due to possible confounding factors for which the experimental design could not control.

Englert, C. S. (1983). Measuring special education teacher effectiveness. *Exceptional Children*, *50*(3), 247-254.

This exploratory study examines relationships between specific instructional practices and pupil achievement in special education settings. Seventeen undergraduate teacher trainees in an education practicum worked with students from elementary school resource rooms for learning disabled or mentally retarded individuals. The teacher trainees were observed working with the students by three trained observers using the Direct Instruction Observation System (DIOS), an instrument designed to record behaviors related to: (a) content coverage, (b) pupil accuracy level, (c) feedback strategies, and (d) maintenance of task involvement.

Results indicated that the most effective teacher trainees (as measured by student achievement) maintained a higher content coverage, presented more trials per minute, enforced a higher degree of pupil accuracy, and presented learning tasks and questions to guide and confirm students' understanding more rapidly. There was also some indication that teacher effectiveness was associated with maintaining a lower rate of inappropriate and off-task student behavior. Large group differences in feedback strategies between the more and less effective teacher trainees did not emerge. These results suggest that mildly handicapped students benefit from rapid-paced instruction with a high degree of accuracy demanded by the teacher. However, the author suggests that more systematic observation of teachers in naturalistic special education settings is needed.

Rowe, L., & Wright, W. R., Jr. (1981). The use of videotape and voice-over techniques as an evaluation tool in personnel preparation. *The Volta Review*, *83*, 475-476.

In this article, the author describes a technique for using supervisor voice-overs on videotapes of student teachers as an evaluation tool. The author notes that, while using videotapes of student teachers' work with students is now established as an evaluation tool, it is sometimes threatening for the teacher to sit with a supervisor while his or her work is critiqued. When a voice-over is used, teachers seem to find critiques less difficult. The tape can be viewed at the teacher's leisure, and shared with others if he or she wishes. In addition, it is more convenient for the supervisor because the voice-over can be added at any time. The author states that teachers become more aware of their strengths and weaknesses when tapes are viewed in this manner (note: a method of measurement of this awareness is not mentioned).

McDaniel, E. A., & DiBella-McCarthy, H. (1989). Enhancing teacher efficacy in special education. *Teaching Exceptional Children*, *21*(4), 34-41.

The authors explain the theory of self-efficacy and suggests steps to enhance the efficacy of special educators and faculty in special education teacher preparation programs. Most teachers who lack efficacy have low personal teaching efficacy as opposed to a lack of confidence in their students' ability to learn. The authors suggest an action-oriented approach: analysis of own teaching and development of collegial approaches to problem solving, leading to changes in teacher attitude/behavior and student achievement.

Different interventions are recommended for special educators with low teaching efficacy as compared to teachers who are convinced of their students' ability to learn but are doubtful of their competence as teachers. For teachers

who doubt the ability of their students to learn, collaboration with successful colleagues, shared problem solving, effective interaction with parents, administrative support, and evidence that students are learning might raise expectancies. Teachers with low personal teaching efficacy would benefit from an examination of their teaching behaviors and ongoing assessment of students' progress.

The authors offer the following suggestions as a first step for developing higher personal teaching efficacy for special educators:

1. Identify and adapt skills to meet student needs
2. Provide direct instruction to groups of students and maintain high rates of student engagement
3. Initiate and maintain a program of student assessment
4. Watch out for trouble spots
5. Set positive and realistic expectations for students and convince them that they can learn
6. Actively seek support from school and home.

Finally, the authors suggest that in order to apply the theory of self-efficacy, there is a need to develop instruments which can measure teacher efficacy in special education.

Bledsoe, J. C., & Haywood, G. D. (1981). Prediction of job satisfactoriness and job satisfaction of secondary school teachers. *Psychological Reports*, *49*, 455-458.

This study was conducted for the dual purposes of: (a) determining the extent to which job satisfaction and selected personal characteristics can reliably predict the job satisfactoriness of secondary teachers who are in their first, second, and third year of teaching; and (b) determining the extent to which personal characteristics can reliably determine job satisfaction.

Two hundred ninety-two (292) secondary teachers from 69 schools in Georgia who were in their first, second, or third year of teaching were administered the Minnesota Satisfaction Questionnaire. For the purpose of cross-validation, job satisfactoriness was determined by obtaining principals' responses on the Minnesota Satisfactoriness Scale, one-half of the group (n=146) were randomly assigned to a screening sample to obtain regression weights and to determine the linear combination of predictor scores and weights. The other half (n=146) constituted the calibration sample.

The results indicated the following correlations with general satisfactoriness: (a) total job satisfaction, .35 (p<.01); (b) sex, -.02; (c) years of teaching experience, .07; (d) certification level, -.06; (e) grade-point average, .05; (f) marital status, -.06; and (g) when decision to teach was made, -.12. The multiple correlation ranged from .35 for a single predictor to .48 for five, six, or

seven predictors.

The variable measuring the individual teacher's job satisfaction was by far the most reliable predictor of job satisfactoriness as perceived by the principal of the schools. This finding appears to confirm the importance of the interaction of the individual needs of the employee and the characteristics of the work environment. Higher certification status was the second best predictor of satisfactoriness. The personal factors included in this study did not predict job satisfaction reliably.

Kelley, P., Ainsworth, L., & Sowell, V. (1988). Characteristics of students in a rural teacher preparation program. *Education of the Visually Handicapped*, *20*(2), 65-70.

A University in Texas offers an outreach training program for teachers of visually impaired children, in which a professor travels to 1 of 20 regional Education Service Centers and conducts Saturday classes. One hundred and nine (109) former participants in this program were surveyed to determine how useful this format is to the practitioner, as opposed to other possible formats for training programs (e.g., summer programs on a university campus or videotaped training sessions with access to the professor by telephone). In addition, the 20 Texas Regional Educational Service Centers were surveyed. The surveys included questions on participant demographics (sex, age, educational level, certifications held), reasons for participation, distance traveled, whether or not the teachers have remained in the geographic region in which they were trained, whether or not the teachers would have been willing to travel to the university to receive training, and in what setting the respondent is employed. In addition, Education Service Centers were asked whether or not there is a current need for more teachers of visually impaired children, and whether or not there is a continued need for the saturday outreach courses offered by the university.

The authors found that most participants were female, between 25-34 years old, with bachelors degrees and elementary teaching certificates, employed as teachers in local school systems. Most were already working with one or more visually impaired students, and wanted to better meet the students' needs. The average distance to the training site was 38 miles. Most participants remained in the region in which they were trained. Although 94% would take the training course if it were offered again, most participants would be unwilling to travel any farther to attend because of family constraints. The responding Education Service Centers indicated that more teachers of visually impaired children were needed, and three of the nine responding centers indicated a desire for outreach courses to be offered in their region. The authors conclude that the program address the needs of rural practitioners, and has helped to increase the number of teachers trained in visual impairment.

Kelly, E., & VanVactor, J. (1982). In-service in remote, sparsely populated schools: A comparative analysis of four instructional approaches. *Teacher Education and Special Education*, *5*(2), 24-32.

Four in-service delivery methods were compared for effectiveness in teaching special education techniques to teachers in rural, sparsely populated areas:

1. *Instructional Packet Approach*: participating teachers read material at their own pace during August. They then completed a 4-month practicum in the fall, with a site visit by project staff every two weeks. Evaluations of   trainee knowledge acquisition and attitude, the instructor, course, and materials were done before and after the independent study period, and after the practicum.
2. *Master Teacher Approach*, involving 40 hours of on-site instruction during a one-week period. A "master teacher" from each district taught and was assisted by project staff. Practica and evaluations were the same as in the Instructional Packet Approach.
3. *University Personnel Approach*, involving 40 hours of on-site instruction during a one-week period. Project staff did the teaching. Practica and evaluations were the same as in the two methods mentioned earlier.

 site, where they received instruction from project staff during a 40-hour, one-week time period. Practica and evaluations were the same.

The trainees began with an approximately equal knowledge level. All four groups initially gained about the same amount of knowledge, but the group trained with the Instructional Packet Approach retained less knowledge than the other three groups. While the other three groups tested at approximately the same knowledge level on the post-training evaluation, the Master Teacher and University Personnel groups retained the knowledge better than the University Campus group on the post-practica evaluations. On the attitudinal scales, the Master Teacher and University Personnel groups made significant gains, while the Instructional Packet and University Campus groups did not.

Helge, D. (1981). Staff development models to serve all children, including handicapped. *The Rural Educator*, *2*(3), 14-24.

This paper describes the staff development approaches used in 105 rural U.S. school districts.

The authors found that the approaches can be divided into four general models:

1. *The Management Approach*, consisting of an administrative or

management team responsible for setting staff development goals, and assigning roles to the various other components; a district-wide core team responsible for implementing the goals set by the management team and evaluating the resulting development programs; and building-based teacher assistance teams who support individual teachers and serve as trouble-shooters.

2.   *The Management Information System Approach*: This approach entails: (a) a needs assessment, (b) a resource survey, (c) a manual or computerized retrieval system to link resources and needs, and (d) recruiting volunteer help.

3.   *Multiple Roles Approach*: Users of this approach train staff in other roles (e.g., principals, secretaries) to intervene in crises and to substitute for one another when necessary.

4.   *Trainer-of-Trainers Approach*: A facilitator develops training teams within the district.

Parsons, A. S. (1990). A model for distance delivery in personnel preparation. *Journal of Visual Impairment and Blindness*, *84*, 445-450.

This article describes a University of South Carolina distance education program designed to help prepare personnel in the education of visually handicapped students. The program is a collaborative effort between the university, three state agencies, South Carolina technical schools, and South Carolina Educational Television. Three formats were used: (a) the *Instructional Televised Fixed System (ITFS)*, a one-way video delivery with a two-way audio talk-back system; (b) *videocassette course*s, a combination of videotaped lectures, a syllabus, support materials and textbooks; and (c) holding *traditional courses* on weekends to accommodate student schedules.

Of the three formats, the videocassette course format was rated most highly by participating students, who appreciated being able to review the tape at their leisure and work at their own pace. Research results seem to indicated, however, that the performance of students on achievement tests was similar, regardless of the instructional format used. The author's vision of the future of distance education for the teachers of the blind and visually impaired includes a national technological university, through which resources can be shared by satellite instruction.

II. Needs of the Student and Program Issues

A. Diagnostic and Eligibility Concerns

B. Educational Needs

C. Psychological Issues

....D. Behavior

E. Transition

F. Family Issues

II. NEEDS OF THE STUDENT AND PROGRAM ISSUES

In any personnel preparation program, the characteristics and needs of the student must take priority as subject matter. In the case of students who are deaf-blind, the needs are many; the methods of meeting those needs must also be multiple and, in most cases, integrated. Because the development of skills of the student are interactive and synergistic (Tedder, Warden, and Sikka, 1992), the teaching methods must also incorporate as many topics and issues as feasible. No skill should be taught in isolation. More than any other specialized program, a successful program for students who are deaf-blind will be based on independence in living, age appropriateness, careful integration with other activities such as vocational preparation, and communication abilities in all contexts. It will stress fine and gross motor development, as well as appropriate academic information. Because the student may still be developing elementary language skills even into the adult years, the program will remain sensitive to the often parallel emotional development of the student.

The abstracts that follow illustrate the published state of the art thinking about the life of the student from diagnosis and determination of eligibility through the transition from school to work or higher education. well as the influence of the family.

A. Diagnostic and Eligibility Concerns

The school district must determine the nature and extent of the student's handicapping conditions. Their diagnosis must extend across all suspected areas of disability, which are usually multiple in the case of a student who is deaf-blind. A team diagnosis is usually recommended, followed by team planning of the educational goals and objectives. Diagnostics include not only the physical aspects of the student's condition(s), but the functional aspects of the student's needs. These abstracts offer information derived from work concerning students who are deaf or who are visually impaired, as well as works specific to students who are deaf-blind.

Bullis, M., & Bull, B. (1986). *Review of research on adolescents and adults with deaf-blindness.* Washington DC: DATA Institute.

The purpose of this review is to answer the question, "What do we know about adolescents and adults with deaf-blindness?" Divided into three parts, the manuscript provides a profile of available literature in this area, a brief description of specific areas, and recommendations for future research. After reviewing, structuring, and categorizing all relevant literature published from 1970-1985, the authors offer recommendations to fill in existing gaps in the literature. They suggest that professionals should: (a) redefine deaf-blindness, (b) conduct a comprehensive census of individuals who are deaf and blind, (c) establish their current employment patterns, (d) develop programs to integrate them into the society, (e) develop augmentative communication devices, (f) develop a network of school and community agencies, and (g) address the unique needs of families of deaf-blind persons. Additionally, the authors argue that there is an urgent need to establish a central library to gather and publish resource listings, to conduct extensive needs assessments and qualitative research in areas concerning deaf-blindness, to provide quality in-service and preservice preparation to service providers, and to accept community living arrangements for persons with dual sensory impairments.

Holzberg, B. (1981). Psychoeducational evaluation of the severely and profoundly handicapped. In S.R. Walsh and R. Holzberg (Eds.), *Understanding and educating the deaf-blind* (pp. 53-58). Springfield, IL: Charles C. Thomas.

Evaluating severely and profoundly multihandicapped children is a vital component of any educational program and is one of the most difficult tasks a psychologist can undertake. The author proposes a model of psychoeducational assessment including the following components: (a) the psychologist must team up with experts in the field of deafness, blindness, language, physical therapy, physical education, etc. in gathering data on the child to generate practical instructional implications from assessment results; (b) a conference with teacher and/or parent should always be arranged to gather important, relevant data on the strengths and deficiencies of the particular student; (c) the psychologist should observe the child within the classroom as well as other settings, (e.g., residential, or at snack time); (d) the assessment of the child must include both a formal and informal approach based on the information received from other disciplines (i.e., quantitative test instruments, observations of the child, behavior checklist, or teach-test, teach-strategy, etc.); and (e) the team should meet with the teacher to develop appropriate objectives for the child, and plan instructional programming to be implemented at a suitable entry level. The author suggests that psychologists should remain flexible in their approach to each child and

67

should familiarize themselves with all relevant research and new approaches in the area of the severely and profoundly handicapped.

Marvin, E. (1981). Vision assessment and implications. In S.R. Walsh and R. Holzberg (Eds.), *Understanding and educating the deaf-blind/severely and profoundly handicapped*, (pp. 73-84). Springfield, IL: Charles C. Thomas.

The primary causes of deaf-blindness and the methods and components of visual assessment for deaf-blind individuals are discussed. Functional vision assessment includes: (a) sensation: the way the retina receives light and form, (b) visual-motor: the brain's directing and focusing of the eye, and the coordination of sight with other parts of the body, and (c) visual perception: the ability to give meaning and to understand what has been seen. Parents and teachers should work together to assess and evaluate the child's vision so that an effective education program can be developed and implemented.

Low vision training includes: (a) sensory stimulation (getting the child to use residual vision with the help of lighted and non-lighted objects); (b) visual motor training (helping the child to develop oculomotor control, focusing ability, and eye coordination with other parts of the body); and (c) visual perception training (developing skills that aid the child in deriving as much meaning as possible from what he or she sees). Durable materials should be used for children's glasses, and bifocals should be provided after cataract surgery to help the child to see near and distant objects. Higher functioning individuals can be provided with magnifying devices which can increase residual vision. The author notes that an interdisciplinary approach is always more effective than individual effort.

Kates, L., Schein, J. D., & Wolf, E. G. (1981). Assessment of deaf-blind children: A study of the use of the behavior rating instrument for autistic and other atypical children. *Viewpoints in Teaching and Learning*, *57*(1), 54-63.

The Behavior Rating Instrument for Autistic and other Atypical Children (BRIAAC), and its modifications specific to deaf-blind children, was field tested during the spring of 1979 on 39 students aged 5 to 12 years at 11 U.S. testing sites. Rather than focusing on the child's skills, the BRIAAC evaluates the child's motivation in daily context. BRIAAC includes scales measuring eight key areas: (a) relationship to adults, (b) communication, (c) sound and speech reception, (d) vocalization and expressive speech, (e) drive for mastery, (f) social responsiveness, (g) body movement, and (h) psychobiological development. It was developed to evaluate low-functioning, uncooperative, or unresponsive multiply handicapped children. It has been shown that many of these same characteristics are also exhibited by

the deaf-blind population.

The majority of the BRIAAC scales were found to be appropriate measures for the deaf-blind population and could be used in their original form. Three scales (vocalization and expressive speech, sound and speech reception, and body movement) presented some difficulty in scoring. The results of this study indicate that the original eight BRIAAC scales can provide data on how deaf-blind children react and interact with people and objects in their environment. In addition, two gestural and sign language scales have been incorporated into the deaf-blind edition of BRIAAC and are now being field tested.

Silberman, R. (1981). A comparison of visual functioning in hearing-impaired children and normally hearing children. *The Volta Review*, *83*(2), 95-104.

In this study, 100 children between four and nine years of age were given a battery of vision tests designed to determine: (a) visual acuity at far and near distances, (b) muscle balance at far and near distances, and (c) visual field. Half of the subjects were congenitally hearing-impaired and half had normal hearing. All had average or better intelligence.

The authors found that the hearing-impaired children were more likely to exhibit visual impairments than their normally-hearing peers. Although no specific visual impairment was found to be significantly related to hearing impairment, the total number of visual impairments was significantly greater in the hearing-impaired group than in the normally-hearing group.

The authors note that these results point out the importance of vision testing among hearing-impaired children and suggest that in-services on visual functioning and vision testing be provided to teachers of hearing-impaired children and to other school-based diagnosticians.

Murray, J. (1981). Comments on the least restrictive environments for deaf-blind severe and profoundly handicapped children. *Viewpoints in Teaching and Learning*, *57*(1), 8-13.

This article argues that the concept of Least Restrictive Environment (LRE) is complex and must be dealt with accordingly. The child's individual learning and living needs should be priority factors, but not the *only* factors. The family's needs, community, peer attitudes, and the environment must all be considered.

The child's individual needs constitute a major factor in decision for placement. These needs may be related to learning capacity, emotional needs, and family/social needs. Also, decision to place in the regular classroom should be accompanied and followed up with training, encouragement, support, and

counseling for the teacher, students, and peers (if required).

The authors contend that public schools may not be the most appropriate setting for all individuals with deaf-blindness. Any decision for placement must aim toward diminishing inequalities in the education of all handicapped within the content of individual, family, and society's needs and awareness.

Danielson, L. C., & Bellamy, G. T. (1989). State variation in placement of children with handicaps in segregated environments. *Exceptional Children*, *55*(5), 448-455.

This article addresses the extent to which handicapped students are placed in segregated school environments, and the variability among states in the use of placement categories. U.S. Office of Special Education Programs data for the 1985-1986 school year were used to compare state placement patterns to determine the percentage of school-aged students in each state served in each particular educational placement, across all handicapping conditions. The six educational placement categories were: (a) regular class, (b) resource room, (c) separate class, (d) separate school facility, (e) residential facility, and (f) homebound/hospital environment. Results indicated that 94% of handicapped children were educated in regular school buildings and 6% were educated in programs outside the regular school building. Handicapped students are placed in residential facilities at a rate of approximately 970 per million of same-aged population.

The use of separate educational environments has remained relatively stable over the past ten years. The high variation among states, however, suggests far less stability in service patterns than the national data would indicate. The extent of variability suggests that factors in addition to the characteristics of students are determinants of individual educational placements, and the decision-making power vested in the IEP process has not been sufficient to overcome these factors.

Head, D. (1990). Educational deficit: An inappropriate service criterion for children with visual impairments. *Journal of Visual Impairment and Blindness*, *84*, 207-210.

The article reviews two current philosophical issues in special education service delivery and the perceived impact on services to children with visual impairments: (a) the regular education initiative, and (b) the least restrictive environment.

Children with visual impairments go without needed and appropriate services if advocacy efforts are focused on placement issues rather than on service delivery issues. The new service delivery criterion ("educational deficit")

that is required to be present in a child with visual impairment appears to be a rationalization for excluding these children from the provision of comprehensive services. The author questions the concept of an "educational deficit", arguing that it shows a gross lack of understanding of the child's true educational needs and reflects a serious misrepresentation of the existing laws regarding service delivery to children with visual impairments.

These children need a "functional" vision examination which should be conducted by someone trained in the provision of low vision services. An orientation and mobility evaluation would further determine the child's ability to move in a variety of settings safely and efficiently. Professionals need to clearly address basic issues such as: (a) what constitutes appropriate services for children with visual impairments, (b) what services are needed to support the child with a visual impairment in the range of possible learning environments, and (c) what the relationship is between academic and compensatory instruction for children with visual impairments.

The author suggests more aggressive advocacy to the extent of initiating class-action lawsuits on behalf of all children with visual impairments to ensure compensatory instructional opportunities are provided.

Harley, R., Garcia, M., & Williams, M. (1989). The educational placement of visually impaired children. *Journal of Visual Impairment and Blindness*, *83*, 512-517.

This study investigates the ways that school systems determine placement of visually impaired children. Surveys were sent to 65 school systems in the eastern U.S.; 62 districts responded. Questions covered the following topics: (a) demographics, including types of service delivery systems and characteristics of children served; (b) use of eye examination reports in determining eligibility, (c) other factors used to determine eligibility; (d) criteria used to determine time allocation of special education teachers; (e) supplemental services provided; and (f) competency needs of teachers of visually impaired children.

The authors found that: (a) the most commonly used service delivery model is itinerant teaching, while the least common is residential schools; (b) Most children served are low vision (better than light perception), and 36% are multiply handicapped; (c) almost all require recent eye reports,
(d) pupil performance (ability to see regular print, cited by 77% of respondents, or large print, cited by 74%)) is the most common criteria used to determine eligibility for special programs, followed by advice of experts, low visual acuity, small visual fields, legal blindness status, and the child's social development; (e) the most widely used time allocation criteria are multihandicapped status, academic achievement, and reading medium, with 21% of the school systems basing time allocation on written criteria;
(f) the most common additional service is orientation and mobility (84%), with more than half also offering physical therapy (72%) and occupational therapy (72%); and (g) the competencies listed as most needed by teachers of the visually impaired were curriculum adaptation, instructional strategies, instructional materials, child assessment, and counseling and guidance.

Bullis, M., & Otos, M. (1988). Characteristics of programs for children with deaf-blindness: Results of a national survey. *The Journal of the Association for Persons with Severe Handicaps*, *13*(2), 110-115.

The authors administered a 57-item survey instrument to program coordinators to gather information about specialized service programs for children and youth (ages 0-2) with deaf-blindness. The article is a summary of the findings of this national survey encompassing the administrative structure of programs, teacher certification requirements, technical assistance, eligibility determination, educational placement, curricular/instructional settings, transition, and unmet educational needs.

Most coordinators reported working only part time in that position with

technical assistance to practitioners and families constituting a major part of their responsibilities. None of them indicated that differential certification was required for elementary versus secondary teachers of students with dual sensory impairments. A majority of the respondents used the results of needs assessments completed by special education staff in their service area, and utilized services of a multi-disciplinary team to determine the incidence/diagnosis of deaf-blindness.

The author concludes that a wide variety of educational placements are available to students, and commercially available curricula are used in different instructional settings depending on the level of schooling. A majority of respondents noted that formal planning mechanisms/transition programs were in place in their service area, but individual transition plans were not mandated. Services to families of preschool and elementary students were identified as critical needs warranting further attention, and lack of appropriate curricular materials as a problem across age groups.

The authors recommend caution in accepting the results of the survey due to a low return rate from coordinators. However, they affirm that the article provides an overview of the current system structure, and may help guide future direction and improvement of services to children and youth with deaf-blindness.

B. Educational Needs

The educational needs of students who are deaf-blind are very complex and require careful diagnosis as indicated in the previous section. One of the challenges faced by educators of students who are severely disabled and deaf-blind is that of justifying the right to programming for these students. The first abstract by Sternberg (1988) summarizes the issue. The other abstracts summarize works which address concerns ranging from the ability of teachers and others to communicate with the student who is deaf-blind through deficits in instructional materials, unique teaching strategies, and how to plan for students.

Some of these topics may overlap with sections already covered, or yet to be covered, as the interactive and synergistic nature of education of students who are deaf-blind makes delineation difficult at times. These abstracts seem to lend themselves most directly to this category.

Sternberg, L. (1988). Future educational concerns: Crucial questions. In L. Sternberg (Ed.), *Educating students with severe or profound handicaps* (pp. 475-484). Rockville, MD: Aspen.

The author seeks to identify questions raised by society regarding educating students with severe/profound handicaps. The public often wonders how much educational interventions will really benefit severely, profoundly handicapped individuals, and how much these interventions will affect quality of life in the future. The author argues that quality of life of severely handicapped individuals depends more on how others relate to them, and choice-making opportunities afforded them, than on their problems at birth.

The author points out three major issues regarding the choice-making of individuals with severe handicaps: (a) whether one has a preference for something, (b) whether the individual actually has a choice in obtaining what he or she likes, and (c) whether the individual realizes that options concerning choice are available. The author proposes that efforts to determine the validity of educational interventions must include procedures for measuring three aspects of intervention: (a) *internal validity*: verification of progress made while an intervention is conducted,
(b) *educational integrity*: careful and thorough analysis of the antecedents of educational change, and (c) *empirical and social validity*: determining how a targeted skill might impact later skill development, and the immediate and long-term consequences of these behaviors.

Walsh, S. R. (1981). The educational implications of deaf-blindness. In S.R. Walsh and R. Holzberg (Eds.), *The educational implications of deaf-blindness: Understanding and educating the deaf-blind* (pp. 25-37). Springfield, IL: Charles C. Thomas.

The author describes progress in deaf-blind education and suggests developing a consistent body of knowledge concerning deaf-blindness and its effects upon the learning process. Theories of how the senses affect learning could be used as sources of information to understand deaf-blind individuals. Three historical models that have relevance to the field of deaf-blind education are discussed.

The Piagetian Model uses a series of developmental stages and cognitive processes as guidelines for measuring a deaf-blind child's progress. The Behavior Analysis approach sets up strategies for the elimination of undesirable behaviors often acquired by deaf-blind children. It advocates conditioning by physical and/or tactual reinforcement. Both of these models are based on theories of development in normal children.

The Van Dijk method has arisen from actual work with the deaf-blind

population and is the most complete with regard to how visual and auditory impairments can impede development and learning. It advocates developing an ego in the handicapped child through body awareness and motor development.

Stainback, S., & Stainback, W. (1988). Educating students with severe disabilities. *Teaching Exceptional Children*, *21*(1), 16-19.

      The article aims at moving school personnel beyond debating or doing research on the relative advantages of special or regular education for students with disabilities. It provides a case for integrating the best personnel and procedures from both regular and special education to provide all students, disabled and non-disabled, the best possible education in integrated classrooms and schools.

      The authors present strategies for successful integration of students with severe disabilities under the following broad areas:

1. *Promoting Support*: Develop a strong commitment by school personnel and parents to the goal of educating all students in regular classrooms, help others understand the advantages, and promote widespread acceptance and support.

2. *Designating a Support Facilitator*: A support facilitator is a person who can either assist regular classroom teachers with suggestions, or provide an extra pair of hands to help adapt and individualize instruction to meet the needs of all classroom members. One source of support facilitators is special educators.

3. *Developing Networks of Support*: A network of buddy systems, tutors, and special friends for new students can effectively cater to the diversity in student needs. Teacher and student assistant teams are another way of providing support.

4. *Providing Instruction Naturally*: Using natural opportunities that occur in regular education activities to develop functional community-referenced skills, expose peers to ways they can assist in and promote the practice, generalization, and maintenance of the desired skills during times when the specialist may not be available.

5. *Promoting Respect*: The educators, support facilitator, and school personnel can encourage respect for individual differences by showing respect themselves and encouraging it and reinforcing it when it occurs.

6. *Integrating Students, Personnel, and Resources*: Proper integration of personnel and resources from special education with regular education leads to successful student integration in regular classrooms.

76

Barraga, N. C. (1989). Perspectives on working with visually impaired persons worldwide: Looking forward. *Journal of Visual Impairment and Blindness*, *83*(1), 84-87.

This article provides an outline of the worldwide trends in educating low vision children from the establishment of special schools for the handicapped to the current emphasis on mainstreaming.

The International Council for Education of the Visually Handicapped and the World Blind Union, both founded in the 1950s, were instrumental in changing attitudes about visually disabled individuals. Previously, the dominant attitude toward visually disabled individuals was paternalistic and vocational expectations were low. During this period, people began to realize that visually disabled individuals can, and do, lead full and productive lives. Another important milestone came in 1978 when the World Health Organization introduced the terms "low vision" and "severely visually impaired" to replace the single term, "legal blindness." This change in terminology encouraged people to begin thinking in terms of making functional use of residual vision instead of treating all visually impaired individuals as if they were totally blind. From the late 1970s to the present, international information-sharing about techniques for teaching low vision children has raised awareness of the needs of this population and improved services world-wide.

The author believes that the biggest challenge for the future will be to disseminate information to less developed countries where there are no organized training programs for teachers of children with visual disabilities.

Cunningham, D. (1983). Educating the visually impaired, severely-to-profoundly retarded child: A long range perspective. *Education of the Visually Handicapped*, *15*(3), 95-100.

The author contends that the traditional method of curriculum development for visually impaired retarded children is to determine the functional age of the adolescent and then to teach skills appropriate for a child of that age. Teaching materials suitable to the functional age are used (for instance, teaching shape alignment with a 4-piece Sesame Street puzzle). The author asserts that a more current functional approach is more useful for mentally retarded visually handicapped adolescents. With the functional approach, only those skills likely to be necessary for the adolescent's predicted future activities would be taught using tools that are age-appropriate (for instance, using bread and lunch meat to teach shape alignment rather than the Sesame Street puzzle).

Sometimes, however, it is difficult to predict precisely what functional skills will be necessary in a future placement. The author suggests that instead of

attempting to teach all skills that might possibly be needed in the future, specific "life goals" be developed for each client by a professional team. These goals should be drawn from a realistic expectation of the child's future placement. The goals should then be prioritized based on how essential they are for the adolescent to succeed in his or her expected future environment.

Murdoch, H. (1986). Helping the deaf-blind child in class. *British Journal of Special Education*, *13*(2), 75-77.

  This article offers suggestions to teachers of children who are deaf-blind, particularly those who have no specialized training in deaf-blindness and who may have only one deaf-blind individual in a class of children with a variety of disabilities.

  The author argues that the goal of curricula for deaf-blind children should be to enable each child to decode sensory information, allowing him or her to anticipate events and to wish to influence them. Curricula for children who are deaf-blind can be divided into five main areas:

(a) communication skills (first understanding the concept of communication, then developing the wish to communicate and learning basic adaptive communication methods); (b) cognitive development; (c) social and emotional development (self-awareness, body image, and social life); (d) motor and self-care skills; and (e) sensory development (making full use of residual vision and/or hearing).   Suggestions are offered for activities within each of these five areas.

Rowland, C., & Stremel-Campbell, K. (1987). Share and share alike: Conventional gestures to emergent language for learners with sensory impairments. In L. Goetz, D. Guess, and K. Stremel-Campbell (Eds.). *Innovative program design for individuals with dual sensory impairments*. Baltimore: Paul H. Brookes.

The chapter blends an analysis of the foundations of communication with practical suggestions for applying this knowledge to communication intervention for learners with dual sensory impairments. The authors emphasize the sharing aspect of communication where partners share the mode, topic, and specific intent of communication through which the learner realizes the full power of two-way communication.

The authors divide communication into expression and reception, with emphasis on the communication components of form, function, and content. The authors point out that in expressive communication, selection of form is a function of the learner's motor, sensory, and cognitive (including memory and representational) capacities. The reader is reminded that teachers and caregivers must utilize a wide range of communication modes themselves and provide the learner with opportunities to utilize a similar wide range of modes. The authors emphasize the importance of nonverbal receptive cues and the need for consistency in use of these cues across persons, time, and settings to help the learner derive meaning from these cues. The two major areas of concern related to the functions of receptive communication mentioned are: provision of cues to enable the learner to correctly interpret the function of messages and need for utilization of a wide variety of functions.

The authors stress the importance of dyadic skills in communication (i.e., skills necessary to initiate, respond to, and sustain communication) which allow the synthesis of isolated receptive and expressive skills into successful communication. The authors assign equal importance to the content and the context of instruction. That is, communication without function would be meaningless, and intervention must occur within functional natural environments and must involve reciprocal interaction between at least two people. There is emphasis on the need for educators to validate successful interaction techniques through systematic data collection so that it is possible to assess the rate of the learner's skill acquisition and modify communication systems and target accordingly.

Siegel-Causey, E., & Downing, J. (1987). Nonsymbolic communication development: Theoretical concepts and educational strategies. In L. Goetz, D. Guess, and K. Stremel-Campbell (Eds.). *Innovative program design for individuals with dual sensory impairments* (pp. 15-48). Baltimore: Paul H. Brookes.

Persons with severe and/or dual sensory disabilities are severely limited in their ability to respond to visual and auditory stimuli, and need additional information from alternative sensory modes (i.e., tactile, vestibular, gustatory, olfactory, and kinesthetic) to communicate effectively. Often, communication for these individuals exists at a primarily nonsymbolic level. On the other hand, research and intervention strategies in communication facilitation for persons with disabilities has neglected the importance of nonsymbolic behaviors.

It is the authors' contention that an adequate evaluation of nonsymbolic communication skills of the targeted individual must occur in conjunction with other assessments in the areas of vision, hearing, neurological status, perceptual motor skills, and social competencies. The authors cite research that emphasizes the crucial role of caregivers (or any other individuals in constant interaction with the individual with deaf-blindness). According to the authors, effective communication can occur if the non-disabled partner (or caregiver) is attentive, responsive, and accepting of a wide variety of seemingly unconventional behaviors as communicative. This chapter presents nine general intervention categories which are drawn from literature and from extensive informal observation of communication instruction: (a) sensitivity to individual preferences and dislikes, (b) compensation for lack of distance senses, (c) responsivity to the individual's attempts to communicate, (d) consistency to instructional structure and format, (e) providing contingencies, (f) creating a need to communicate, (g) incorporating time delay into adult response, (h) establishing a cooperative social environment, and (i) increasing expectations for communicative behavior.

Van Hedel-Van Grinsven, R. (1989). Communication and language development in a child with severe visual and auditory impairments: A case study and discussion of multiple modalities. *RE:view*, *21*(2), 61-70.

This article describes successful communication techniques used with a child with low vision and auditory impairment (with some residual hearing) at the Institute for the Deaf in The Netherlands.
 F. became proficient at this level, the entire word was finger spelled, and eventually the sign was phased out. Then F., using his residual hearing, learned to imitate the spoken word as he finger spelled it.
F. used an illustrated daily calendar as a choice-making and vocabulary-

building tool. Written, finger spelled, and spoken words were phased into the calendar system over time.

The author notes there are several disadvantages to using finger spelling as a primary communication method (e.g., not recognizing rhythmic patterns, errors in breaking a word into syllables, thinking of phrases as a whole rather than as a group of discrete words). As a result, oral speech was emphasized. F. used audiotapes to practice and listen to his own oral speech.

After a two-year period of instruction, F. could speak and understand multiple word sentences, and at the age of 9.8 had the vocabulary of a 6 to 7.5 year old deaf child (both written and oral). Finger spelling is still used to learn new words, but is phased out as the word becomes familiar.

Jensema, C. K. (1981). Report of communication method usage by teachers of deaf-blind children. *American Annals of the Deaf*, *126*, 8-10.

This article discusses the results of a 1979 survey of communication methods used by teachers of deaf-blind children. The responding teachers (*n*=195) reported how often they used the listed communication methods and rated their perceived proficiency in the methods they used. The authors found that teachers used speech most often to communicate visually and/or auditorially, followed by sign language. The most often-used written method of communication was large print.

To communicate tactilely with their students, the responding teachers most often reported using signs (including finger spelling), closely followed by gestures and/or pantomime and oral speech.

The author concludes that teachers prefer communication methods that are translatable into standard English, and suggests that flexibility and the use of multiple communication methods should be encouraged.

Jensema, C. K. (1981). Report of communication method usage by teachers of deaf-blind children - Part II. *American Annals of the Deaf*, *126*, 798-801.

One hundred and ninety-five (195) teachers of deaf-blind children responded to a survey about communication method usage. This article discusses communication methods used by the children to communicate with their teachers.

The deaf-blind students showed a strong preference for gestures, followed closely by signs (including finger spelling). The author notes that student communication was, as a whole, very limited. She concludes that teachers should be encouraged to communicate using tactile methods because skill-building in tactile communication methods would encourage more social interaction on the part of the deaf-blind students.

Jensema, C. K. (1981). Report of communication method usage by teachers of deaf-blind children - Part IV. *American Annals of the Deaf*, *126*, 798-801.

Jensema continues to discuss the data gathered from a survey of 195 teachers of deaf-blind children. In this article, two hypotheses are tested: (a) Do the kind and number of additional handicapping conditions (AHCs) affect communication methods?, and (b) Do "unusual behaviors" affect the kind and frequency of communication methods used?

AHCs include mental retardation, cerebral palsy, other orthopedic impairments, convulsive disorders, and chronic health conditions. The author found that most mentally retarded children tend to prefer tactile communication methods to visual and auditory methods. Children with cerebral palsy used less large print and sign language than did other
deaf-blind children. Orthopedically impaired children used less oral speech and fewer gestures than other deaf-blind children. Children with convulsive disorders preferred tactile gestures to signs and print materials. Teachers used more tactile methods and less speech than usual when interacting with students with chronic health conditions, and used more visual and tactile gestures when interacting with autistic children.

"Unusual behaviors" consist of self-stimulation or self-abusive activities. These behaviors correlated strongly with use of manual communication methods, and correlated negatively with oral and written communication. The author speculates that manual communication itself may be a stimulus for these children, and that teachers may sometimes be able to make creative use of self-stimulatory behaviors and turn them toward constructive uses.

Downing, J. (1989). Identifying and enhancing the communicative behaviors of

students with severe disabilities: The role of the school psychologist. *School Psychology Review*, *18*(4), 425-486.

The author advocates that school psychologists act as consultants to the team of direct service providers working to enhance the communication skills of students with severe multiple disabilities. The recommended practice is that experts analyze student activities in a controlled environment, and school psychologists suggest intervention needs by conducting a discrepancy analysis. This presents an overall picture ensuring smooth transition from assessment to practical intervention.

The school psychologist's role in facilitating communication skill development can be summarized as activities involved in: (a) shaping alternative communication responses by recognizing the communicative potential of "aberrant" as well as normal behavior,; (b) Enhancing the environment by restructuring activities allowing greater student choice and control, therefore, teaching direct service providers to recognize communicative potential and suggest ways to create communicative opportunities; and (c) using social communication skills to develop friendships by employing non-handicapped students to participate in peer buddy and peer tutor programs, assisting peer in-services to explain disabilities and program expectations, and assisting teachers in creating quality interaction time between students with severe disabilities and their non-handicapped peers.

The author concludes that by helping teachers and other education staff recognize and enhance the communicative behavior of their students with severe disabilities, the school psychologist can have a profound and positive effect on the lives of these students.

Libbey, S. S., & Pronovost, W. (1980). Communication practices of mainstreamed hearing-impaired adolescents. *The Volta Review*, *82*(4), 197-213.

Hearing impaired adolescents who were mainstreamed for some or all of their high school classes (*n*=557) were surveyed about what communication modes they used in their classes and other school activities. Variables examined include level of hearing loss and age of onset of hearing loss. Demographics and questions about extent of mainstreaming, modes of communication with different people, use of hearing aids and telephones, self-perception of communication skills, and areas of communication difficulty were discussed.

The authors found that mathematics was the subject in which students were most likely to be mainstreamed; students also were commonly mainstreamed in non-academic areas. Regarding communication modes, students were most likely to listen with a hearing aid and lipread to gain

information from all the categories of people mentioned (family, teachers, hearing friends, deaf friends, people in general, and people at work) except with deaf friends, with whom they are most likely to sign and fingerspell.

Tedder, N. E., & Sikka, A. (1992). *The communication observation schedule*. Rehabilitation Research and Training Center on Blindness and Low Vision, Mississippi State University.

This manual provides for the structured observation of communication with a student who is deaf-blind and is moving from the pre-language level to the use of true words. The rationale behind the instrument is that more communication is occurring with students who are deaf-blind than has been provided for in previous instruments. This tool takes into account the pragmatics of the communication: who is communicating with the student, the context, mode(s), appropriateness of responses, and frequency and duration. The authors hope to provide educators with an instrument which will facilitate observation of a heretofore neglected level of communication, which relates language to communication, and which recognizes "no behavior" as a reasonable response.

A copy of the instrument is included in the manual and may be photocopied for use by educators. The manual defines 12 communication modes and describes how to rate them using a videotape of student-teacher interaction.

Kent, D. (1981). Audiological assessment and implications. In S. R. Walsh and R. Holzberg (Eds.), *Understanding and educating the deaf-blind/severely and profoundly handicapped* (pp. 85-99). Springfield, Il: Charles C. Thomas.

The author stresses the importance of accurate hearing assessment to effective educational planning and to ensure that residual hearing is fully utilized. Various landmarks of normal auditory development and levels of auditory functioning may be used to identify a child's auditory functioning level. In addition to using a flexible approach to each individual child, clinicians conducting hearing assessments should exercise patience and imagination to obtain reliable information. Unconditioned and conditioned response tests ensure the response of the child to a noisemaker (e.g., bell, rattle) and require the child to perform a task in response to a sound. Both types of tests require the tester to be experienced and innovative.

Pictures may be used instead of traditional speech tests to assess memory, sequencing, location, etc. Many audiologists believe that behavioral audiometry is sufficient to evaluate the multi-handicapped child and check the results with an independent measure such as Immitance Audiometry and Evoked Response Audiometry which measure the static compliance, acoustic reflex, and

the electrical response of the auditory pathway.

Interpreting test results is a very important part of an audiologist's duties, as they have a great deal of bearing on the educational recommendations. The audiologist's report should have concise information about the extent of hearing loss and procedures used in the assessment. Before making a recommendation, an audiologist may fit trial hearing aids and observe the child's behavior and performance in a classroom with and without them. The author concludes that audiological assessment for children with deaf-blindness is a difficult and challenging job, and that available techniques must be used imaginatively and creatively for accurate results.

Bina, M. J. (1986). Social skills development through cooperative group learning strategies. *Education of the Visually Handicapped*, *18*(1), 27-39.

The author argues that cooperative learning strategies, in which an individual's success is dependent upon the performance of other group members, are effective in teaching social/cooperation skills to visually impaired students. The main advantage of cooperative learning (over independent or competitive learning) is that it reinforces a cooperative ethic among visually impaired learners. These individuals often have few positive group experiences in which they are relied upon by others.

Several types of cooperative learning strategies are discussed:
(a) Student Teams-Achievement Divisions (solving worksheet problems as a group, followed by individual quizzes. Grades are calculated by the improvement each individual makes from his or her average score);
(b) Teams/Games/Tournament (teams at similar achievement levels are pitted against one another); (c) Jigsaw (each student in a group is given information on a particular subject which he or she teaches to the rest of the group. Groups are scored collectively.); (d) Learning Together (each student is assigned a particular role, e.g. reader, checker, encourager, praiser. Groups are scored collectively); and (e) Group Investigation
(independent study on a topic of the group's choice).

One problem with group work is that visually impaired students may be reluctant to use adaptive aids in front of their peers. With other group members relying upon the individual's performance, such reluctance is more easily overcome. Other possible problems such as not participating in the group work or belittling others in the group, can be overcome by the teacher temporarily joining each group to provide assistance and prompting. Teachers should take care at first to "set up" lower achieving students for success by assigning them roles that suit their talents.

LaSasso, C., & Jones, T. (1983). Instructional procedures and reading materials

used with visually impaired students. *Education of the Visually Handicapped*, *15*(3), 75-85.

Residential schools for the blind were surveyed to determine how reading is being taught to visually impaired children. The authors asked five questions: (a) Is a basal-reader approach, language-experience approach (not defined), programmed approach (not defined), or an individualized approach (using reading materials selected by the student) being used to teach reading?; (b) What basal reader is most commonly used?; (c) What are the strengths and weaknesses of the basal readers used?; (d) What procedures are used to select teaching materials?; and
(e) What sort of research on reading would be most useful to practitioners?   The authors f
followed by programmed and individualized approaches. For the intermediate (age 9-12) and senior high (age 16-18) levels, individualized and programmed approaches are both second most common, followed by the language-experience approach.

"Patterns", published by American Printing House for the Blind, is the most often-used basal reader.   The respondents tended to list appropriateness of syntax, vocabulary level, and idiom usage as strengths of the four most widely used readers, and tended to list issues related to supplementary materials, flexibility, interest level, and conceptual difficulty as weaknesses.

Teachers most often use an informal reading inventory to select reading materials in the primary grades, and standardized achievement tests (most often the SAT) thereafter. The least-used procedure across all grade levels is the Cloze Procedure.

Respondents indicated that the most useful goal for new research would be to develop new instructional strategies for teaching reading to visually impaired children, and that new ways of determining students' reading skill needs would be helpful.

Hupp, S. C., & Rosen, S. (1985). The team approach to designing instruction for visually impaired multiply handicapped children: A decision-making paradigm. *Education of the Visually Handicapped*, *17*(3), 85-102.

This paper proposes a decision making model to be used to provide a systematic framework for making knowledgeable decisions regarding the IEP goals for visually impaired multiply handicapped (VIMH) children. This paradigm focuses on setting (reachable) goals for the VIMH students, and making decisions regarding the prerequisite skills for training the student in that goal. The authors list four options for teaching these skills: (a) presume that the prerequisite skill exists, (b) teach the prerequisite skills, (c) teach the prerequisite skill as a co-requisite, or (d) modify the goal so that the student is not required to

perform the prerequisite skill. The authors have also presented some case studies with application to the decision making model.

Corn, A. L. (1985). An independence matrix for visually handicapped learners. *Education of the Visually Handicapped*, *17*(1), 3-10.

      Providing practical knowledge to visually impaired students is often a concern of educators because it is essential for promoting independence. The author proposes an independence matrix consisting of academic and problem areas on one side, and areas that help an individual become independent and develop an internal locus of control on the other side (i.e., knowledge of resources, problem solving, self-advocacy, and social skills).

      This matrix is appropriate for preschool to high school age children and should be used to develop objectives for each goal selected for the student. According to the author, the matrix may be: (a) applied specifically to a classroom situation, (b) applied at certain intervals to assess a student's level of independence, and (c) used to select independence activities for each of the academic objectives in the individual education plan. According to the author, the ultimate aim of every educational goal for visually impaired students should be to increase independence as much as possible.

Arkell, C. (1979). Educational programming for multiply involved deaf students. *The Volta Review*, *81*(1), 25-34.

      The author believes that because multihandicapped children are guaranteed admission to public school classes, new strategies must be developed to provide a curriculum for such students. One such model that has been successfully field-tested in the Albuquerque public school system, is described in this study.

      This model involves six phases: (a) the Child Observation Assessment Period, during which the child's skill level is assessed by using one of four techniques, a developmental checklist, a behavioral checklist arranged by skill areas, anecdotal records written by the teacher, or a participant-observation strategy, in which the teacher and/or aide take detailed "field" notes of the child's behaviors; (b) pinpointing target behaviors which the teacher is interested in changing; (c) developing instructional objectives; (d) task analysis or determining what skills the student must master in order to meet the instructional objective; (e) instructional program designs; and (f) evaluation. Field tests of this model suggest that it may be useful and effective for other multihandicapped children.

Andrew, J. F., & Sinclair, J. (1989). Software with graphics: A language motivator for high school students who are deaf. *Teaching Exceptional Children*,

21(3), 16-18.

The article deals with the lack of interesting instructional material for the deaf school-age population with additional disabilities. The authors argue that the microcomputer can be an effective instructional tool when used with software featuring graphics and cartoons. Three prelingually and profoundly deaf students were introduced to two software packages, both featuring cartoon graphics, with the aim of improving their skills in communication, reading, writing, spelling, and grammar: "Create with Garfield" and "Walt Disney Comic Strip Maker." In both of these software packages, the user creates dialogue and inserts it into speech "balloons." Over a period of two years, the students considerably increased the amount of speech created for the characters in a way that was communicative and enjoyable, and though there were no noticeable improvements in the use of correct syntactic structure, the output did reflect the students' feelings about who they are and what they wanted to communicate.

Knowlton, M., & Woo, I. (1989). Functional color vision deficits and performance of children on an educational task. *Education of the Visually Handicapped*, *20*(4), 156-161.

Sixteen low vision subjects with blue-purple color deficits between 5 and 30 years of age were matched by age and visual acuity with 16 other low vision subjects who had no known color deficit. The subjects were then shown a cartoon character and asked to match it with an identical character from an array of three similar cartoons. The cartoons were either ditto reproductions or photocopies. In addition, three levels of contrast were used for each condition (ditto or photocopy).
Individuals with color deficits were significantly more likely to make errors when the cartoon character was presented as a ditto. Both groups performed significantly worse when the contrast was lower as compared to other contrast. However, this lower performance did not appear to be related to condition (ditto or photocopy).
The authors conclude that use of dittos and low-contrast materials may lower the performance levels of low-vision children with blue-purple color deficits.

Clarke, K. (1988). Barriers or enablers: Mobility devices for visually impaired and multihandicapped infants and preschoolers. *Education of the Visually Handicapped*, *20*(3), 115-132.

Mobility devices are instruments that assist blind or otherwise disabled individuals in moving independently about their environment. The author reviews the literature about mobility devices for children and concludes that properly

chosen devices can be useful in training visually impaired and multihandicapped children to travel freely and safely.

Because mobility devices must be individually evaluated and selected, a checklist is presented to help determine how characteristics of an aid might serve as a "barrier" or an "enabler" for the individual child. The checklist can be used to simultaneously evaluate the social, motor, vision, safety, adaptability, training, travel, cost, maintenance, and availability aspects of up to three mobility devices. The device with the most boxes checked "yes" would be the most enabling selection for a particular child. Two hypothetical visually impaired children are described, and the "Checklist for Evaluating Mobility Devices" is used to select the best mobility device for each one.

In addition, a list of 21 categories of mobility devices, with specific examples and vendors, is included in the appendix.

Gates, C., & Kappan, D. I. (1985). Teacher preparation in the education of visually impaired children: A multi-competency approach. *Journal of Visual Impairment and Blindness*, *79*, 306-307.

Small, rural school districts often do not have the resources to hire three teachers to serve the comprehensive needs of visually impaired students: a teacher competent in teaching severely/profoundly handicapped blind children, another competent in academic instruction of visually impaired children, and an orientation and mobility specialist. In this article, the authors argue for the need to train teachers in all three specialty areas, and describe one such model training program at the University of Northern Colorado.

The severely/profoundly handicapped component was added to UNC's dual-competency program (Orientation & Mobility and academic instruction) in 1978. Topics covered by the new component include: (a) effects of handicapping conditions on growth and development, (b) use of ophthalmological and audiology reports, (c) assessment and methods of teaching a variety of skills, and (d) the roles that other specialists and family members can play in a severely handicapped child's growth and development. Graduates of the UNC multicompetency visually impaired program earn a Master of Arts degree.

C. Psychological Issues

The psychological aspects of the student who is deaf-blind are usually only topics for conjecture for teachers and others. Because there is so little communication with so many of the students, it is difficult to assess the psychological foundations of the behavior that is manifested. The second abstract regards fears of students with vision impairments. It is interesting to note the differences in types of fears and anxieties in visually impaired and sighted students, and to consider the implications of this study for students who have both hearing and vision losses.

Students who are developing Usher's syndrome during adolescence have a particularly difficult time of adjustment as reflected in the first abstracted article.

Fillman, R. D., Leguire, L. E., & Sheridan, M. (1989). Considerations for serving adolescents with Usher's syndrome. *RE:view*, *21*(1) 19-25.

The article examines the roles of individuals most likely to be involved with adolescents who have Usher's syndrome and outlines methods that can be utilized to facilitate educational planning.

The authors define Usher's syndrome and discusses its psychosocial aspects and their impact on the development of the adolescents' self-image. They argue that physical disability has profound effects on self-concept, and attitude of peers towards the visual impairment often causes problems in self-esteem. Teenagers with this syndrome find themselves more dependent at a time when there is an inherent push for independence. Increased stress and conflict lead to denial and inappropriate behavior, and adolescents become increasingly withdrawn and dependent on their families.

Therefore, the authors suggest that a sensitive and empathic school counselor or social worker, through intervention and advocacy, can help the adolescent's family through some of their difficulties and uncertainties. The student can work with the counselor/worker to recognize and process grief, cope with peer pressure, learn adaptive skills, deal with self-image issues, and consider immediate and long-term vocational goals and issues of dependency. The authors also advocate using peer support which can be a valuable resource for sharing and processing emotions, developing a sense of identity and belongingness, learning to become a role model, and contributing to an increased sense of self-worth.

Use of dimmers and ultraviolet light filters can minimize orientation and mobility problems by mimicking nighttime lighting conditions during school hours, increasing contrast and reducing glare. In order to determine the most appropriate type(s) of light filters, evaluation in various environments is advised. The classroom and instructional materials can be modified to maximize residual vision. Light sources attached to dimmers and placed perpendicular to reading materials, ultraviolet filters worn on spectacles, a "white board" with black erasable markers, and avoiding unnecessary movement by speakers are some strategies which may assist the student. The authors recommend that the service provider be cognizant of the impact Usher's syndrome has on communication.

Venn, J. J., & Wadler, F. (1990). Maximizing the independence of deaf-blind teenagers. *Journal of Visual Impairment and Blindness*, *84*, 103-108.

A 4 and a half year model residential program demonstrated the effectiveness of teaching independent living skills to deaf-blind, severely/profoundly mentally retarded students. Program participants lived in a barrier-free, fully-furnished apartment which contained a video and audio monitoring system, allowing the staff to provide indirect supervision but quick access for safety purposes. Baseline data were gathered during the first two weeks with direct supervision. Beginning in the third week, direct supervision was reduced, until by the fourth week, interaction between student and staff was reduced to safety intervention and assistance with new tasks.

The Systematic Approach to Vocational Education (SAVE) was used. Most students had some vision, so modified sign language, large print, and large picture materials were used. Role-playing techniques introduced students to new experiences (e.g., doctor, dentist visits). A "buddy" system pairing each participating student with a deaf student was also used.

The authors argue that the usual methods of teaching deaf-blind individuals rely almost exclusively on one-to-one instruction, thereby teaching dependence rather than independence. The results of this project demonstrate the positive effects of environmental modification on the independence of people with severe handicaps.

Wilhelm, J. (1989). Fear and anxiety in low vision and totally blind children. *Education of the Visually Handicapped*, *20*(4), 163-172.

There is some evidence that visually impaired children may suffer more from fear (defined as a normal reaction to a genuine threat) and anxiety (defined as "a more global, anticipatory response" not focused on a genuine threat) than do sighted children. It has also been hypothesized that visually impaired children may not be afraid of the same things as sighted children.

The author gave the Children's Fear Survey Schedule-Revised (CFSS-R) and the Revised Children's Manifest Anxiety Scale (RCMAS) to 139 visually impaired students at residential schools for the blind to determine whether degree of visual impairment--low vision versus total blindness--was related to the frequency and intensity of fear toward particular stimuli. They also compared the results with normative scores of sighted children.

The author found that the visually impaired subjects are more likely to cite stimuli related to physical injury as fear-producing than are their sighted peers. In contrast, "social fears" (e.g., looking foolish or getting poor grades) rank higher for sighted individuals than for visually impaired individuals. The author warns, however, that this finding could be due to the tolerant and socially safe setting of

the residential school. There is no statistically significant difference between the low vision and totally blind children's responses.

The visually impaired students' RCMAS scores were not significantly different from the normative scores, leading the author to conclude that vision does not tend to influence RCMAS scores. Therefore, this instrument may be useful in measuring the anxiety level of visually impaired children.

D. Behavior and Socialization

If communication is the issue of primary concern with students who are deaf-blind, then behavior is certainly the second. Dealing with often bizarre and not readily explainable behavior is a challenge for every teacher who has a deaf-blind student. Probably because of the lack of facile communication, behavior is, or at least seems to be, more mysterious when manifested by a child who is deaf-blind.

The first part of this section contains abstracts of articles which address behavior modification, recording behavior, positive reinforcement, negative reinforcement, and parental observation. The second half contains abstracts of works which address a more advanced form of behavior--socialization. Again, some articles are borrowed from work with visually impaired or deaf students, but are food for thought nevertheless.

Wade, P. (1981). General behavior assessment and implications. In S.R. Walsh and R. Holzberg (Eds.), *Understanding and educating the deaf-blind/severely and profoundly handicapped* (pp. 59-72). Springfield, IL: Charles C. Thomas.

This chapter provides an introduction to some of the techniques of behavior modification in view of the fact that personal and educational development can take place only after behavioral problems are eliminated.

Positive reinforcement is a technique for encouraging appropriate behavior with rewards (such as praise or foods) that are effective with the particular child, and then proceeding to reinforce intermittently. Shaping and chaining, which involve reinforcing approximations of correct behavior and breaking complex behaviors into simpler units, are two variations of positive reinforcement. Extinction is the progressive weakening or reduction in the frequency of a behavior by non-reinforcement (e.g., ignoring a child who makes faces in class).

Time-out is the consistent, systematic removal of a child from a desired environment when an inappropriate behavior occurs (e.g., making a misbehaving child stand outside the class). It should be used in conjunction with contingent positive reinforcement. Overreaction is the technique which requires the erring child to restore a situation to a condition better than it existed prior to the inappropriate behavior. It could be an apology, restitution, or an act of setting right things which were disturbed by the behavior, but to a greater extent. When properly used, it can be a valuable tool for teaching deaf-blind children to behave appropriately.

The author advocates use of the behavioral approach, as it affords the teacher the power to regulate most situations by manipulating the child's environment in some way. However, the author encourages teachers to pursue in-depth and detailed study before implementing a behavioral management program.

Wilson, G. (1981). Guided observation: A new program for parents of hearing-impaired children. *The Volta Review, 83*(4), 236-237.

This paper describes the use of "guided observation," a parent education component of a deaf preschool program. The guided observation program provides parents (and other interested parties) with information on preschool deaf children's behavior and communication, then gives parents worksheets which allow them to check off the behaviors and communication styles which they observe as they see them occur. Guidance is also provided in carrying out

educational activities at home. Participating parents have rated the guided observation program highly; and some have commented that they appreciate the opportunity to interact with and to give and receive support from other parents of deaf children and program staff.

Smith, T., & Smith, B. (1983). Using participant-observation to determine the
social behavior of visually handicapped children. *Education of the Visually
Handicapped*, *15*(1), 30-36.

Previous studies have found that visually impaired children have more difficulty using appropriate social skills than do sighted children. In this participant observation study, the authors investigated the social behavior of 20 visually impaired adolescents at a residential school for the blind. The authors observed and interacted with the students in a variety of settings within the school: (a) the student union, (b) in the hallways during class changes, (c) in the dining hall during meal periods, and
(d) before and after the graduation ceremony.   The authors took notes during and after these observation/interaction periods.

According to the authors, the students exhibited typical adolescent social behavior, and no inappropriate or anti-social behaviors or personal adjustment problems were observed. The authors caution that the results may not be generalizable to settings in which visually impaired and sighted adolescents must interact with each other, such as a public school setting. It should also be noted that the authors were recording their own interactions with the subjects and the question of experimenter bias must be considered.

Koorland, M. A., Monda, L. E., & Vail, C. O. (1988). Recording behavior with
ease. *Teaching Exceptional Children*, *21*(1), 59-60.

Techniques for measuring frequency and duration of student behaviors are discussed in this article. To find the frequency or rate of a target behavior, the authors recommend that teachers choose one of the following: (a) a wrist counter (also known as a "golf counter"), (b) a grocery counter (this has a 4-digit capacity), (c) making tally marks on an index card, (d) switching beads (or other small portable object) from one pocket to another when the behavior occurs, or (e) keeping a tally on a printing calculator. The behavior frequency is then divided by the number of time units to obtain a rate. To measure duration of behaviors, a stopwatch or tape recorder could be used.

Time sampling (or "interval recording") might be the best choice when it is not practical to observe the student continuously. In this technique, a student is observed at regular intervals; the observer notes whether or not a behavior is occurring at each interval. The observer might then enter a "+" or "-" on a

printing calculator. Blank cassette tapes with prerecorded beeps or tones at the desired intervals are useful to remind the observer when to look for the target behavior.

Permanent products (e.g., the number of pages read or problems completed) can also be used to calculate the amount of time a student spends on- or off-task.

Luiselli, J. K., & Lolli, D. A. (1987). Contingency management of a blind child's disruptive behaviors during mobility instruction. *Education of the Visually Handicapped*, *19*(2), 65-70.

This case study describes a behavior modification strategy successfully used to reduce problem behaviors of a 13-year-old deaf-blind, multihandicapped child during mobility training. Occurrences of problem behaviors (e.g., screaming, swinging cane, interfering with instructor's movements) were recorded over several mobility sessions to determine a baseline rate of occurrences per minute. During this period, the mobility instructor corrected the student's behavior without a formal intervention plan. During the first intervention phase, a particular reinforcement was delivered if the frequency of inappropriate behaviors did not exceed a specified limit. This limit was lowered gradually as the frequency of undesirable behavior was reduced. The number of problem behaviors continued to be monitored.

Formal intervention was stopped for one session, then reinstated. During the second intervention period, the subject could obtain reinforcement only if he exhibited none of the inappropriate behaviors during the session. As a follow-up, approximately one year after the conclusion of the study, the mobility instructor was once again requested to record data during one weekly training session for two consecutive weeks. By this time, the intervention program had gradually been withdrawn and was no longer in effect.

Results showed the program to be successful. Target behavior decreased from .87 per minute in the baseline stage to 0 in the first intervention phase. While they returned to .6 per minute with a return to baseline conditions, there were only two occurrences of inappropriate behavior within the second intervention phase. The author argues that this type of behavioral intervention is ideal because it is cost-efficient, easy to implement, and positive instead of negative.

Luiselli, J. K. (1988). Positive reinforcement interventions in the classroom. *Journal of Visual Impairment and Blindness*, *82*(1), 17-20.

This study examines the effectiveness of positive reinforcement on decreasing the frequency of undesirable behavior in the classroom. Subjects (*n*=2) were two multiply handicapped, visually impaired teenagers in a residential school.

For the first subject ("Ted"), the targeted behavior was aggression toward others. After taking baseline data, a sweatband with an attached timer was placed on Ted's wrist. The timer was set for gradually increasing period of time, beginning with 15 minutes. When the timer rang without any aggressive behavior having occurred during that time period, Ted continued wearing the sweatband, was verbally praised, and was given an edible treat. If he became aggressive, the sweatband was removed, and the teacher walked away. When he became calm, the timer was reset. Baseline trials were then repeated, followed by a second round of experimental trials. For the second subject ("George"), target behaviors were non-compliance and inaccuracy on a counting task. George was reinforced for compliance and accuracy by receiving a token which could be used to "buy" some time doing an activity he enjoyed. Gradually, more tokens were required to buy the pleasurable activity. As in Ted's case, a second round of baseline trials and of experimental trials followed.

For Ted, aggression decreased dramatically during the experimental conditions, rose during the second baseline trials, and decreased again during the second experimental period. The same pattern appeared for George for non-compliance and inaccuracy, however, he was not significantly affected by the treatment.

Alberto, P., Troutman, A., & Briggs, T. (1983). The use of negative reinforcement to condition a response in a deaf-blind student. *Education of the Visually Handicapped*, *15*(2), 43-50.

Positive reinforcement is generally the preferred method of teaching deaf-blind children to perform certain tasks. This method does not work, however, when the child shows no interest in objects or stimuli which could serve as motivators. This article is a case study of the successful use of negative reinforcement to condition a 7-year-old deaf-blind student to perform a functionally useful task (flipping a switch).

The authors found that placing an ice cube in the student's palm consistently caused him to withdraw his hand. They found that they were able to condition the child to turn his head toward an air current (caused by blowing on his cheek) if they removed the ice when he had successfully done so. The

authors then switched the goal to operation of a microswitch that turned on an attached fan. When the student correctly operated the switch, the negative reinforcement (ice cube) was removed. Finally, the air flow from the fan became a positive stimulus for the student, and he operated the switch on his own to enjoy the tactile stimulation from the blowing air. A list of the potential positive reinforcers which the authors tried on the student (visual stimuli, auditory stimuli, tastes, tactile items, vestibular activities, temperature stimuli, and smells) is included. The authors include a caution about the ethical ramifications of using negative reinforcement.

Bryant, P. (1980). Life skills and the experiential curriculum. *The Volta Review*, *82*(6), 353-359.

This article discusses "experiential teaching" as a means for teachers to help hearing-impaired children develop appropriate social and problem-solving skills. Experiential teaching involves activities which require high-level problem solving and application of skills to several different areas. Activities include field trips and career education (simulated career experiences or visiting with individuals employed in various types of jobs). The important issue is that, although the activity should be structured, students should be allowed to use their own skills whenever possible to work through any problems that might arise.

McGinnis, M. D., Orr, C. D., & Freutel, J. M. (1980). Becoming a social being. *The Volta Review*, *82*(6), 370-379.

Many deaf children have difficulty learning the social skills which allow them to function easily and appropriately in the hearing world. If a child fails to learn the skills, the consequence often is social isolation. The authors argue, therefore, that learning to converse and behave well in mainstreamed settings is the single most important skill that a deaf child can learn.
Because children's social styles begin to be established by the age of two, much important socialization takes place in a family setting rather than in the school. Modeling their parents' actions in social settings teaches children socially responsible behaviors (helpfulness, friendliness, etc.). Deaf children may not be able to use modeling to pick up more subtle nuances of social behavior, such as tone of voice and conventional phrases. Therefore, they must receive direct training in social skills.
The Oralingual Interaction Skills Curriculum is a program designed to teach social skills to deaf children. This program operates under the assumption that, although social attitudes are for the most part already formed when a child reaches school age, specific social skills can be taught. Interaction skills are divided into four areas, or "strands": (a) attending skills (following conversations and noticing changes); (b) spontaneous interaction skills (showing interest in

others, sharing, joining discussions, asking for help, and turn-taking); (c) communication clarification skills (understanding and being understood); and (d) social fluency ("customary and appropriate behavior, attitudes, manners, and language"). Each of these strands are taught at an age-appropriate level, then re-taught at a more sophisticated level as the child gets older. An Interaction Skills Checklist serves as a needs assessment and as a progress check.

Read, L. (1989). An examination of the social skills of blind kindergarten children. *Education of the Visually Handicapped*, *20*(4), 142-155.

This study outlines a checklist of social skills appropriate for blind kindergarten children which was tested on three blind kindergartners. The subjects' strengths and weakness in social skills and various intervention strategies are discussed.

The "Observational Checklist of Social Skills for Blind Kindergartners" includes behaviors drawn from previous skills inventories for handicapped elementary students, with items added based on discussions with professionals in blindness education and on the author's own observations. It contains items grouped into the following categories: (a) participating in actions with others, (b) maintaining relationships,
(c) assertiveness skills, (d) classroom skills, and (e) cafeteria skills.

Three blind kindergarten children, who were mainstreamed for at least half of the school day, were rated on the checklist items by the child's teacher and a special education instructor. Skills were rated as rarely demonstrated (20% or less of the appropriate times), occasionally demonstrated (half of the appropriate times), or often demonstrated (80% or more of the appropriate times). Although the authors pointed out some common areas of strengths and weaknesses among the three subjects, the study did not provide reliable statistical data.

The authors suggest both general strategies for improving social skills among blind kindergartners, and specific strategies for teaching skills which the subjects were lacking. General strategies include:
(a) maximizing interactions with non-handicapped peers to provide modelling opportunities; (b) Improving verbal skills by encouraging blind children to initiate interactions themselves, focussing at first on an activity rather than on a verbal interaction, providing multiple partners with whom the child can converse, and having an adult "coach" sit behind the blind child to whisper appropriate responses; (c) planning activities which require the blind child to participate actively with his or her peers in group activities; (d) training peers to prompt blind children to respond appropriately; and (e) role-playing appropriate behaviors in social situations. The authors then discuss ways in which these general strategies can be applied to the three subjects.

Hus, Y. (1979). The socialization process of hearing-impaired children in a
    summer day camp. *The Volta Review*, *81*(3), 146-156.

In this study, three factors having to do with the socialization of hearing-
impaired children into normally hearing groups were examined:
(a) adult attitudes toward the hearing-impaired children; (b) interaction frequency
and modes with peers, groups, and camp counselors; and (c) peer status.
Subjects (*n*=5) were hearing-impaired children between eight and ten years old
who attended a four-week summer day camp. A normally-hearing child from
each of the five groups was also observed as a control.
    Camp counselors were administered an Attitudes Toward Hearing-
Impaired questionnaire before and after the camp. There was a statistically
significant positive change in the scores after the counselors had been in contact
with the hearing-impaired children.
    Frequency of peer interaction was determined by observing 15-minute
periods. Observers noted how many times the hearing-impaired child interacted
with peers, the group, and with counselors, and whether the interaction was
verbal or non-verbal. Observations were taken before and after the first two-
week camp session. It was found that the frequency of interactions did not
change significantly over time; however, normally-hearing children interacted
significantly more often with peers, the group, and the counselors.
    Peer status was measured by asking each child (both hearing-impaired
and normally-hearing) which of the following descriptions best suits each of the
other children in his or her group: (a) "a friend",
(b) " "all right", or (c) "don't like". They were then asked to estimate, using the
same scale, what the other children in the group thought about them. The author
found that the normally-hearing children were more likely to rate the hearing-
impaired children as "don't like". In addition, the hearing-impaired children were
less likely to guess when they would be rated as "don't like" by another individual
than the normally-hearing children were.

Roberts, C., Pratt, C., & Leach, D. (1990). Classroom and playground interaction
    of students with and without disabilities. *Exceptional Children*, *57*(3), 212-
    224.

One hundred and ninety (190) elementary school students were observed
in playground and classroom settings, and their social behaviors were analyzed
using a random time-sampling method. Half of the students had mild intellectual
disabilities; half were non-disabled. Classroom behaviors were coded as: (a)
task, (b) off task-quiet, (c) off task-disruptive, and (d) off task-aggressive.
Playground behaviors were coded as:
(a) unoccupied behavior, (b) solitary play, (c) onlooker behavior, (d) parallel play,

and (e) interactive play. One hundred and eight (108) observations were made in each of the two settings for each student. Observers also recorded the type of interaction (*initiation*: successful or unsuccessful; *person*: peer, teacher, or other adult; and *quality*: positive or negative).

The authors found that mentally disabled students interacted less with peers than non-disabled students, engaged in more solitary play and had more positive interactions with adults. The disabled students were found to be less often "on-task" in the classroom than non-disabled students.

E. Transition

The transition from high school to adult life is a difficult one for any adolescent (McBroom, Tedder, Haucke, 1989) and is particularly problematic for an adolescent who is also deaf-blind. Many states have recognized the imperative of cooperative planning between education, rehabilitation, and social service agencies and the person who is deaf-blind and his/her family and provided legislative mandates for transition planning. In other states, planning is voluntary and often just as effective. The key seems to be to have representation from all potentially responsible parties and to listen closely to what the deaf-blind person wishes. Several abstracts in this section address cooperative planning.

Additional issues in planning for transition involve "work" behavior and socialization. A critical issue is independent living skills and the availability of appropriate housing. Several abstracts offer suggestions for model programs.

Finally, one concern of both education and rehabilitation is the provision of services that will facilitate the transition process. The final abstract summarizes a descriptive study of the various services which are termed "transition" and their influence on the actual transition of 12 blind or deaf-blind youth.

Fairweather, J. S. (1989). Transition and other services for handicapped students in local education agencies. *Exceptional Children*, *55*(4), 315-320.

The article presents results of a telephone survey conducted among special education administrators in 1450 local education agencies (LEAs) nationwide to determine the availability of vocational programs and transition-oriented services for handicapped youth. The questionnaire was designed to gather information on the availability of four traditional vocational preparation programs related to successful transition:
(a) vocational education, (b) counseling, (c) occupational or physical therapy, and (d) whether the local Vocational Rehabilitation (VR) Agency assigned a staff member to the LEA. Additional data on the availability of non-traditional transition-related programs, and on the richness or paucity of community services and job opportunities available to handicapped youth was also collected.

Descriptive statistics were calculated using weighted data to make national estimates about availability of programs. Cross-tabulation analyses were performed to compare these results by the size of the district. Finally, a LEA typology based on the number and type of traditional and non-traditional programs was postulated and examined with a stepwise discriminant function analysis.

The results show that 50% of all secondary LEAs provide at least one of four vocational preparation programs for handicapped students. In addition, 52.3% of LEAs have a VR agency staff member assigned to them, and 86% of the LEAs arrange counseling for handicapped students. Newer transition-oriented programs were less available to secondary-aged handicapped students than the more traditional vocational programs and less than one-half of all LEAs offered at least one transition-oriented program.

The data gathered also showed that LEAs could be divided into five programmatic groups based on combinations of vocational preparation and transition-oriented programs, ranging from group 1, offering two or fewer of the four vocational preparation programs and none of the transition-oriented (24.9% of LEAs) to group 5 which offered at least three of the four preparation programs and both of the transition-oriented programs (17.3 of LEAs).

The authors conclude that the size of LEA is strongly related to the likelihood that secondary-aged handicapped students will find vocational preparation programs available to them. Less than half of LEAs nationwide say they offer transition programs and only about one-third say they maintain staff members to assist special education students to find jobs. The results also

suggest that the combination of LEA size and district and community wealth affect the availability of vocationally related services for handicapped students.

Irwin, J., & Macdonell, P. (1988). Access to transition services. *Journal of Visual Impairment & Blindness*, *82*(2), 69-70.

The article describes a course developed by the Oregon Commission for the Blind designed to encourage a close and cooperative working relationship between agencies and schools to facilitate successful transitions.

"Transition opportunities for legally blind youth" is a three-credit graduate course for public school teachers focusing on agency services useful to their students (e.g., examination of the VR system, including eligibility, what services can be provided, and the statuses used in providing services). Visits with students enrolled in the agency's Summer Work Experience Program with employed blind adults, and a day-long workshop on computer technology for blind individuals are also included. Offered jointly by the agency and Portland State University, the course is conveniently scheduled and requirements include attending class and completing a term project.

Benefits of the course, as listed by 13 itinerant teachers working with transition-age students enrolled in class through 1986 and 1987 were:

1. A better understanding of services and the ability to explain them to students and parents;
2. information about the process of making eligibility decisions, allowable services, and the procedure for planning and providing services using the status system;
3. observation of the program in action, benefits to participating students, and selection of students for services; and
4. increase in the teacher's propensity to utilize the agency staff and services as a resource in areas of vocational assessment and counseling, and computer technology.

The agency also reports a dramatic improvement in the relations with teachers as a result of the course, with alumni referring more students to agency services, inviting agency staff to more IEP meetings, joining an agency advisory committee, and utilizing the commission as a resource in general.

Agran, M., Martin, J. E., & Mithaug, D. E. (1989). Achieving transition. *Teaching Exceptional Children*, *21*(2), 4-7.

Two reasons that individuals with behavioral and learning problems have difficulty keeping a job are that they need a high degree of supervision and they do not adapt well to change. This article presents a self-management instructional model which can improve students' autonomy and adaptability. The model has four components: (a) *decision making* (selecting a job and getting/giving needed assistance or information in a work setting), (b) *independent performance* (developing good work habits and mastering tasks), (c) *self-evaluation* (monitoring work performance and responding to feedback), and (d) *autonomy* (adjusting performance to changing needs, and adapting to new people/situations/environments). A sample "daily adaptability contract" for a maid service job is included.

Becker, H., Schur, S., & Hammer, E. (1987). Monitoring and tracking clients and helpers: A system for matching disabled students with adult services. *Education of the Visually Handicapped*, *19*(2), 53-63.

This article describes a pilot project in Texas to evaluate the Monitoring And Tracking Clients and Helpers (MATCH) system as a tool for matching deaf-blind students with adult services. The MATCH system is a database containing information on deaf-blind clients' functional skills and training needs in order to match them with appropriate services. The MATCH system has three components: (a) Functional Skills Screening Inventory (FSSI), a functional skills checklist for children and adults with multiple handicaps; (b) FSSI: Training Program Edition (FSSI:TPE) which contains information on training programs for moderately and severely handicapped individuals; and (c) Group Data Program which compiles summary data for groups of students/clients and presents tabular and statistical analysis of differences between groups in their FSSI performance.
Although the MATCH system proved effective at assessing client training needs and matching clients with available training programs, the authors note that the system does not evaluate how effective training programs are at providing skills needed for successful placement.

Patton, P. L., & Barnette, F. (1986). Understanding and communicating with the deaf-blind client: A guide for vocational evaluators and work adjustment specialists. *Vocational Evaluation and Work Adjustment Bulletin, 19*(2), 63-66.

Following the rubella epidemic in 1963-1965, the incidence of deaf-blindness increased dramatically. In addition, other congenital causes of deaf-blindness (e.g., genetic disorders, congenital malformations, irradiation, and drug use during pregnancy) and postnatal causes (e.g., trauma and infectious diseases) have contributed to an increasing number of deaf-blind individuals who will be leaving secondary schools and seeking services from vocational rehabilitation agencies. This article outlines several points for rehabilitation personnel to keep in mind when working with clients who are deaf-blind.

The authors point out several important issues to be considered when working with deaf-blind clients, including the importance of early referral of individuals into the rehabilitation system, and difficulties in assessing the severity of the disability. Rehabilitation personnel face special problems in developing standardized evaluation tools and adjustment techniques because deaf-blind individuals vary so widely in their communicative abilities and in the amount of residual sight and hearing. Unfortunately, specialized literature and training programs for professionals in this field are difficult to obtain. Consequently, the vocational evaluator and work adjustment specialist must develop a broad knowledge of the special communication needs of different deaf-blind groups within the entire population.

Simpson, F. (1981). Prevocational/Vocational Programming. In S.R. Walsh and R. Holzberg (Eds.), *Understanding and educating the deaf-blind/severely and profoundly handicapped* (pp. 183-198). Springfield, IL: Charles C. Thomas.

The author recommends that prevocational programs for the multiply handicapped should be flexible, ongoing, and broad-based, and should include as many relevant services as possible. A "personal adjustment services" program should be planned around the characteristics of the client (i.e., age, cognitive development, psychomotor skills, strengths/weaknesses, residential or non-residential setting, interests), and must also take into account environmental characteristics (physical space available, funds available, characteristics of the community, range of rehabilitation services available, availability of transportation, recreation, etc.).

In planning a program to meet the career development needs of the student, professional staff should match the assets of the students and needs in the community. The work environment should be structured, but stimulating, with

opportunities to foster social interaction through group projects. The Individualized Written Rehabilitation Plan prepared by the state agency counselor can be integrated with the Individualized Education Program written by the teacher for a more coordinated effort.

The author concludes that long-range planning is essential; each student's personal abilities and disabilities must be evaluated in various settings, and the resources of the community must be taken into account for the goal of total rehabilitation to be realized.

Venn, J., & Wadler, F. (1988). Deaf-blind independent living project: A status report. *Education of the Visually Handicapped*, *20*(1), 23-28.

This article describes the independent living training program for young adults at the Florida School for the Deaf and Blind. In this program, students begin classroom training in prevocational skills, and live in a supervised dormitory setting while acquiring basic independent living skills. They progress to a semi-independent living setting with "moderate" supervision. Students also receive part-time work training placements. In the last phase of the program, students live in an on-campus apartment. Student activity is monitored 24 hours per day by staff who watch screens from several cameras placed in the apartment. The authors note that video supervision prevents students from relying on staff prompts to initiate activity while still allowing staff to intervene quickly in case of an emergency. During this phase, students also work in a variety of settings including food service, janitorial, and laundry service.

Several techniques specific to deaf-blind students are used:
(a) modification of sign language (limited number of signs, signing slowly, repetition, and using contact signs); (b) use of simple, clear photographs as visual reminders of daily activities; (c) use of coactive movement (hand-over-hand technique) to teach new skills; and (d) use of large digital clocks with the minutes taped over to teach knowledge of clock time.

An instrument was developed to monitor and evaluate student progress: Systematic Approach to Independent Living Skills (SAILS). SAILS data, collected daily and compiled into periodic summaries, was used to develop individual programs for students. SAILS data show that students gained significantly in independent living proficiency over the course of the three-year program, particularly in home and personal management areas.

Vadasy, P., & Fewell, R. (1984). Predicting the futures of deaf-blind adolescents: Their living and vocational options. *Education of the Visually Handicapped*, *16*(1), 12-19.

It is necessary for parents and state officials involved in the placement of

multihandicapped children to agree on the amount of personal care assistance and vocational support required. The authors surveyed 17 mothers of adolescent deaf-blind children to determine the degree of residential and vocational independence that they expected their child would achieve, and compared these predictions with expectations of the state Coordinator of Deaf-Blind Services. Residential placement categories included: (a) living in an institution, (b) living in a foster home, (c) living in a group home, (d) living with the parents, or (e) other. For each placement category, the mother was also asked to predict whether the child would be mostly dependent on others for personal care, or mostly able to perform personal care chores for himself or herself. Vocational placement categories include: (a) unable to work, (b) day activity center, (c) sheltered workshop, (d) part-time competitive employment, (e) full-time competitive employment, or (f) other.

Most mothers agreed with the coordinator on their child's future residential placement (87%). The two mothers who did not agree predicted a more restrictive future environment for their child. In contrast, most mothers disagreed with the coordinator regarding their child's vocational placement (60%). All of these mothers predicted that their child would not be able to perform sheltered or competitive work. The authors suggest that the mothers may not be familiar with their child's vocational skills, and thus may be unduly pessimistic about the degree of vocational independence which their child may be able to achieve. Another explanation is that the mothers are more conscious of the lack of vocational placement opportunities in their local area than is the deaf-blind coordinator, who is in effect giving "ideal" predictions. The authors conclude that better coordination and information-sharing between placement professionals and parents is necessary to provide the smoothest transition from school-based services to adult services for the deaf-blind adolescent.

Schloss, P. J. (1987). Self management strategies for adolescents entering the
workforce. *Teaching Exceptional Children, 19*(4), 39-43.

This article outlines a self management approach aimed at preventing inappropriate social behavior in the work place. The author states that research has consistently demonstrated that handicapped youth are more likely to lose their jobs because of such behavior than anything else. The author describes an integrated approach which shifts a majority of the responsibility for altering disruptive social behavior from an authority figure to the youth. The formal self-management process consists of: (a) a self-audit form which identifies the objectives of the self-management plan, (b) critical events log used to identify events that affect target behavior,
(c) self-referral for training form which identifies and develops skills that assist working through critical events, (d) self-management report used to determine

whether or not the behavior is improving, and
(e) self-management contract that summarizes all the activities into a formal plan. The author concludes that though the forms and procedures are not critical to the development of self-management, they do represent a focal point and provide tangible evidence of a student's progress in acquiring basic self-management skills. It is hoped that they will provide the basis for formal instruction in these skills as preventive discipline for handicapped youth moving from school to the work place.

Hughes, C., Rusch, F. R., & Wood, C. S. (1989). Workplace independence for students with severe handicaps. *Teaching Exceptional Children*, *21*(1), 50-53.

The article introduces a process that teachers can use to promote student independence within the context of vocational training. The three strategies described include: (a) evaluating student independence in community-based settings, (b) teacher-student adaptability, and
(c) transferring control of student independence to work-related stimuli. The process is based on emerging research indicating that students can become active participants in promoting their own independent performance within the context of employment, including supported employment.
The authors present a list of work performance measures and argue that outcomes should be verified by observing the student directly and comparing it to the performance of a valued co-worker who is performing similar tasks so as to be able to define the boundaries of acceptable work performance.
The adaptability model consists of four components: (a) *decision making*, where students make choices regarding assigned tasks and develop a plan for completing the work during the time available; (b) *independent performance*, where students follow their own plan by beginning the work as scheduled; (c) *self-evaluation*, where students monitor their own performance by self-recording work outcomes; and (d) *adjustment*, where students decide whether or not changes need to be made the next time they perform a task.
The article provides the case study of a 21-year old student in a vocational training program to illustrate the model.

Griffin, S. L., & Lowry, J. (1989). Supported employment for persons with deaf-blindness and mental retardation. *Journal of Visual Impairment & Blindness*, *83*(10), 495-499.

The article distinguishes particular members (on the basis of severity of disability and age) of the deaf-blind population as needing additional support to secure and maintain employment. Supported employment is examined and

offered as an appropriate vehicle for providing this needed support. Current models of supported employment are described, and the individual placement model is highlighted as perhaps the best choice for many persons with deaf-blindness.

The individual placement model includes an employment specialist (a job coach or a job trainer) who systematically places and trains a worker in a community job and provides follow-up support. The components of this model include: (a) job development, (b) worker assessment, (c) job placement, (d) job site training, and (e) on-going assessment and follow-up.

The authors also discuss issues surrounding supported employment for persons who are deaf-blind and mentally retarded: (a) employment specialist competencies, (b) integration and community-based training,
(c) long-term support, and (d) using existing funds by sharing funds over several separate agencies.

In conclusion, the authors comment that though supported employment may initially be more expensive than other employment options, costs decrease as the individual continues working. The key to success for supported employment is cooperation between (a) the short-term funding agency, (b) the provider, (c) the long-term funding agency, and
(d) the worker.

Chadsey-Rusch, J. (1990). Social interactions of secondary-aged students with severe handicaps: Implications for facilitating the transition from school to work. *Journal of the Association for Persons with Severe Handicaps*, *15*(2), 69-78.

The author observed the social interactions of a group of ten students with severe handicaps attending a junior high school campus using narrative recording procedures when they arrived at school, during lunch hours, and when they were engaged in vocational training. Additionally, teacher perceptions of behavior were measured, and parents were interviewed regarding their children's future vocational opportunities and their social relationships with their peers. The article discusses the observed behavior and offers recommendations for facilitating transition from school to work.

There is an apparent need to teach the students to respond to non-task interactions (joking and teasing) with peers in employment settings as youths of transition age were more often involved in task-related behavior only. The handicapped students engaged in more interaction with teachers than peers which needs to be changed as peers become co-workers in employment sites. This could be done by making a stronger effort to involve youth of transition age in after-school activities with same-age peers.

The students were overly dependent on contrived or extra cues and

feedback from the environment in their vocational settings, and therefore, there is a need to decrease directions and praise from teachers, especially in these contexts. Parental expectations about friendship and future employment opportunities need to be enhanced as they were found to be low.

In conclusion, the author lists some limitations of the study, especially due to the small size of the sample, and absence of psychometric information on measures used for questions put to parents and teachers.

Tedder, N. E., McBroom, L. W., & Kang, J. (1990). *Youth with disabilities: Transition from school to work*. (Technical Report). Unpublished monograph, RRTC, Mississippi State University.

This monograph describes the experiences of 12 youth in two states who are either blind or deaf-blind, and who are going through the transition from school to work. One of the transition programs was run by a state rehabilitation agency and the other was operated through an educational facility. The youth who participated in the study were all legally blind but of various etiologies. Many of them had additional disabilities. The researchers conducted semi-structured interviews with the youth, their parents or guardians, their rehabilitation counselor, and a teacher or someone who had been a significant influence in their transition. A case study of each participant was first provided with comments from those involved in the interviews. The results were transposed into matrices which allowed the influence of disability, program, parental participation, services provided, and current vocational or educational status.

Eighteen services were enumerated as "transition" services. There was no difference between the available services in the two types of transition programs. The amount of parental participation did vary among participants, with greater participation related to more comprehensive planning and a more positive outcome. The number and type of services did appear to vary according to whether the secondary disability was mental retardation. Participants with that secondary disability consistently received approximately one half of the number of services provided to other participants. Further study would be required before reaching any conclusions regarding cause-effect relationships.

F. Family Issues

The family of the person who is deaf-blind has all too often been overlooked as a source of influence in the education of the student. These abstracts summarize articles which provide a checklist teachers may wish to use to evaluate the home environment. The last abstract summarizes the influence on the siblings of the student who is deaf-blind. Many times, educators and others overlook the fact that it is not just the parents who are undergoing stress related to the student's disability.

Bodner-Johnson, B. (1982). Describing the home as a learning environment for hearing-impaired children. *The Volta Review*, *84*(7), 329-337.

This article presents a checklist teachers can use to evaluate deaf children's home environments. The checklist items fall into six categories: (a) academic aspirations and expectations (the parents' attitudes and knowledge about the child's schoolwork); (b) use and development of language in the home; (c) stimulation to explore and discuss ideas and events; (d) academic guidance and support, including teaching and encouraging appropriate study habits, and providing an appropriate setting for study; (e) work habits of the family (punctuality in finishing tasks, and emphasizing study and work over recreation); and (f) parental integration of "hearing impairment" into the home (awareness of and interest in adaptive communication methods and deaf culture). The author suggests that teachers discuss this checklist with parents and work out ways that the deaf child's learning environment can be improved.

Banta, E. (1979). Siblings of deaf-blind children. *The Volta Review*, *81*(5), 363-369.

This is a review of the literature regarding the effects of deaf-blindness on non-disabled siblings. The literature, while lacking in empirical studies, indicates that effects may fall into the following categories: (a) non-disabled siblings tend to be expected to assume a caregiving role, perhaps inappropriate to their age; (b) parents may give large amounts of time and attention to the deaf-blind child at the non-disabled sibling's expense, interfering with normal family activities and leading to low self-esteem on the part of the sibling; (c) parents may pressure the non-disabled sibling to achieve to "make up for" the deaf-blind child; (d) non-disabled siblings may have difficulty interacting with deaf-blind siblings in front of peers; and (e) non-disabled siblings may have concerns about genetic factors.

CONCLUSION

Although these are not all of the readings which may be found regarding

the education of students who are deaf-blind, it represents those which the

writers think are most pertinent to education during the transition years. It also

represents those articles which can be easily located in journals or among the

publications of the Rehabilitation Research and Training Center on Blindness

and Low Vision located at Mississippi State University. This is an important issue

for anyone attempting to secure the entire article or publication. It is our wish

that the abstracts provided will summarize the current level of teacher

preparation for this important and complex field and will encourage further

interest in the articles which have been abstracted.

AUTHOR INDEX

122