

## IMPROVING THE QUALITY OF WRITTEN DEVELOPMENTAL POLICIES FOR ADULTS WITH INTELLECTUAL DISABILITIES

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Gunzburg (1990) has argued for adoption of a "written developmental policy" to guide services provided in Adult Training Centres and other facilities serving adults with intellectual disabilities in England and Wales. An important practical issue is thus to delineate the components of a quality written developmental policy. Some guidelines for developing such policies may be found by examining the Individualised Education Plan (IEP) mandated by Public Law 94-142 for children receiving special education services in the United States of America (Salvia & Ysseldyke, 1985, p. 38). A major component of the IEP is the specification of methods for teaching, and evaluating progress towards obtaining, the functional and/or academic skills specified in long-range goals and short-term behavioural objectives. IEPs are typically developed on an annual basis by a multidisciplinary, interdisciplinary,

or transdisciplinary team. A similar type of document, the Individual Habilitation Plan (IHP), is required in the adult service sector (Horner, Thompson & Storey, 1990). In this respect the written developmental policy advocated by Gunzburg appears structurally and functionally equivalent to the IHP.

There is general consensus that a quality IEP or IHP includes goals and objectives which target functional, age-appropriate skills and maximises participation in natural, integrated environments (Brown, *et al.*, 1979; Brown, *et al.* 1988; Meyer, *et al.*, 1987). In addition, goal statements and behavioural objectives should be technically adequate; specifying the actions required of the learner in measurable and observable terms, the conditions under which these actions are expected to occur, the criterion or level of performance necessary to meet objectives, and finally, a timeline for achieving

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each goal (Popovich, 1981; Vargas, 1972). Effective implementation and evaluation of such plans would, in turn, seem to require delineation of replicable teaching methods. Fundamental to this delineation might be clear specification of instructional strategies, task analyzed skill routines, and a data-based decision-making system (Baily, 1984; Deno, *et al*, 1983; Farlow & Snell, 1989; Grigg, *et al.*, 1989; Haring & Kennedy, 1988; White & Haring, 1980).

IEPs for children with developmental disabilities often include a significant number (32-42%) of nonfunctional and age-inappropriate objectives (Billingsley, 1984; Downing, 1988; Hunt, *et al*, 1986). Given these results there is little reason to expect any higher percentages of functional and age-appropriate objectives among the programme plans for adults with intellectual disabilities. In addition, although these studies did not evaluate written plans in terms of technical adequacy, deficiencies in this area might be expected as well. Consequently an important applied issue involves developing and evaluating procedures to improve the quality of the written programme plans for persons with intellectual disabilities.

Technical assistance models may be appropriate for training staff to develop written programme plans or policies. One model of technical assistance involves the provision of on-going training and feedback to individual staff by an external consultant - with assistance focussed on a specific issue, such as teaching staff to write better programme plans or policies. A potential

and practical method of evaluating such staff training efforts might then be to simply compare the quality of plans developed before and after the provision of technical assistance.

Reid and his colleagues (Green, *et al.*, 1986; Reid, *et al.*, 1985) have evaluated a technical assistance model for increasing the use of functional and age-appropriate activities in classrooms serving learners with severe profound handicaps. Technical assistance consisted of a brief inservice explaining the rationale for and examples of functional activities. In addition, supervisors delivered instructive feedback and praise for using functional materials to staff during regular on-site visits. As a result of instituting this training package, the use of functional activities increased and these increases were maintained at up to 45 weeks.

The purpose of the present study was to evaluate a similar technical assistance model for improving the quality of Individualised Habilitation Plans that were developed in the United States for adults with intellectual disabilities living in a group home setting.

## **Method**

### *Participants*

The participating agency was a group home serving 6 adults with mental retardation. This house was located in a residential neighbourhood of a large midwestern city in the United States of America. It was a state licensed facility authorized to provide care and mandated to provide habilitative services to the 6 adult residents.

These adults (2 women, 4 men) ranged from 22-42 years of age. All were ambulatory and most could speak. Two men were nonvocal and used picture boards to communicate. According to AAMD criteria (Grossman, 1973), the functioning levels of these adults were in the moderate to profound range of mental retardation. During weekdays, each adult worked for pay at sheltered workshops. Evenings and weekends were routinely scheduled with basic home maintenance and care activities (e.g., eating, laundry, bathing), habilitative programming (e.g. instruction in domestic, leisure, and self-care skills), and access to the community with staff.

Employed at the agency were 8 full-time direct-care staff. Typically a 2:1 resident to staff ratio was maintained during weekdays and a 3:1 ratio on Saturdays and Sundays. These staff were supervised by the owner/administrator of the home with the assistance of a senior staff person. These two individuals were primarily responsible for training direct-care staff and ensuring proper implementation of each adult's IHP. An IHP was developed for each adult on an annual basis by a team of persons consisting of representatives from the home and work site, the county case manager, and parents or guardians.

## **Procedural Overview and Design**

Technical assistance was delivered over a 3 month period. The focus of technical assistance was to teach staff how to use existing materials to assess each

individual's adaptive behaviours as a means of identifying future annual goals, to write observable and measurable behavioural objectives, and to implement and evaluate intervention procedures specified in the IHP. Technical assistance was directed at the administrator and senior staff person because these two individuals were primarily responsible for training direct-care staff. In addition, these individuals were in supervisory positions and could, therefore, support the changes attempted in the development of IHPs. Finally, had technical assistance been delivered to direct-care staff in general, it may have been necessary to repeat this training each time a substantial turn-over in staff occurred.

To evaluate the effectiveness of the staff training package, IHPs developed prior to and after technical assistance were rated for quality. Four of the 6 adults had annual team meeting dates in the same month that the technical assistance project ended. The new IHPs for these 4 adults, written 1-2 weeks following the annual meeting, were therefore developed during the time technical assistance was being delivered. The other 2 learners had annual meeting dates approximately 2 and 6 months later respectively. These latter two IHPs were therefore developed after the project had ended, providing an opportunity to evaluate maintenance of any improvements resulting from the technical assistance.

## **Materials<sup>1</sup>**

*Assessment inventory.* Staff were first taught to use an adapted version of

the Resident Lifestyle Inventory developed by the Neighbourhood Living Project, Specialized Training Program at the University of Oregon. The adapted version used in this study was a 12 page document listing 202 skills (e.g. "Asks for assistance when appropriate," "Prepares nutritionally balanced breakfasts," "Dresses self independently," "Attends movies,") from 17 domains (e.g. Communication, Food Preparation, Dressing, Leisure Skills).

This assessment inventory was used as a guide to identify annual goals. The level of independence (e.g. minimal support, substantial support, unable to do) required by each adult to perform the listed skills were rated by the direct care staff involved in the technical assistance project. A priority number was also assigned to each skill reflecting its perceived importance as an IHP goal for the coming year. A 1 (not at all important) to 10 (extremely important) scale was used to set individual priorities. Blank copies of this inventory were also mailed to each interdisciplinary team member one month prior to the annual IHP meeting. A cover letter accompanied these mailings. The cover letter explained the purpose of the assessment inventory and procedures for its use. Recipients were asked to complete and return the inventory prior to the annual meeting. These assessment data were used as part of the basis for selecting annual IHP goals. Team members were also asked to identify any additional goal areas deemed important for any given individual.

*Goal and objective format.* Once annual IHP goals had been selected by

the interdisciplinary team, staff were taught to use a standardized format for translating identified priorities into long-term goals and short-term behavioural objectives. This format was an adapted version of that described by Deno *et al.* (1983). Because the formats described by Deno *et al.* (1983) were developed primarily for academic goals (e.g. reading, spelling, writing), adaptations were needed to accommodate the types of skills targeted for instruction among the adults participating in the present study (e.g. dressing, meal preparation, requesting preferred objects). Structurally, the formats were designed to ensure goals and objectives would contain the technical elements indicative of quality (e.g. timeline, conditions, criteria).

*Graphing learner performance data.* To evaluate learner progress, staff were taught to construct graphs for each goal and objective. On these graphs were plotted the learner's baseline level of performance with respect to the specified goal. In addition, the criterion level of performance was indicated as an aim mark on the graph. Daily learner performance data (e.g., percent of task analysed steps completed independently) were averaged on a weekly basis and plotted on these graphs. These data were then used to evaluate the effectiveness of the intervention procedures using decision rules similar to those proposed by Browder (1987, pp. 103-104).

*Task analysis, data sheets, written procedures.* Staff were also taught to develop task analyses (where appropriate), construct data sheets, and write intervention procedures for teaching the skills

specified in each goal.

## Procedures

Technical assistance occurred once every 1-2 weeks and consisted of 1-2 hour on-site visits by a consultant. The consultant was a doctoral student in special education with extensive experience in habilitative programming for adults with developmental disabilities. After an initial visit to clarify expectations of both the participating staff and the consultant, a total of 8 visits occurred over a 3 month period.

Each visit was scheduled to accomplish four tasks. First, the rationale for using a given set of materials (e.g., the checklist, the graphs) was explained. Second, methods for how to use each set of materials were described. Third, questions concerning the use of the materials were answered. And fourth, a specific task to be accomplished by the next visit was negotiated. On subsequent visits, praise was given for completing the task assigned previously and feedback provided on the completed product.

To teach staff how to use the materials, the consultant verbally described each type of material. Usually visits focused on teaching the use of one set of materials although occasionally an integrated approach was required. For example, in teaching staff to use the graphs it was necessary to refer often to the written long-term goal and short-term objective. After verbally describing the materials, an example of how the materials could be used (e.g., an example of a

written long-term goal) was shown and explained. When all questions that arose were answered, staff were assigned a task relevant to that day's discourse. For example, that task might be to write long-term goals using the format. At the next visit, praise was provided for completing the assigned task and feedback was provided on the quality of the product produced.

The focus of the technical assistance was directed at teaching staff to use the selected materials and not actually completing such tasks during the consultant visits. That is, for example, staff were taught how to use the goal writing formats and given the task of independently writing annual goals in that format. However, to illustrate the task, one goal for one adult was actually written in collaboration with the consultant.

To evaluate the effectiveness of technical assistance, the IHPs developed prior to and after technical assistance were rated along 11 dimensions of quality. The instrument used to rate quality was an expanded version of the rating scale described by Hunt *et al.* (1986). Hunt *et al.*'s (1986) rating scale included seven indicators of quality that had been validated as reflecting "best practices" by experts in special education. The expanded version used in the present study included several more dimensions to ascertain the technical adequacy of written goals. In addition, some of Hunt *et al.*'s (1986) categories (e.g. "Taught across settings and materials," and "Taught in the natural setting.") were condensed into a single indicator (e.g. settings). A copy of the rating form used in the current study

**TABLE 1**  
**Instrument used to rate the quality of IHP goals. This instrument was adapted from**  
**Hunt, Goetz and Anderson (1986).**

IHP RATING FORM								
CODE .....		DATE .....		RATER .....				
Category	Definition	GOAL NUMBER						
		1	2	3	4	5	6	%
1) Age-Appropriate	Non-handicapped persons of similar age performs the skill							
2) Functional	Skill would be performed by others if not completed by learner							
3) Integrated	Skill occurs in typical settings (e.g., home, work, community)							
4) Observable	Goal clearly specifies what learner is to do and is measurable.							
5) Conditions	Conditions under which behaviour is expected to occur is specified.							
6) Criteria	Expected level of performance is stated (e.g., percent correct).							
7) Timeline	Date or period of time in which goal is achieved is listed.							
8) Task Analysis	A list of steps involved in the task is delineated if applicable.							
9) Procedures	Methods for teaching the goal are stated in replicable terms.							
10) Settings	Environments used for training are specified.							
11) Data	Types of data and their method of collection are listed.							
Scoring Key 1 = Yes 2 = No		TOTAL SCORE						

is shown in Table 1.

All goals were individually rated "yes" if judged to meet the definition for each of the 11 dimensions and "no" if they did not. Numerical scores of 1 were used to indicate "yes" and 0 to indicate "no". The primary dependent value was the percent of IHP goals rated positively (i.e. "yes") across each of the 11 dimensions as

defined in Table 1.

**Reliability**

Ratings were made independently by two people to ascertain reliability concerning the equality of the IHP goals. Prior to rating, identifying information (e.g., names) was removed from copies of the IHPs. The first rater knew which

IHPs were developed prior to and which were developed after technical assistance. The second rater was naive to the fact that there were pre and post IHPs as well as to the purpose of the study. Before rater 2 conducted any scoring of the IHP goals, the scoring system and the definitions were explained by the first rater.

After the IHPs had been evaluated by both raters, measures of reliability were calculated. For each goal the two sets of ratings were compared. An agreement was scored when both raters indicated either a 1 (yes) or 0 (no) on a given dimension of quality (e.g., functional, timeline, criteria). A disagreement was scored when one rater indicated a 1 (0) and the other indicated a 0 (1) respectively. Percentages of Agreement were calculated using the formula:  $\text{Number of Agreements} / \text{Number of Agreement} + \text{Disagreements} \times 100$ . Separate percentages of agreement were calculated for pre-technical assistance IHPs, post-technical assistance IHPs, the two maintenance IHPs (both pre and post), and, finally, an overall measure of agreement was calculated.

## Results

Percentages of agreement obtained between the two raters ranged from 77 to 87%. Overall agreement across all IHPs was 81%. After the first four (Pre) IHPs had been rated, a systematic bias in scoring for the presence of a timeline was discovered (i.e. the second rater consistently overestimated the presence of a timeline). Consensus on this definition was achieved between the two raters

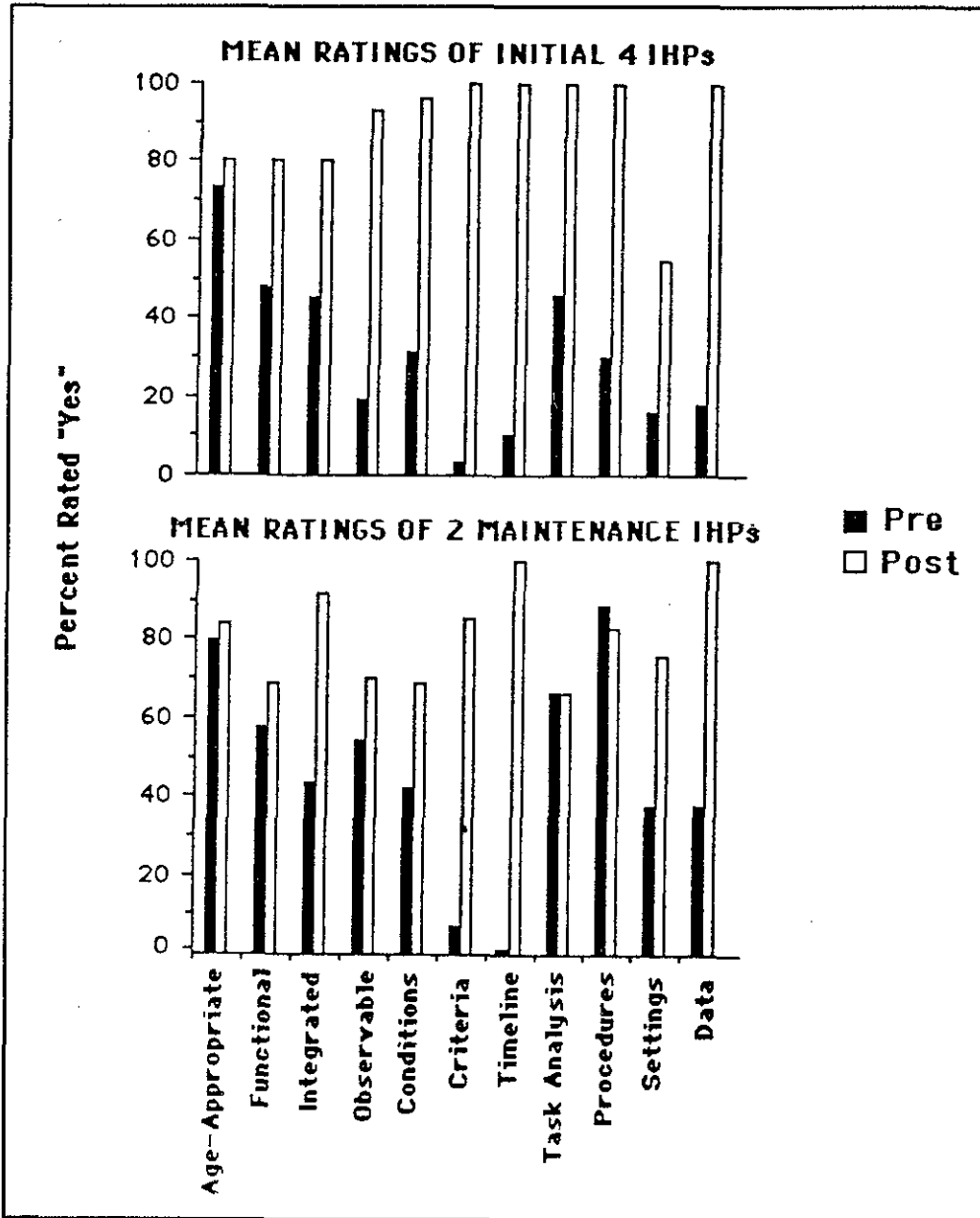
through discussion, thus "correcting" the systematic bias. Similar biases were noted in rating the two (Post) maintenance IHPs along the data and task analysis dimensions. Again, discussion yielded consensus.

Table 2 shows the percent of IHP goals rated positively ("yes") on each of 11 dimensions of quality. Compared in Table 2 are IHP goals written prior to the technical assistance project (pre), with the IHPs developed after technical assistance had been delivered (Post). The percent of IHP goals rated "yes" increased from Pre to Post in each of the 11 dimensions for the initial four IHPs (i.e., those developed during the same month the technical assistance project ended). Improvement was also obtained in 9 of the 11 areas from Pre to Post for the two maintenance IHPs (i.e., those developed approximately 2 months and 6 months after the technical assistance project had ended).

## Discussion

The results show that IHPs developed after technical assistance were rated higher in quality. These results suggest the technical assistance model was an effective method of staff training for this purpose. These results must be interpreted with caution, however, because the Pre/Post design is "pre-experimental" (Campbell & Stanley, 1966) and, therefore, cannot demonstrate a functional relation between changes in the dependent variable (i.e., the percent of goals rated positively) and changes in the independent variable (i.e., the provision of technical assistance).

**TABLE 2**  
 Pre and Post ratings of IHP goals along each of the 11 dimensions of quality.



Nonetheless, the rated quality of the initial four IHPs improved in each of the 11 areas. It was among the more technical aspects of written long-term goals where the greatest gains were obtained. Horner *et al.* (1990) also found that case manager feedback on the quality of IHPs had its biggest effect on improving the technical adequacy (e.g., criteria, data sources specified) of the document. Improvements in these areas (e.g., conditions, criteria, timelines) may have resulted from the structure provided by the format staff were taught to use for writing long-term goals and short-term behavioural objectives.

Data collection practices also improved following technical assistance according to the ratings. Plotting performance data on standardized graphs could potentially enable staff to make a more data-based evaluation of intervention procedures. Prior to the use of these graphs, the administrator of the group home reported that progress on IHP goals had been evaluated once every three months by a narrative review of the available raw data. After the present model had been adopted, however, progress on each IHP goal was evaluated once per week by visual inspection of graphs. It was also reported by the administrator that prior to adopting this data-based system, he and his staff were often unable to show progress on IHP goals and, hence, the same goals would often be included on the IHP year after year. In contrast, with the new system in place, long-term goals were often achieved before the timeline had elapsed as evidenced by a review of the graphs maintained by staff.

These observations suggest tentatively that improving the quality of the IHP, and in particular teaching staff to graph performance data, translated into improved goal attainment among this group of adults with intellectual disabilities. One potential reason for this may be that frequent evaluation of learner progress, as prescribed in the present system, may enable staff to more quickly modify ineffective teaching procedures.

Compared to the more technical aspects of goal writing, relatively less improvement was obtained in the selection of age-appropriate and functional objectives. Part of this discrepancy no doubt reflects the initially higher percent of Pre IHP goals rated positively in these two areas. Yet even with using the assessment inventory, the ratings of selected goals did not reach 100% in terms of reflecting age-appropriate and functional activities. One means of improving future staff training projects may be to provide explicit information to team members concerning the individualized selection of age-appropriate and functional activities, in addition to teaching staff to use a more structured inventory to assess adaptive behaviour across a range of functional domains. This type of information could perhaps be effectively presented in a more traditional inservice format.

Refinements in the technical assistance model may also be needed to maintain improvements in the quality of IHPs. In this study, the amount of improvement decreased somewhat after two and six months. Based on these results, it may help to schedule follow-up technical assistance sessions at (approximately) two months intervals. In

addition, evaluation of future projects could also be strengthened by replicating the Pre-Post design across several sites or by conducting repeated ratings of IHPs after each annual review.

Improving the quality of written habilitation plans is important for documenting past and planning future intervention goals. This alone, however, may not necessarily produce a concomitant improvement in the implementation of such plans (Hunt *et al.*, 1986, p. 125). It is conceivable, however, that well written plans may facilitate implementation.

Given that the IHPs in this study improved in quality following technical assistance, an important area for future study will be to determine the most efficient methods for staff training. Although the present technical assistance model appeared effective, a more traditional "inservice" format has the potential to reach a larger audience with the same time investment. However, inservice training formats typically provide few opportunities for on-going feedback. Such feedback appears to be a useful component in staff training (Horner *et al.*, 1990). An initial inservice followed by on-going technical assistance may, therefore, prove optimal (Green *et al.*, 1986; Reid *et al.*, 1985).

In either case, rating the quality of written policies that staff develop is one relatively simple means of evaluating the effectiveness of such staff training efforts. There is also a need to develop methods for evaluating actual staff performance during the implementation of services derived from such written plans. A quality written document, regardless of what

it may be called, might itself represent a type of material that, when used properly, could improve the quality of staff implementation. It will be important, therefore, to determine methods for teaching staff how best to make use of such documents as the guide for instruction they were intended to be (Ashman & Elkins, 1990).

## Summary

Staff in community-based homes for adults with developmental disabilities often lack the expertise to develop and implement quality written development policies or Individualized Habilitation Plans (IHPs) as they are known in the United States of America. The purpose of this study was to evaluate the effectiveness of a technical assistance model designed to teach staff to use existing materials for developing higher quality IHPs. The materials staff were taught to use consisted of: (a) an assessment inventory to assist in identifying adaptive behaviour goals, (b) a standardized format for writing measurable and observable data-based goals and objectives, and (c) graphic data displays for monitoring the effectiveness of intervention procedures. The IHPs of six adults with intellectual disabilities were rated along 11 dimensions by two independent observers prior to and after staff had been taught to use the materials. After technical assistance had been provided, the rated quality of each IHP improved. In addition, the data-based approach was associated with more consistent evaluation of each learner's progress. The

technical assistance model appeared to be effective in improving the quality of IHPs.

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## References

- Ashman, A., & Elkins, J. (Eds.). (1990). *Educating children with special needs*, Sydney: Prentice-Hall, Inc.
- Bailey, D. B. JR. (1984). Effects of lines of progress and semilogarithmic charts on ratings of charted data. *Journal of Applied Behavior Analysis*, 17, 359-365.
- Billingsley, F. F. (1984). Where are the generalized outcomes? (An examination of instructional objectives.) *Journal of the Association for Persons with Severe Handicaps*, 9, 186-192.
- Browder, D. M. (1987). *Assessment of individuals with severe handicaps*. Baltimore, MD: Paul H. Brookes Publishing Co.
- Brown, L., Branston, M. B., Hamre-Nietupski, S., Pumpian, I., Certo, N., & Gruenewald, L. (1979). A strategy for developing chronological, age-appropriate and functional curricular content for severely handicapped adolescents and young adults. *Journal of Special Education*, 13, 81-90.
- Brown, L., Shiraga, B., Rogan, P., York, J., Albright, K. Z., McCarthy, E., Loomis, R., & VanDeventer, P. (1988). The "why" question in programs for people who are severely intellectually disabled. In S. N. Calculator and J. L. Bedrosian (Eds.), *Communication assessment and intervention for adults with mental retardation* (pp. 139-153). Boston: Little, Brown and Company.
- Campbell, D. T., & Stanley, J. C. (1966). *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally.
- Deno, S. L., Mirkin, P. K., & Wesson, C. (1983). How to write effective data-based IEPs. *Teaching Exceptional Children*, 16, 99-104.
- Downing, J. (1988). Active versus passive programming: A critique of IEP objectives for students with the most severe disabilities. *Journal of the Association for Persons with Severe Handicaps*, 13, 197-201.
- Farlow, L. J., & Snell, M. E. (1989). Teacher use of student performance data to make instructional decisions: Practices in programs for students with moderate to profound disabilities. *Journal of the Association for Persons with Severe Handicaps*, 14, 13-22.
- Green, C. W., Canipe, V.S., Way, P. J., & Reid, D. H. (1986). Improving the functional utility and effectiveness of classroom services for students with profound multiple handicaps. *Journal of the Association for Persons with Severe Mental Handicaps*, 11, 162-170.
- Grigg, N. C., Snell, M. E., & Loyd, B. (1989). Visual analysis of student evaluation data: A qualitative analysis of teacher decision making. *Journal of the Association for Persons with Severe Handicaps*, 14, 23-32.
- Grossman, H. J. (Ed.). (1973). *Manual on terminology and classification in mental retardation*. Washington, D.C.: American Association on Mental Deficiency.
- Gunzburg, H. C. (1990). Editorial. *The British Journal of Mental Subnormality*, 36,(2), 73-75.
- Haring, T. G., & Kennedy, G. H. (1988). Units of analysis in task-analytic research. *Journal of Applied Behavior Analysis*, 21, 207-215.
- Horner, R. H., Thompson, L. S., & Storey, K. (1990). Effects of case manager feedback on the quality of Individual Habilitation Plan objectives. *Mental Retardation*, 28, 227-231.
- Hunt, P., Goetz, L. & Anderson, J. (1986). The quality of IEP objectives associated with placement of integrated versus segregated school sites. *Journal of the Association for Persons with*

*Severe Handicaps*, 11, 125-130.

- Meyer, L. H., Eichinger, J., & Park-Lee, S. (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, 251-263.
- Neighbourhood Living Project. (1988). *Valued outcomes information system: Operations manual*. Specialized Training Program, University of Oregon, Eugene, OR.
- Popovich, D. (1981). *Effective educational and behavioral programming for severely and profoundly handicapped students: A manual for teachers and aides*. Baltimore, MD: Paul H. Brookes Publishing Co.
- Reid, D. H., Parsons, M. B., McCarn, J. E., Green, C. W., Phillips, J. F., & Schepis, M. M. (1985). Providing a more appropriate education for severely handicapped persons: Increasing and validating functional classroom tasks. *Journal of Applied Behavior Analysis*, 18, 289-301.
- Salvia, J., & Ysseldyke, J. M. (1985). *Assessment in special and remedial education* (3rd ed.). Boston: Houghton Mifflin Company.
- Vargas, J. S. (1972). *Writing worthwhile behavioral objectives*. New York: Harper & Row.
- White, O. R., & Haring, N. G. (1980). *Exceptional teaching*. (2nd ed.). Columbus, OH: Charles E. Merrill.