

## **A. Concept and Theory in Special Education**

### **We contributed to the development of the behavioral approach to special and general education.**

**Example:** The founding of the field of applied behavior analysis and its application in the 1960's to special education at the Kansas University were inextricably linked at the Juniper Gardens Children's Project because it was the site of many pioneering applications (see the review by Greenwood, Carta, et al., 1992). The JGCP remains today a major research site for urban children and families at risk because of poverty and disabilities. The earlier founders of applied behavior analysis: Baer, Risley, Wolf, Hall, Hart conducted research in the homes and schools in the area and demonstrated the beneficial effects of token economy classrooms (Wolf); positive reinforcement and incidental teaching strategies in preschools (Risley, Hart), and teachers' use of social consequences at the elementary level classrooms (Hall), among many others (Greenwood, Carta, et al., 1992).

**Example:** One of the first comprehensive applications of applied behavior analysis in special education was the Responsive Teaching Model of R. Vance Hall and its extensions to consulting-teacher change models soon thereafter in Vermont (H. McKenzie) and elsewhere around the country.

**Example:** The early research with applied behavior analysis at Juniper Gardens increasingly demonstrated that school principals, teachers, home visitors, and parents, working in the natural context of the classroom and the home, could make change in child performance given that specific procedures were applied and followed in specific ways (Hall, Schiefelbusch, Hoyt, & Greenwood, 1989). Previous intervention knowledge had largely supported treatment models only provided by highly trained experts in clinical settings. This work at JGCP suggested the basis in principle and illustrated the feasibility of many contemporary approaches to special education intervention and treatment.

**Example:** The early research focused on the behavior of individuals in natural settings. Methods of individual assessment and single-subject research design sensitive to interventions and to change in performance over time were developed, validated (Hall et al., 1989), and expanded to meet the increasing needs for practical, effective methods of intervention and treatment (Greenwood, Carta, et al., 1992).

### **We contributed to the expansion of the behavioral approach in terms of the analysis of the environment (ecology) as well as behavior.**

**Example:** Work soon suggested that student performance could be influenced not only by the nature and frequency of consequences, but also the nature and frequency of "opportunities to respond", those provided by the teacher, the materials, and the instructional environment. This led to research on the effects of increasing response opportunities (Greenwood, Delquadri, & Hall, 1984) and to the development of ecobehavioral taxonomies for the assessment of classroom environments in ways that linked momentary instructional events to student behavior in functional ways (Greenwood, & Carta, 1987; Greenwood, Schulte, Kohler, Dinwiddie, & Carta, 1986). This work led importantly to the "ecobehavioral analysis" of instruction (Greenwood, Carta, Kamps, & Arreaga-Mayer, 1990; Greenwood, Carta, & Atwater, 1991). Ecobehavioral analysis is currently a field within the applied analysis of behavior (e.g., Morris & Midgley, 1990). Ecobehavioral methodology provides a means of predicting individual behavior within highly specific situations and contexts (e.g., functional analysis; Greenwood, Carta, Arreaga-Mayer, & Rager, 1991), as well as validating fidelity of treatment (e.g., Carta & Greenwood, 1989b).

**Example:** Ecobehavioral taxonomies were extended and validated in research on the effectiveness of early childhood special education programs (Carta & Greenwood, 1985; Carta, Greenwood, & Robinson, 1987; Carta, Sainato, & Greenwood, 1988).

**Example:** Ecobehavioral taxonomies were developed to support research on the effects of mainstreaming (Greenwood, Arreaga-Mayer, & Carta, 1994; Kamps, Greenwood, & Leonard, 1991) and later inclusion (Sideridis, 1994).

**Example:** Ecobehavioral taxonomies were extended and validated in research on the effectiveness of bilingual special education programs (Arreaga-Mayer, Carta, & Tapia, 1994; Arreaga-Mayer & Greenwood, 1986; Arreaga-Mayer, & Perdomo-Rivera 1996).

**Example:** Ecobehavioral taxonomies were also developed and validated for use in the home in research on the effects of caregiving on the behavioral development of children prenatally exposed to drugs and alcohol (Atwater, Montagna, Creighton, Williams, & Hou, 1993).

### **We reduced the gap between research and practice in special education.**

**Example:** An important concept was and remains the study of performance in the context of the natural setting. This focused development on procedures, designs, and strategies for changing environmental factors and practices in order to change behavior (Greenwood, Carta, et al., 1982). Thus, the body of work at Juniper Gardens is correctly characterized as "research on practice", including methods of parenting, care, instruction, and service.

**Example:** We learned to focus research on problems of importance to teachers working in local schools. As a result, a number of favorable outcomes followed including: data on teacher priorities and expectations, acceptable, effective practices, increased participation and implementation, methods of importance to other teachers confronting similar problems, and methods of research increasingly capable of addressing issues of research on practice (Hall et al., 1989).

**Example:** Research validated procedures were produced in forms designed for replication and implementation by others, as well as publication in research journals. Many of the procedures became techniques, demonstrations, and models employed in the research and practices of others. For example, the Incidental Teaching Concept validated at JGCP by Hart and Risley has been the basis for many child-centered procedures used in the teaching of language in preschool settings (e.g., Kaiser and her group at Vanderbilt, for example). The ClassWide Peer Tutoring Model has been replicated, adapted, and expanded by Heward, Heron and their colleagues at The Ohio State University; Maheady, Harper and their colleagues at SUNY Fredonia, NY; and the Fuchs and their colleagues at Peabody, Vanderbilt University, among others.

**Example:** Methods of ecobehavioral assessment were packaged and developed for use by school psychologists using laptop computers (Greenwood, Carta, Kamps, Terry, & Delquadri, 1994) and disseminated to 35 sites across the country and Puerto Rico, and to 25 school psychology training programs for use in their preservice training programs.

**Example:** We investigated and tested methods for identifying the effective practices of teachers and promoted their use by others in school improvement plans (Greenwood, Carta, Arreaga-Mayer, & Rager, 1991; Greenwood, Delquadri, & Bulgren, 1993).

### **We engaged in major discussions of contemporary issues in special education.**

**Example:** A major issue in early childhood education and early childhood special education has been the usefulness of a framework supported by some in early childhood education as, "developmentally appropriate practice" to early childhood special education. Our group has sought to identify compatible points within each perspective as well as concerns unique to early childhood special education (Atwater, Carta, Schwartz, & McConnell, 1993; Carta, Atwater, Schwartz, & McConnell, 1993; Carta, Schwartz, Atwater & McConnell, 1991).

**Example:** We have participated in a discussion of the myths and realities of the effects of prenatal substance exposure on children and on special education for the past 7 years (Carta, 1993; Carta, Rinkel, & Murphy, 1992).

**Example:** We have participated in the discussions of mainstreaming and inclusion (Carta, 1993; 1994;

Dugan et al., 1985; Greenwood, 1985; Greenwood, in press; Utley, 1993).

**Example:** We have participated in discussions of prevention, community service, education for youth with serious emotional disturbance (Kamps & Nelson, 1994).

**Example:** We contributed to the discussion on research to practice in special education (Abbott, Walton, Tapia, & Greenwood, 1999; Greenwood & Abbott, 2001).

**Example:** We have engaged in discussions of the merits/limitations of alternative paradigms for rapidly improving the academic outcomes of children, such as behavioral, cognitive, and social-constructivist paradigms (Greenwood, 2001).

**Example:** We contributed to the discussion of the construct of time and engagement in the forum provided by the National Commission on Time and Learning (Greenwood, 1993).

**Example:** We have contributed to the discussion of the importance and relevance of multicultural/cross-cultural issues in special education (Utley, 1993).

**Example:** We integrated recent advances in technology-based assessment within a special issue of *Exceptional Children* [1994, 61(2)] and provided a synthesis of current developments.