

Towards a model of occupational performance: Model development

Christine Chapparo, Judy Ranka

Christine Chapparo, MA, DipOT, OTR, FAOTA, is a Senior Lecturer in the School of Occupational Therapy, The University of Sydney, Australia

Judy Ranka, BSc, MA, OTR, is a Lecturer in the School of Occupational Therapy, The University of Sydney, Australia

The primary purpose of the undergraduate occupational therapy curriculum at The University of Sydney is to prepare students for the academic, practical and ethical demands of occupational therapy practice (School of Occupational Therapy, 1986). As part of a former College of Advanced Education, Cumberland College of Health Sciences (CCHS), the School of Occupational Therapy was required by the Higher Education Board to undergo major curriculum reviews every five years. The goal of these reviews was to enhance quality teaching and learning, promote academic standards expected of baccalaureate degrees and to maintain curriculum relevance. In response to these curriculum reviews, the undergraduate curriculum has undergone considerable change and refinement (School of Occupational Therapy, 1975; School of Occupational Therapy, 1986).

One major area of change has been the development of a theoretical framework for the curriculum which has two integrated conceptual thrusts. One is educational with curriculum development and implementation moving towards problem-based, adult learning modes of education thereby directing the process of

teaching and learning within the curriculum. The other is the development of a curriculum content structure that is based on conceptual notions of occupational performance and functions to organise content within the curriculum. Evolution of the present undergraduate curriculum structure is a product of the School's response over a twenty year period to 1) the demands for preparation by a profession that is characterised by diverse and increasingly more community-oriented practice, 2) demands from higher educational bodies for a coherent approach to teaching and learning that is appropriate to tertiary level education, and 3) the need for a unifying model of the practice of occupational therapy around which to organise curriculum content. This article focuses on the process of theorising around concepts of occupational performance. The process of model building was initially stimulated by curriculum restructuring and subsequently continued by the authors to develop a model of occupational performance that was relevant to occupational therapy practice in Australia.

BACKGROUND INFORMATION

Undergraduate occupational therapy curriculum documents within the School of Occupational Therapy, The University of Sydney dating from 1975 to 1995 confirm the link between the structure of curriculum content and contemporary occupational therapy practice. Prior to 1975, the primary mode of practice in occupational therapy in NSW was hospital-based therapy within the Department of Health (Alexander, Keogh & Cheesman, 1980). Curriculum documents describe occupational therapy content that was largely categorised according to perceived domains of practice within the health system for groups of clients as classified by medicine; for example, orthopaedics, neurology, paediatrics, psychiatry, rehabilitation and general medicine. Occupational therapy subjects, heavily influenced by concepts of rehabilitation, focussed on occupational therapy in neurology, occupational therapy in psychiatry and occupational therapy in orthopaedics and general medicine (School of Occupational Therapy, 1975). Definitions of occupations related to disability and definitions of occupational therapy focussed on provision of services to "individuals or groups whose abilities to cope with activities of daily living were threatened or impaired by

...disability" (School of Occupational Therapy, 1975, p.2).

In 1975, attempts were made by curriculum developers to move away from using medical models to classify occupational therapy curriculum content in response to increasing specialisation in occupational therapy and prevailing notions of community practice. Subject areas within the curriculum reflected the major specialty practice domains. Subjects such as Sensory Motor Processes, Psychosocial Processes and Occupational Therapy became foundation subjects within the curriculum. This reflected the beginnings of a conceptual approach to curriculum design whereby occupational therapy practice was described as being composed of core knowledge and skills (Occupational Therapy), specialist knowledge and skills (Sensory Motor and Psychosocial Processes), and foundation knowledge (Biological Sciences and Behavioural Sciences)

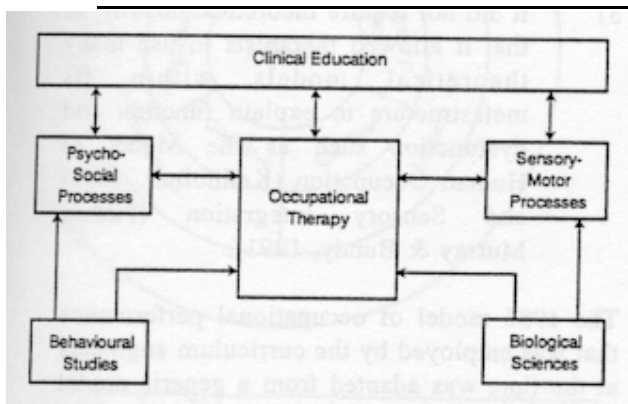


Figure 1: Interrelation of major subjects within the curriculum framework (Occupational Therapy Stage 3 Submission, 1975, p.12).

The aim of this curriculum structure was to allow students to focus on the sensory motor and psychosocial processes that were viewed as underpinning occupational therapy practice, and to study the effects of disability on functional performance (School of Occupational Therapy, 1986). However, this way of dividing knowledge and skills within the curriculum, over time, reinforced divisions in the cognitive structure of student learning between the psychological,

physical and functional aspects of human performance. Ultimately, there existed a dichotomy between what was perceived by students as sensory motor occupational therapy, psychosocial occupational therapy, and 'legitimate' occupational therapy (School of Occupational Therapy, 1986). Although this type of 'physical' versus 'mental health' curriculum structure is still the most common world wide, questions have been raised about the role that such dichotomous curriculum structures play in the 'component' versus 'real' practice dilemmas reported in occupational therapy practice today (Yerxa & Sharrott, 1986).

A curriculum review of this course structure in 1980 resulted in two changes reflecting a concern about the lack of integration and conceptual application between the subjects. New subjects (Selected Studies and Interdisciplinary Studies) were added to the curriculum to assist students to realise, "the potential for conceptual areas taught in one segment of the course to be a foundation for, complementary to, or common with conceptual areas in other segments of the course" (School of Occupational Therapy, 1986, p.5). However, later feedback from students, graduates and staff, indicated that these subjects were not fully effective, and that a different curriculum structure was required that would give more emphasis to, "integration of subjects to reinforce theory through application" (School of Occupational Therapy, 1986, p. 29).

A 1985 curriculum review, involving consultation with the profession through survey questions, workshops and focus groups, indicated that a concern of many occupational therapists was how to better educate students about the, "identity of occupational therapy" (School of Occupational Therapy, 1986, p.30). Reviews of occupational therapy literature, together with input from practitioners suggested that, "reference to human involvement in occupations" was a consistent central theme for both contemporary theory and practice (School of Occupational Therapy, 1986, p.31). Further interpretation of the information about practice gathered from these surveys and group discussions indicated that although there appeared to be an occupational therapy identity which was evident in practice, it had, "not been carefully defined to allow for a central unifying and organising focus to be established" either for occupational therapy practice or within the

curriculum (School of Occupational Therapy, 1986, p.30).

Appraisal of the conceptual basis of the course at the time indicated that it did not fully encompass present or future visions of occupational therapy practice, or address the nature of human occupations. Specifically, curriculum evaluation documentation indicated that the available conceptual definition of occupational therapy lacked, "an organising concept which clearly established the uniqueness of occupational therapy" (School of Occupational Therapy, 1986, p.44). A further area of concern lay in the perceived inconsistency between the integrated, holistic view of human beings held by occupational therapy practitioners, and curriculum notions of what constituted 'wellness' and 'sickness' (School of Occupational Therapy, 1986, p.45). In particular, this review indicated a need for a central unifying concept of occupational therapy to provide a basis for occupational therapy content within the undergraduate course. Specifically, the following statement from the Stage IV Review illustrates conceptual dimensions that were identified as missing from the curriculum structure.

"A goal for occupational therapy undergraduate education should be for graduates to develop a sense of professional identity which will allow them to feel secure in their professional role, irrespective of the area of practice they may select. The utilisation of a central unifying concept of occupational therapy to provide a conceptual basis for an educational program would contribute to the student's development of this sense of a professional identity. This central unifying concept would provide a filter through which students could examine, analyse, and select information from broader knowledge bases utilised in occupational therapy, as well as providing a focal point for examining generic and practice models of occupational therapy to arrive at a personal frame of reference for practice" (School of Occupational Therapy, 1986, p.31).

As a beginning point in restructuring the curriculum around a central unifying concept of

occupational therapy, a conceptual model for occupational therapy practice was sought that would 1) illustrate unifying concepts in occupational therapy but allow for the pattern of diverse practice which was predicted for the year 2000, 2) more fully explain occupational therapy practice as well as the nature of human occupations, and 3) integrate the existing dichotomies between physical, psychosocial and functional dimensions of human ability and disability.

In 1986, a curriculum framework was developed based on contemporary notions of occupational performance. Occupational performance was chosen as a conceptual and definitive basis of curriculum structure development because:

- 1) it had the potential to explain diverse practice areas,
- 2) there was some support in occupational therapy literature for its use as a unifying framework for occupational therapy practice,
- 3) it did not require theoretical 'loyalty' in that it allowed therapists to use many theoretical models within its metastructure to explain function and dysfunction such as the Model of Human Occupation (Keilhofner, 1985) and Sensory Integration (Fisher, Murray & Bundy, 1991).

The 1986 model of occupational performance that was employed by the curriculum engineers at the time was adapted from a generic model of occupational performance described by Reed and Sanderson (1983, p.17)

The Human Occupations model (Reed, & Sanderson, 1983, p.5) was modified to include a component area titled, 'creativity' which illustrated the contemporary notions of creativity as a unitary function separate from other component areas of performance. Another modification linked the interpersonal and intrapersonal component function to form one dimension, psychosocial. For the first time, cognitive aspects of performance featured in the curriculum structure alongside the traditional psychosocial and physical aspects (School of Occupational Therapy, 1986, p.88). This model represented an attempt to explain both the nature

and components of human occupations as well as the components of occupational therapy practice, and is the first recorded conceptual model for practice that was adopted by the curriculum at Cumberland College of Health Sciences (now The University of Sydney) (Fig. 2). The central position of the individual indicated a client-centred approach to therapy as well as the whole person. Physical, psychological and cognitive attributes of human ability figure next as underpinning occupational activities of self-maintenance, work and leisure. The environment was conceptualised as housing both the whole person and the person's occupational activity thereby influencing everything within the structure. Human occupations were figured thus (Fig. 2):

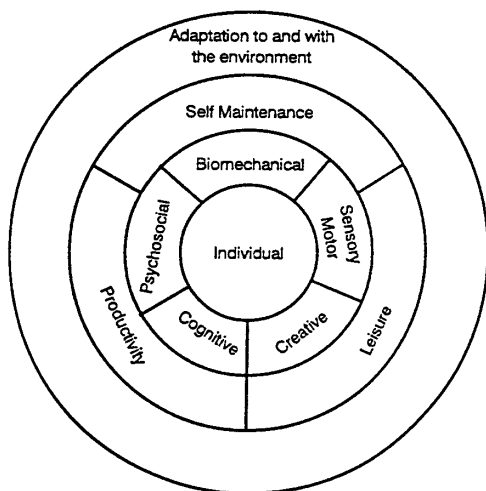


Figure 2: The curriculum conceptual model (School of Occupational Therapy, 1986, p. 59; Adapted from Reed & Sanderson, 1983, p.5)

Subject structure and nomenclature was changed over time to reflect this conceptual basis and the integration of physical, cognitive and psychosocial dimensions of human performance. The impact of this conceptual model on the structuring of curriculum content can be seen by comparing the differences in subject name and focus between the original 1975 curriculum and the present curriculum (Table 1).

From that point, the authors uncoupled the model building process from formal curriculum development and continued the process of model building which resulted in the gradual

1980: BAppSc(OT) Subjects

- Occupational Therapy
- Psychosocial Processes
- Sensory Motor Processes
- Interdisciplinary Studies
- Clinical Education
- Special Investigation
- Selected Studies
- Behavioural Sciences subjects
- Biological Sciences subjects

1995: BAppSc(OT) Subjects

- Occupational Therapy Theory and Process
- Occupational Role Development
- Human Occupations
- Components of Occupational Performance
- Occupational Therapy Fieldwork
- Evaluation of Occupational Therapy Programs
- Behavioural Sciences
- Biological Sciences

Table 1: Categorisation of past and present curriculum content in the BAppSc(OT) course 1980 and 1995. (Note: Subjects cross years of the course and are each comprised of several units).

evolution of a model of occupational performance as it is structured today. Restructuring of this 1986 model occurred in response to:

- 1) perceptions of academics using the model that it was too simplistic, and that there were further dimensions to occupations and occupational therapy practice that required concept formation, and
- 2) a need to evaluate whether the theoretical concepts within the model were consistent with those used in occupational therapy practice.

DEVELOPMENT OF THE CURRENT OCCUPATIONAL PERFORMANCE MODEL

The process of model development from 1986 proceeded through four stages. The methods employed to develop the model, and the product of each of the four stages of development are outlined in Table 2.

STAGE	METHODS USED	OUTPUT
ONE (1989-90)	Literature review for purposes of building a curriculum model that would explain OT practice	A conceptualisation of elements of OT practice as a simple two level model. Three constructs: occupational performance occupational performance areas occupational performance components
TWO (1990-91)	Field testing the two level model in the practice area of neurology and adult rehabilitation	Occupational Performance conceptualised as a three level model Five constructs: occupational performance occupational performance areas occupational performance components occupational performance roles occupational performance environment
THREE (1991-1992)	Field testing the three level model in acute care, paediatrics; adult rehab.	Occup. Performance conceptualised as four level model. Six constructs: occupational performance occupational performance areas occupational performance components occupational performance roles occupational performance environment core elements Development of philosophy and assumptions.
FOUR (1992-1994)	Field testing the 6 constructs in adult rehab; community practice paediatrics; psychiatry OT administration	Occupational Performance conceptualised as a four level model Eight constructs: occupational performance occupational performance areas occupational performance components occupational performance roles occupational performance environment core elements space time
FIVE (1994-1996)	Ongoing field testing; Consolidation, refinement and testing of the constructs in practice.	Confirmation of the application of the model to practice through written examples provided by occupational therapists. Formal dissemination & publication.

Figure 3: Stages of Development of Constructs of Occupational performance.

METHODS USED TO DEVELOP MODEL CONSTRUCTS

Multiple methods were employed to develop and test the constructs housed within the present model. Literature review was used during Stage One of the process, and additional literature reviews were conducted to find support for constructs that emerged during later stages of model development. As new constructs were developed, a process of field testing occurred to determine their relevance and importance within various areas of practice. To develop and field test constructs, descriptions of occupational therapy from individual therapists were gathered through multiple half-day, two-day and four-day continuing professional education courses and workshops. These sessions were structured to explore the constructs fundamental to various forms of occupational therapy intervention. Brief descriptions of how these methods were used at each stage of the model building process as well as the outcome are outlined below.

STAGE ONE (1989-1990):

The purpose of Stage One was to identify literature support for using occupational performance to explain occupational therapy practice.

Methods:

A review of occupational therapy literature covering a twenty year period from 1970 to 1990 was conducted using electronic and CD-ROM data bases, published indexes and online search techniques. During subsequent stages of development this review expanded to 1995.

Findings:

The term, occupational performance, was classified according to how it was used in the literature. Four classifications emerged: use of occupational performance as a generic frame of reference for national practice including definitions of the term, use of occupational performance as a generic frame of reference for undergraduate occupational therapy curricula, use of occupational performance terminology by occupational therapy theorists to explain practice, and use of occupational performance to develop

assessment tools.

1. Use of occupational performance as a generic frame of reference for national practice.

Descriptions of occupational performance have appeared in occupational therapy literature in the United States and Canada since 1973. The pivotal conceptualisation of occupational performance seems to have been generated by a series of American Occupational Therapy Association, Inc. (AOTA, Inc.) task forces and committees charged with developing policy statements about generic domains of concern for the profession (AOTA, Inc., 1974, 1973). Concurrently, the Canadian Association of Occupational Therapists (CAOT) developed a similarly conceptualised notion of occupational performance to address growing concerns inside and outside the profession for assuring quality of services (Townsend, Brintnell, & Staisey, 1990). The following description of the evolution of occupational performance is based on the sequence and the way that discussions on occupational performance appeared in the literature from 1970 to 1991.

In 1973, the AOTA, Inc. presented the profession with a unifying concept of occupational therapy. This publication described occupational performance as a unifying, generic frame of reference and defined it as the individual's ability to accomplish the tasks required by his or her role and related to his or her developmental stage. Occupational performance included self care, work and play/leisure time performance (AOTA, Inc., 1973). Subsequent AOTA, Inc. publications have reaffirmed that, "the generic foundation or frame of reference (of occupational therapy) is to be found in the concept of occupational performance" (AOTA, Inc., 1974, p.8).

Performance areas consisted of self-care, work and play/leisure activities and reflected the core concept of occupational therapy: purposeful activity. Skills carried out in these performance areas were purported to be influenced by what was called the life space of a person. This referred to a cultural, social and physical environment. Performance components were described as behavioural patterns based on learning, and developmental stages and were seen to be the foundation attributes for occupational performance. These included sensory integrative

functioning, motor functioning, social functioning, psychological functioning and cognitive functioning.

In 1979 and 1989, the AOTA, Inc. published documents which sought to create a consistent occupational therapy terminology based on this occupational performance framework. Terminology created by the occupational performance frame of reference has been adopted by AOTA, Inc. for use in the United States for purposes of documentation, charge systems, education, program development, marketing and research (AOTA, Inc. 1989, p.808). Thus the concept of occupational performance in the United States was developed from a series of committees from the AOTA, Inc. who used professional conceptualisations of practice to create a generic frame of reference for practice (Pedretti, & Pasquinelli, 1990, p.3).

Beginning in 1979, a task force of the Canadian Association of Occupational Therapy (CAOT) outlined a generic conceptual framework of function as an overriding guideline within which therapists could use specific frames of reference appropriate to their clients, work settings and modes of practice. The resulting generic model of occupational performance, "depicts a performance view of health" (Townsend, et al., 1990, p.70). It is an adaptation from the work of Reed and Sanderson (1980) and similar to the 1986 curriculum model described earlier (See Fig. 2).

Central to the Canadian notion of occupational performance was affirmation about the worth of a person as an active participant in his/her own therapeutic relationship. Using occupational performance, the traditional holistic view of people conceptualised by Meyer in 1922/1977 was reinforced. There was acknowledgment that occupation takes place within a developmental perspective and emphasis on the central belief in the therapeutic use of purposeful activity (Townsend, et al., 1990, p.70).

Similar to the American model, three areas of occupational performance were described: self care, productivity and leisure. However in the Canadian model, play was grouped with productivity rather than leisure. This model recognised only four performance components: mental, physical, sociocultural and spiritual. Townsend, et al. (1990, p.71) highlighted the

recognition that integration and execution of all occupational performance components and areas is defined and shaped by a person's social, physical and cultural environment. As they stated, "in achieving occupational performance, each individual both influences and is influenced by his or her environment" (Townsend, et al., 1990, p.71).

Using this model, the CAOT developed a new outcome measure for occupational therapy, The Canadian Occupational Performance Outcome Measure (Law, Baptiste, McColl, Opzoomer, Polatajko, & Pollock, 1990). This is described as an individualised measure designed for use in evaluating occupational performance in clients receiving occupational therapy intervention. The development, validation and use of this measure is purported to contribute to providing a standard comprehensive method of individualised assessment for occupational therapy across Canada (Law, et al., 1990).

2. Use of occupational performance as a generic frame of reference for undergraduate occupational therapy education.

In 1974, the AOTA, Inc. suggested that their notions of occupational performance be used by occupational therapy educators as a curriculum guide. The frame of reference was described schematically in terms of a two level model comprised of performance areas and performance components (AOTA, Inc., 1974, p.12) However no subsequent reference to its use as a curriculum model was found in the literature.

3. Use of occupational performance terminology by individual occupational therapy theorists to explain occupational therapy practice.

During the 1980's, individual theorists employed the occupational performance frame of reference to describe the content and process of occupational therapy in different areas of practice. Each of these individuals have further refined and explained different aspects of occupational performance, or alternatively, have used occupational performance nomenclature to describe related models. Reed and Sanderson (1983, p.17), for example, used an interactive model similar to the one proposed by AOTA, Inc. to describe the relationships between a person's

occupations. Although they do not identify this interactive model as occupational performance, it is composed of the same configuration of constructs. Reed's (1984, p.496) subsequent work in developing a model of Adaptation Through Occupation uses the same categorisations but different terminology.

Mosey (1981) referred to occupational performance as the domain of concern for occupational therapy. She described areas of human existence which were of most concern to occupational therapy as consisting of, "performance components within the context of age, occupational performance and the individual's environment". In applying the frame of reference to practice in mental health, Mosey (1980) suggested that a person's overall quality of occupational performance depends in part on the balance established among the component performance, the environment and occupational performance.

Mosey's view is echoed in the work of Nelson (1984, p.130) who developed a circular interactive model of occupational performance in which the three performance areas are connected, reflecting their interdependence. Housed within conceptual boundaries made by self care activity, work activity and play, he placed six component abilities in a complex interconnected configuration. This was adapted and used as a working model to demonstrate interaction between constructs within the model (Fig. 3).

He further described some of the mutual cause and effect relationships between the six component abilities as follows:

"motor output generates sensory feedback and sensation is a guide to motor response. Perception builds on sensation and cognition builds on perception. Interpersonal abilities depend on one's thought processes. Emotion colours and motivates one's sensations, perceptions, thoughts and interpersonal relations" (Nelson, 1984, pp.45-46).

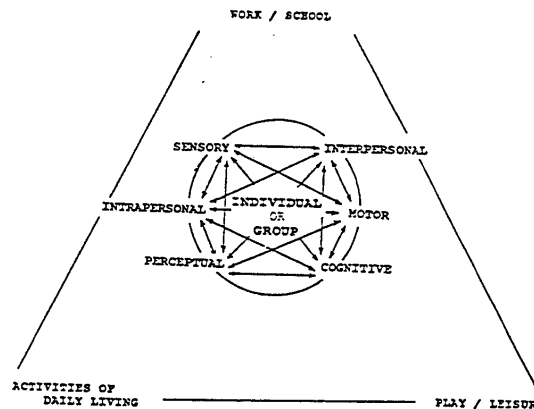


Figure 4: Occupational Performance Framework, 1988 (Adapted from Nelson, 1984, p.130).

The outer boundaries of the model are purported by Nelson to form the outer boundaries of the whole person since participation in occupational performance areas, "serves as a bridge between the inner reality of the individual and the external environment" (Nelson, 1984, p.38). This assertion reflects earlier work by Fidler, and Fidler (1978, p.305).

In more recent work, Nelson (1988, p.633) has constructed a schema wherein occupation is defined as the relationship between an occupational form and occupational performance. Contextual elements of occupation are termed, "the form" of

occupation, whereas occupational performance consists of, "the doing" of occupation. In applying this schema, Nelson suggested that occupations have meaning only to the extent that their forms are interpreted by people who are performing them. Therefore an occupational form can have a social or cultural meaning, an idiosyncratic meaning or little meaning at all. Putting this into a temporal context, Nelson (1988, p.637) suggested that, "the meaning" of occupation is largely retrospective while, "the purpose" of occupation is largely prospective.

Pedretti, and Pasquinelli (1990) interpreted the practice context of physical disabilities within the occupational performance frame of reference. They demonstrated how occupational therapists can employ an occupation focused model as an alternative to a medical model within the context of rehabilitation and acute care service delivery models. They described the occupational therapist's domain of concern as focussing on the

client becoming as independent as possible in performance skills, and to resuming previously held occupational roles or to assuming new and satisfying occupational roles. Their interpretation of occupational performance extended beyond this structural model to include a conceptualisation of occupational therapy intervention as a loose step-by-step progression which takes the client through a logical progression from dependence in performance skills to resumption of life roles (Pedretti & Pasquinelli, 1990).

Llorens (1982) identified the need for a client care record that had a strong scientific base and could be used to monitor quality care and accountability of occupational therapy services. Through research, she produced The Sequential Client Care Record (SCCR) which documents the occupational therapy process using the occupational performance constructs 'areas of occupational performance' and 'occupational performance components'. Based on structures developed by AOTA, Inc. (1974), Dunn (1988) and others (Dunn & McGourty, 1989) employed a matrix which allowed therapists to systematically identify deficit and strength areas of performance, and to select appropriate activities to address these areas in occupational therapy intervention. By employing this grid, occupational therapists are able to determine how abilities and limitations in performance components can affect functional outcomes in the performance areas.

4. Using occupational performance to develop assessment tools.

Using occupational performance as a guiding frame of reference, Arnadottir (1990) developed an assessment tool, The Arnadottir OT-ADL Neurobehavioral Evaluation, which was designed to detect dysfunction in self care performance areas (The Functional Independence Scale) and in specifically defined performance components (Neurobehavioral Scale). The assessment reveals information about self care performance skills and neurobehavioural component dysfunction thereby proposing possible links between neurobehavioural function and occupational performance.

Although many other occupational therapy assessments examined performance, this was the only one that specifically identified the use of an

occupational performance theoretical structure to guide the development of constructs. Subsequent to 1990, other assessment formats have been developed using occupational performance constructs, for example, the Assessment of Motor and Process Skills (AMPS) (Fisher, 1990) and The Perceive, Recall, Plan and Perform Systems (The PRPP System) (Chapparo & Ranka, 1991a).

In summary, the major constructs associated with occupational performance that were derived from the literature during this stage of model building included occupational performance, occupational performance areas, components of occupational performance and an emerging notion of occupational and life roles.

Outcome:

Using information derived from the literature review, the circular occupational performance model described earlier (Fig. 2) was revised and resulted in a two-level model that was similar to the AOTA, Inc. curriculum guide. This structure was based on three primary constructs: occupational performance, occupational performance areas (self-maintenance, leisure, productivity) and components of occupational performance (biomechanical, sensory motor, cognitive, psychosocial and creative).

STAGE TWO (1990-1991):

Purpose:

The purpose of Stage Two was 1) to determine whether the constructs as outlined in the two level model were relevant to occupational therapy practice in Australia, and 2) to discover whether there were other dimensions to occupational therapy practice that were not explained by the model.

Methods:

A major area of practice, occupational therapy intervention for adults and children with neurological impairment, was chosen for examination of the existing constructs because 1) it is a practice area involving the use of many models of intervention thereby presenting an opportunity to test for the inclusiveness of occupational performance, and, 2) it is an area of practice that encompasses acute and chronic,

hospital and community aspects of occupational therapy intervention.

Five two-day continuing professional education courses were conducted over a twelve month period during 1990-1991 in the Sydney area, titled, "Occupational performance: Acquisition of adaptive skills in adults and children with brain damage" (Chapparo & Ranka, 1990, 1991b,c,d,e). Each of the six workshops examined a specific aspect of occupational therapy intervention for adults and children with neurological impairment; such as, the use of task analysis to identify problems, neurodevelopmental therapy in occupational therapy, proprioceptive neuromuscular facilitation in occupational therapy, upper limb orthotics, and cognitive disorders and occupational therapy intervention.

In each of the courses the three major constructs in the model (occupational performance, areas of occupational performance, components of occupational performance) were outlined and defined. Intervention as determined by the particular workshop topic was taught and finally, by means of case-based problem solving, therapists were asked to integrate concepts of occupational performance with the course topics. Detailed notation was made of therapists' descriptions of the observed and perceived problems of client performance of functional tasks from videotaped examples; therapists' descriptions of their own hospital and community-based intervention scenarios; goals; therapists' rationales for intervention and program evaluation. Finally, therapists were encouraged to talk about the applicability of occupational performance constructs relative to their own work settings.

Findings

1. Therapists readily identified with the existing constructs and terminology of the model: occupational performance, occupational performance areas and components of occupational performance.
2. Three major occupational performance areas addressed were self-maintenance occupations, work/school occupations and leisure/play occupations. Therapists who treated children linked play with leisure and school with work. Therapists talked about the nature of occupations in terms of activities (constellations of tasks) or tasks (specific).
3. The components of occupational performance that therapists routinely considered important in practice were biomechanical, sensory-motor, cognitive and psychosocial. There was strong rejection of the notion of 'creativity' as a separate component. Creativity was perceived as a multifaceted phenomenon involving all component functions.
4. Most therapists employed many different theoretical and practical approaches to guide intervention that had been developed for use outside the profession (for example, Motor Relearning Programme, Neuro-developmental Therapy, Biomechanical Approach). Descriptions of their interventions were characterised by switching from one approach to another depending on the perceived client problem and their own personal comfort with the intervention. In these instances they used occupational performance constructs to focus multiple interventions within the domain of occupational therapy and to achieve a cohesive approach to complex problems usually seen in one client.
5. Over the course of 12 months therapists consistently used theoretical links between the occupational performance constructs within their work contexts to set occupation-centred treatment goals (for example, they related sensory-motor goals or cognitive goals to functional outcomes).
6. Others reported instances where use of the model brought cohesion within large departments where occupational therapy services were provided in a variety of areas of practice.
7. Using case scenarios, it became apparent through therapists' story telling of their practice that two additional factors featured prominently in their reasoning. One was an environmental factor that had physical, cultural and social

dimensions. The second factor was concerned with the totality, satisfaction and value of the occupational existence for their clients that went further than occupational areas or components, and seemed similar to theoretical notions of occupational roles.

Outcome:

The constructs, occupational performance areas (self-maintenance, work/school and leisure/play), and components of occupational performance (biomechanical, sensory motor, cognitive, psychosocial) were confirmed to be major constructs used in occupational therapy practice in both hospital and community settings. Two additional constructs, environment and occupational performance roles, were identified to be important to dimensions of practice which focus on human occupations, and were incorporated into a third revision of the model of Occupational Performance.

Literature support for adding the environmental construct to the revised model was found in the work of multiple authors (see for example, Barris, 1982; Clark, Parham, Carlson, Frank, Jackson, Pierce, Wolfe, & Zemke, 1991; Colvin & Korn, 1984; Howe & Briggs, 1982; Keilhofner & Burke, 1980; King, 1978; Law, 1991; Llorens, 1970, 1984; West, 1986). Support for the construct, occupational performance role, in actual practice was more tenuous. While there has been increasing emphasis in the literature that the goals of the profession focus on valued occupational roles of clients, discussion of how this construct is used in practice is almost wholly theoretical (Christiansen, 1991; Jackoway, Rogers & Snow, 1987; Keilhofner, Harlan, Bauer, Maurer, 1986; Matsutsuyu, 1971; Moorhead, 1969; Oakely, Keilhofner, Barris, & Reichler, 1986; Vause-Earland, 1991; Versluys, 1980). Christiansen (1991, p.28), for example, conceptualises a widely accepted theoretical concept of an occupational performance hierarchy which ranges from activities to roles. Roles, he specifically defines as sets of activities which have some recognisable purpose and, which are distinctive positions in society that carry specific expectations for behaviour.

STAGE THREE (1991-1992):

Purpose:

The purpose of the third stage of model development was 1) to further explore use of occupational performance terms in acute care environments where short-term stay made traditional forms of occupational therapy intervention impossible, 2) to determine whether occupational performance could be used in an area of practice that was characterised by strong adherence to a particular theoretical and practice model (e.g. sensory integration) and, 3) to determine what philosophical base therapists using occupational performance held in their everyday practice.

Methods:

Information collected during Stage Three of the model building process came from three sources. First, further continuing professional education courses were held during 1992 in the practice area of neurology in Victoria (Chapparo & Ranka, 1992a) and Tasmania (Chapparo & Ranka, 1992b). These courses mirrored the content of the courses conducted in Stage Two. The constructs occupational performance, occupational performance roles, occupational performance areas, components of occupational performance and environment were described. Intervention scenarios using videotapes of clients acted as the stimuli to facilitate therapists to use the constructs for treatment planning, and in describing their own intervention styles and work settings. Responses of therapists working in acute care environments were particularly noted.

Second, two continuing professional education courses in the practice area of sensory integration were held in NSW (Chapparo & Hummell, 1992a) and South Australia (Chapparo & Hummell, 1992b) where the occupational performance constructs were incorporated into the constructs inherent in sensory integration theory and practice. Case studies were used as the stimulus for getting therapists to describe their treatment planning and the rationales for their actions during these courses. Descriptions generated by therapists included what they perceived as problems that required occupational therapy intervention in children with sensory integrative disorders, perceptions of the nature of order and disorder in childhood occupations, and perceptions of what constituted occupational therapy for children.

Third, through a continuing professional education course that specifically sought to explore the process of developing a personal frame of reference for practice (Chapparo & Ranka, 1991f), therapists were encouraged to describe important elements of their own personal beliefs, values and principles underlying their practice relative to occupation and occupational performance. Descriptions generated by therapists incorporated what they believed about human potential, health, occupations, and occupational therapy.

Findings:

1. Therapists working in acute care facilities were required to consider human occupations at a level that was fundamental to the previously identified component level. This was particularly evident in intensive care units, acute neurosurgical units and trauma units where more fundamental aspects of physical, mental and spiritual elements were perceived as core elements of human function to be considered along with other occupational performance constructs (Nicholls, 1993, Ryan & Nicholls, 1993).
2. These findings were also reflected in occupational therapy practice with clients who were terminally ill. Spiritual aspects of existence were emphasised and occupational role behaviour was focused on affirmation of life roles and preparation for death.
3. Therapists in acute care settings described intervention as primarily assessment, placement and discharge planning. Social and physical aspects of the environment construct featured heavily in consideration of client occupational performance.
4. Direct intervention at the level of occupational performance areas and occupational performance roles did not feature prominently in descriptions of acute care practice. However, all therapists described a process of reasoning in acute care that required them to develop predictive visions about

client performance at these levels. These predictive visions of client role performance were used to determine discharge plans and actions relative to specific discharge environments.

5. Therapists working with children and using a sensory integrative approach to treatment placed sensory integration within the broader constructs of occupational performance.
6. Therapists reported that placing sensory integrative constructs within the broader framework of occupational performance altered intervention in two ways. First, consideration of occupational performance constructs broadened the scope of their intervention from the child's performance at school to other dimensions of daily living such as play, and to other component areas such as interpersonal and intrapersonal dimensions of the child's occupational being. Second, therapists employed the occupational performance structure as a vehicle for linking sensory integrative modes of intervention with others that were applicable to the same groups of children, such as skills training and more psychodynamic forms of intervention.
7. Beliefs and assumptions that therapists viewed as influencing the way they used occupational performance constructs fell into four dimensions. First, they articulated a series of beliefs that related to human potential for occupational performance. Included in this dimension was the prevalent belief that people have an occupational being that is individually and actively created, and is influenced by both internal and external factors. This occupational being is expressed through occupational performance and ultimately defined in one's occupational roles. Fundamental to this was the belief that people have the right to determine their own occupational being.

The second dimension concerned beliefs about the nature of occupations. Human occupations were viewed by therapists in these workshops as highly idiosyncratic behaviours that fell into three patterns.

First, patterns of *doing* that were described as tasks, sub-tasks, activity patterns or roles. Second, patterns of *thinking* that involved planning, reminiscing and imagining and could either be incorporated into patterns of doing or exist by themselves. Third, patterns of *being* that were characterised by notions of self-actualisation and inner visions of becoming.

Occupations were categorised by people relative to the meaning they ascribe to them. The configuration of occupations changes with chronological/developmental age, life stage and life circumstances. Development, performance and maintenance of occupations is influenced by internal and external factors. There is a balance of occupations that is highly individual and is related to well-being in body, mind and spirit.

The third area related to what therapists viewed as health. Relative to occupational performance, health was viewed as satisfaction with the ability to develop and perform occupations and maintain occupational roles. Engagement in occupations was believed to support health and well-being. Non-health was viewed as dissatisfaction with performance of occupations and could result from internal or external factors.

The fourth dimension related to therapists beliefs and assumptions about occupational therapy. Performance of occupations was viewed as involving an adaptation process. Adaptation was believed to be an active process of doing and/or thinking and/or being that depended on goal-direction. The role of the occupational therapist was to facilitate the adaptation process by engaging the person in the development, performance and maintenance of chosen occupations. Occupational therapy was viewed as a collaborative process between the therapist, client and significant others. The primary tools of the occupational therapist were engagement in purposeful occupations. Use of intervention methods out of the

context of the individual's occupational performance were not considered to be occupational therapy.

Outcome:

The existing occupational performance model was further revised to include a construct named 'core elements'. This included notions of an integrated body/mind/spirit element of human existence that is expressed in all other constructs as the 'doing-knowing-being' dimensions of occupational performance. The environmental construct was further refined to specifically include physical/social/cultural dimensions.

STAGE FOUR (1992-1994):

Purpose:

The purpose of Stage Four was 1) to continue field testing the established constructs in practice specific settings, such as paediatrics, psychiatry, spinal cord injury, community services and community-based practice, and 2) to explore the application of the model to the administration of various occupational therapy practice environments,

Methods:

To fulfil the first purpose of Stage Four a series of seminars, group discussions and workshops were conducted at four major multi-service medical facilities in Sydney. Each of these facilities provided a variety of services ranging from acute care to community outreach and placement. The scope of specialty practice areas included school-based therapy, acute medicine, trauma, orthopaedics, psychiatry, transitional living units, nursing home and domiciliary care facilities and community-based therapy. Each series began with an initial presentation of the Stage Three model and definitions of the constructs. Participants were asked to discuss the relevance of the model to intervention in their specific area. Subsequent sessions explored this further through case-based scenarios which were generated by the participants. Through the discussions about these scenarios, participants described how the constructs applied to the process of occupational therapy. Field notes from these discussions were generated by both participants, observers and facilitators and

subsequently examined to determine whether there were aspects of occupational therapy practice which the model failed to address.

Methods used to achieve the second purpose of Stage Four involved individual and group sessions with occupational therapists in management positions in these multipurpose facilities. Sessions were initiated by managers themselves who sought to determine how occupational performance related to the administration of occupational therapy services. The focus of discussions that occurred within these sessions was determined by the managers and varied between facilities.

Findings:

1. There was confirmation from all areas of practice of the centrality and relevance of the previously established constructs of occupational performance, including occupational roles, occupational areas, occupational performance components, core elements and environment.
2. There was confirmation about the presence of some hierarchy of these constructs.
3. There was strong support for the addition of two new constructs, *Space* and *Time*, particularly from community and institutional based practice. Notions of space and time were highly idiosyncratic and appeared to be linked to other constructs within the Model. For example, when talking about case scenarios many therapists talked about performance relative to the time it took people to carry out their roles, activities and tasks. At the component level, many therapists were concerned not only about the form of the response that was observed but also the timing of physical, cognitive and psychosocial responses. Therapists who worked with the elderly remarked on the importance of time when describing the place of reminiscence and life storytelling and intervention. Time, as interpreted in client histories, was a major feature of intervention described by all therapists. Time, as described by notions of development, was emphasised by

therapists working with children.

4. There was support for modifying the structure of 'occupational performance areas' by the addition of another area, *Rest*. Therapists working in both mental health and long term facilities identified aspects of their intervention that focussed on the purposeful pursuit of rest and sleep that did not 'fit' with their perceptions of self-maintenance or leisure.
5. Descriptions of client problems and interventions from therapists in the practice area of psychiatry supported the notion of separating the single psychosocial component area into two distinct components, *Interpersonal* component and *Intrapersonal* component.
6. Therapists managing a number of diverse practice areas were able to successfully construct an overall description of occupational therapy services in their facility using occupational performance (Colyer, 1994). In some cases this was used to develop mission statements, delineate occupational therapy from other services and to structure the content of material used to promote occupational therapy both in the facility and in the wider community.
7. Therapists used occupational performance constructs to establish hierarchies of performance indicators which were expressed as predictable outcomes of therapy (Barnett, & Hummell, 1993).
8. Therapists constructed formats for documentation and billing of occupational therapy services based on constructs of the model (Adams, & Shepherd, 1994, Hanrahan, Jackson, Neuss & Walking, 1993).

Outcome:

As a result of this Stage, the model of Occupational Performance was revised to incorporate the constructs of *Space* and *Time*. The three occupational performance areas were

expanded to include *Rest*. The psychosocial component was separated into two components: *Intrapersonal* and *Interpersonal* component function.

This Model at this Stage of model development incorporates eight constructs: occupational performance; occupational roles; occupational performance areas (self-maintenance, productivity/school, leisure/play, rest); components of occupational performance; core elements of occupational performance; environment; space, and time, and represents the current structure of the Model (Figure 4). The final structure has undergone several revisions from 1992-1994. Selected examples of these versions are in Appendix 1.

At this point in its development, this model is viewed as an explanatory model. It explains dimensions of human occupations that are inherent in occupational therapy practice. As yet, the conceptual links between the constructs are only hypotheses. However, academics, researchers and clinicians are currently working to validate these hypotheses and to further extend notions of how this model can be used in occupational therapy in Australia.

STAGE FIVE (1994-1996):

Purpose:

The purpose of Stage Five 1) to continue field testing the established constructs in practice specific settings, 2) to consolidate theoretical support for the constructs, and 3) to encourage others to write about the application of the model to various aspects of practice.

Methods:

To fulfil the purpose of Stage 5, ongoing informal dissemination of the model occurred through presentations to staff of occupational therapy departments (Ranka, 1995), and special interest groups (Chapparo, & Ranka, 1995; Ranka, & Chapparo, 1995), and presentations at international conferences (Chapparo, 1996; Ranka, 1995). Feedback obtained from these activities were considered relative to various aspects of the model. Occupational therapists were invited to submit manuscripts which explained how they were applying the model in

various practice domains.

Outcome:

1. There was confirmation that the existing structure could explain occupational therapy practice in diverse cultures and practice domains.
2. A monograph was prepared for formal dissemination and scrutiny by members of the profession.

NOTE: FIGURE 4 - NEXT PAGE

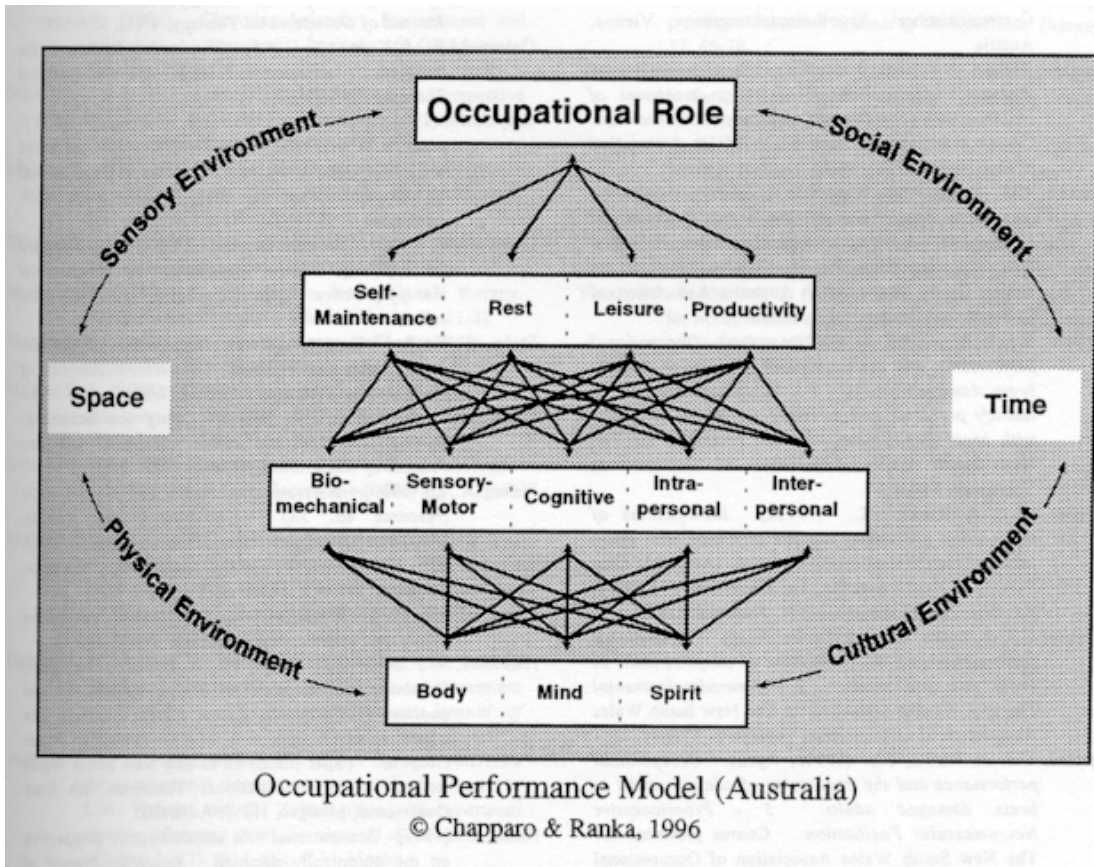


Figure 5: Current model of Occupational Performance

SUMMARY:

This article has outlined the process of model building that has resulted in a model of Occupational Performance. The stimulus for model development came from the perceived need for a conceptual model of occupational therapy practice and human occupations that was able to organise occupational therapy content within the undergraduate curriculum at The University of Sydney. The current model incorporates eight major constructs that include: occupational performance, occupational role, occupational areas, occupational performance components, core elements of occupational performance, environment, space and time. These constructs emerged through a circular process of theorising that included literature review, field testing, reflection and model construction. This circular process is ongoing and the current form of the model is viewed as one stage in the evolution of future conceptual notions of occupational performance.

REFERENCES

- Adams, M., & Shepherd, B. (1994). *Use of theoretical models in a transitional living unit*. Paper presented at The New South Wales Association of Occupational Therapists 7th State Conference, Newcastle, NSW, Australia.
- Alexander, P., Keogh, M. & Cheesman, G. (1980). *Occupational therapy workforce study*. (Available from The New South Wales Association of Occupational Therapists, PO Box 142, Ryde, NSW, Australia, 2112.
- American Occupational Therapy Association, Inc. (1973). *The roles and functions of occupational therapy personnel*. Rockville, MD: Author.
- American Occupational Therapy Association, Inc. (1974). *A Curriculum guide for occupational therapy educators*. Rockville, MD: Author
- American Occupational Therapy Association, Inc. (1979). *Uniform terminology system for reporting occupational therapy services*. Rockville, MD: Author.
- American Occupational Therapy Association, Inc. (1989). *Uniform terminology for occupational therapy: Second edition*. *American Journal of Occupational Therapy*, 43, (12) 808-815.
- Ámadóttir, G. (1990). *The brain and behaviour: Assessing cortical dysfunction through activities of daily living*. St. Louis: C.V.Mosby.
- Barnett, D., & Hummell, J. (1993, October). *Performance indicators for occupational therapists: Working with children and their families*. Paper presented at The New South Wales Association of Occupational Therapists 6th State Conference, Mudgee, NSW, Australia.
- Barris, R. (1982). Environmental interactions: an extension of the model of occupation. *American Journal of Occupational Therapy*, 36, 637-644.
- Chapparo, C.J. (1996, September). *A model of occupational performance: expanding the concept of performance*. Invited key note paper presented at the Österreichischer Ergotherapiekongress, Vienna, Austria
- Chapparo, C.J., & Hummell, J. (1992a). *Sensory integration therapy: Application of theory to treatment of children with learning and developmental disorders*. Course presented for New South Wales Association of Occupational Therapists.
- Chapparo, C.J., & Hummell, J. (1992b). *Sensory integration therapy: Application of theory to treatment of children with learning and developmental disorders*. Course presented for The Paediatric and Adolescent Action Group of the South Australia Association of Occupational Therapists, Adelaide.
- Chapparo, C.J. & Ranka, J.L. (1990, November). *Occupational performance and the acquisition of adaptive skills in brain damaged adults: 1 - Using task analysis to identify problems and structure treatment for adults with brain impairment*. Course presented for The New South Wales Association of Occupational Therapists, Sydney.
- Chapparo, C.J., & Ranka, J.L. (1991a). *Identification of information processing deficits in adults with brain injury*. Unpublished research report. (Available from Faculty of Health Science, The University of Sydney, P.O.Box 170, Lidcombe, NSW, Australia 2141).
- Chapparo, C.J. & Ranka, J.L. (1991b, February). *Occupational performance and the acquisition of adaptive skills in brain damaged adults: 2 - Neurodevelopmental Therapy*. Course presented for The New South Wales Association of Occupational Therapists, Sydney.
- Chapparo, C.J. & Ranka, J.L. (1991c, April). *Occupational performance and the acquisition of adaptive skills in brain damaged adults: 3 - Proprioceptive Neuromuscular Facilitation*. Course presented for The New South Wales Association of Occupational Therapists, Sydney.
- Chapparo, C.J. & Ranka, J.L. (1991d, May). *Occupational performance and the acquisition of adaptive skills in brain damaged adults: 4 - Upper limb orthotic systems*. Course presented for The New South Wales Association of Occupational Therapists, Sydney.
- Chapparo, C.J. & Ranka, J.L. (1991e, June). *Occupational performance and the acquisition of adaptive skills in brain damaged adults: 5 - Motor planning, motor learning and occupational performance*. Course presented for The New South Wales Association of Occupational Therapists, Sydney.
- Chapparo, C.J. & Ranka, J.L. (1991f, August). *Occupational performance: A model for practice*. Course presented for The New South Wales Association of Occupational Therapists, Sydney.
- Chapparo, C.J. & Ranka, J.L. (1992a, September). *Motor planning, motor learning and occupational performance*. Course presented for The Victorian Association of Occupational Therapists, Melbourne.
- Chapparo, C.J. & Ranka, J.L. (1992b, September). *Motor planning, motor learning and occupational performance*. Course presented for The Tasmanian Association of Occupational Therapists, Launceston.
- Chapparo, C. J., & Ranka, J.L. (1995, September). *Occupational performance*. Invited presentation to the Neuro Special Interest Group of OT Australia AAOT-NSW, Sydney.
- Christiansen, C. (1991). Occupational therapy: intervention for life performance. In C. Christiansen, & C. Baum (Eds), *Occupational therapy: overcoming human performance deficits* (pp 3-44). Thorofare, NJ: Slack, Inc.
- Clark, F.A., Parham, D., Carlson, M.E., Frank, G., Jackson, J., Pierce, D., Wolfe, R.J. & Zemke, R. (1991). Occupational science: Academic innovation in the service of occupational therapy's future. *American Journal of Occupational Therapy*, 45(4), 577-585.
- Colvin, M.E., & Korn, t.L. (1984). Eliminating barriers to the disabled. *American Journal of Occupational Therapy*, 38, 159-173.
- Colyer, S. (1994, September). *The use of a model of O.T. practice in a rehabilitation setting*. Paper presented at The New

- South Wales Association of Occupational Therapists 7th State Conference, Newcastle, NSW Australia.
- Dunn, W.W. (1988). *Uniform terminology grid: A framework for applying uniform terminology to occupational therapy practice*. Unpublished grid. (Available from author)
- Dunn, W.W., & McGourty, (1989). Application of Uniform Terminology to practice. *American Journal of Occupational Therapy*, 42(12), 817-831.
- Fidler, G.S., & Fidler, J.W. (1978) Doing and becoming: Purposeful action and self-actualization. *American Journal of Occupational Therapy*, 32, 305-310.
- Fisher, A. G. (1990). *Assessment of motor and process skills (research ed. 5R)*. Unpublished test manual, (Available from Department of Occupational Therapy, The University of Illinois at Chicago, Chicago, Illinois).
- Fisher, A. Murray, E., & Bundy, A. (1991) *Sensory integration theory and practice*. Philadelphia: F.A. Davis Co.
- Hanrahan, M., Jackson, J., Neuss, M., & Walkling, K. (1993, October). *Development of a new quantitative and qualitative information system ("Stats System")*: An action research approach at The Prince of Wales Hospital. Paper presented at The New South Wales Association of Occupational Therapists 6th State Conference, Mudgee, NSW, Australia.
- Heard, C. (1977) Occupational role acquisition: A perspective on the chronically disabled. *American Journal of Occupational Therapy*, 31, 243-247
- Howe, M.C., & Briggs, A.K. (1982). Ecological systems model for occupational therapy. *American Journal of Occupational Therapy*, 36, 322-327.
- Jackoway, I. S., Rogers, J. C., & Snow, T. (1987) The Role Change Assessment: An interview tool for evaluating older adults. *Occupational Therapy in Mental Health*, 1, 17-37
- Keilhofner, G. (1985). *A model of human occupation: Theory and application*. Baltimore, MD: Williams & Wilkins.
- Keilhofner, G., & Burke, J. P. (1985). Components and determinants of human occupation. In G. Keilhofner (Ed.), *A model of human occupation: Theory and application* (pp.17-20). Baltimore: Williams & Wilkins.
- Keilhofner, G. Harlan, B., Bauer, D., & Maurer, P. (1986). The reliability of a historical interview with physically disabled respondents. *American Journal of Occupational Therapy*, 40(8), 551-556.
- King, L. J. (1978) Toward a science of adaptive responses, 1978 Eleanor Clarke Slagle Lecture. *American Journal of Occupational Therapy*, 32(7), 429-437.
- Law, M. (1991). The Muriel Driver Lecture: The environment: a focus for occupational therapy. *Canadian Journal of Occupational Therapy*, 58, 171-179.
- Law, M., Baptiste, S., McColl, M., Opzooomer, A., Polatajko, H., & Pollock, A. (1990) The Canadian Occupational Performance Measure: An outcome measure for occupational therapy. *Canadian Journal of Occupational Therapy*, 57(2), 82-87.
- Llorens, L. (1970). Facilitating growth and development: The promise of occupational therapy, 1969 Eleanor Clarke Slagle lecture. *American Journal of Occupational Therapy*, 24, 93-101.
- Llorens, L. A. (1982). *Occupational therapy client sequential care record*. Laurel, MD: Ramsco Pub.Co.
- Llorens, L.A. (1984). Changing balance: Environment and individual. *American Journal of Occupational Therapy*, 38(1), 28-34.
- Matsutsuyu, J. (1971). Occupational behaviour - a perspective on work and play. *American Journal of Occupational Therapy*, 25, 291-294.
- Meyer, A. (1922/1977) The philosophy of occupational therapy. *American Journal of Occupational Therapy*, 31 (11), 639-642 (Reprinted from original)
- Moorhead, L. (1969) The occupational history. *American Journal of Occupational Therapy*, 23, 329-334.
- Mosey, A. (1980) A model for occupational therapy. *Occupational Therapy in Mental Health*, 1, 11-32
- Mosey, A.C. (1981). *Occupational therapy: Configuration of a profession*. New York: Raven Press
- Nelson, D. L. (1984). *Children with autism and other pervasive disorders of development and behaviour: Therapy through activities*. Thorofare, NJ: Slack Inc.
- Nelson, D. L. (1988). Occupation: Form and performance. *American Journal of Occupational Therapy*, 42(10), 633-641
- Nicholls, J. (1993, October). *Management of agitated behaviour in adults with traumatic brain injury: A case study*. Paper presented at The New South Wales Association of Occupational Therapists 6th State Conference, Mudgee, NSW, Australia.
- Oakley, F., Keilhofner, G., Barris, R., & Reichler, R. K. (1986). The Role Checklist: Developing empirical assessment of reliability. *Occupational Therapy Journal of Research*, 6, 157-170
- Pedretti, L.W., & Pasquinelli, S. (1990). A frame of reference for occupational therapy in physical dysfunction. In L.W. Pedretti and B. Zoltan, (Eds.), *Occupational therapy: Practice skills for physical dysfunction* (3rd ed.) (pp. 1-17). St. Louis: C.V. Mosby.
- Ranka, J. (1995, September). *Occupational performance: A model for practice in occupational therapy*. Paper presented at The 1st Asia-Pacific Occupational Therapy Congress. Kuala Lumpur
- Ranka, J. (1995, June). *Occupational performance: Application to practice*. Invited presentation to occupational therapists at St. George Hospital. Kogarah, NSW
- Ranka, J., & Chapparo, C.. (1996, September). *Occupational performance: Implications for occupational therapy in psychiatric settings*. Invited presentation to the Mental Health Interest Group of OT Australia AAOT-NSW,
- Reed, K.L. (1984). *Models of practice in occupational therapy*. Baltimore: Williams & Wilkins.
- Reed, K. L., & Sanderson, S.R. (1980) *Concepts of occupational therapy*. Baltimore: Williams & Wilkins.
- Reed, K.L., & Sanderson, S. R. (1983). *Concepts of occupational therapy* (2nd Ed.). Baltimore: Williams & Wilkins.
- Ryan, L., & Nicholls, J. (1993, October). *Dysautonomia: It's effect during upper limb splinting of comatose patients with traumatic brain injury*. Paper presented at The New South Wales Association of Occupational Therapists 6th State Conference, Mudgee, NSW, Australia.
- School of Occupational Therapy (1975). *Stage III submission: Proposal for a degree course in occupational therapy*. (Available from Faculty of Health Sciences, The University of Sydney, PO Box 170, Lidcombe, NSW, Australia 2141)
- School of Occupational Therapy (1986). *Stage IV review: Bachelor of applied science (occupational therapy)*. (Available from Faculty of Health Sciences, The University of Sydney, PO Box 170, Lidcombe, NSW, Australia 2141)
- Townsend, E., Brintnell, S., & Staisey, N. (1990). Developing guidelines for client-centered occupational therapy practice. *Canadian Journal of Occupational Therapy*, 57, 69-76.
- Vause-Earland, T. (1990). Perceptions of role assessment tools in the physical disability setting. *American Journal of Occupational Therapy*, 45(1), 26-31
- Versluys, H. P. (1980). The remediation of role disorders through focused group work. *American Journal of Occupational Therapy*, 34(9), 609-614.
- West, W.L. (1984). A reaffirmed philosophy and practice of occupational therapy for the 1980's. *American Journal of Occupational Therapy*, 38(1), 15-23.
- Yerxa, E.J., & Sharrott, G. (1986). Liberal arts: The foundation for occupational therapy education, *American Journal of Occupational Therapy*, 40(3), 153-159.

APPENDIX 1:

Figure 1: Schematic Diagram of Occupational Performance (1992a)

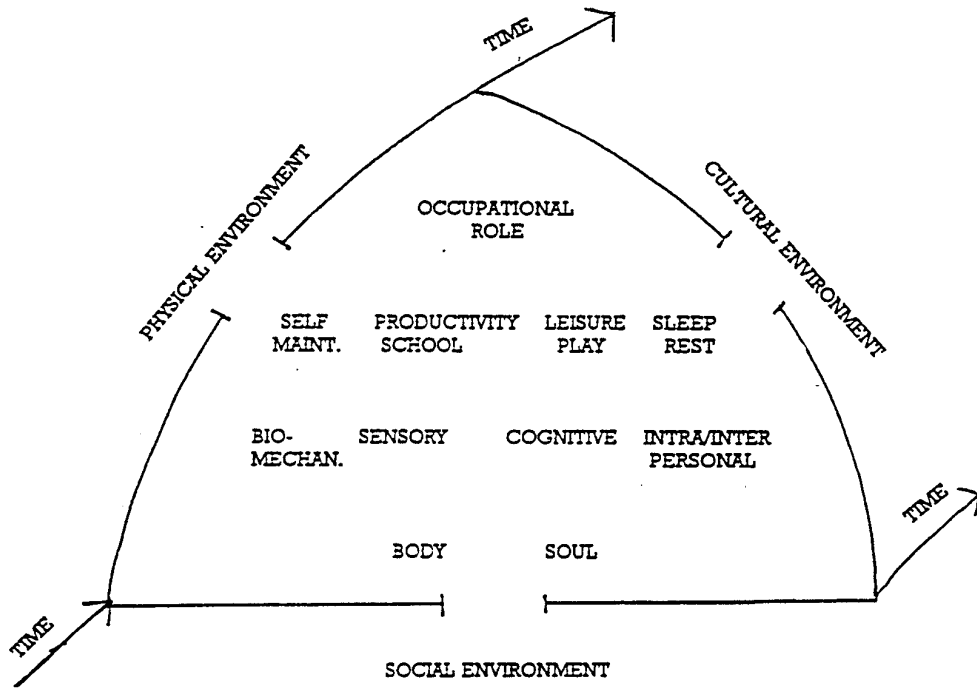


Figure 2: Schematic Diagram of Occupational Performance (1992b)

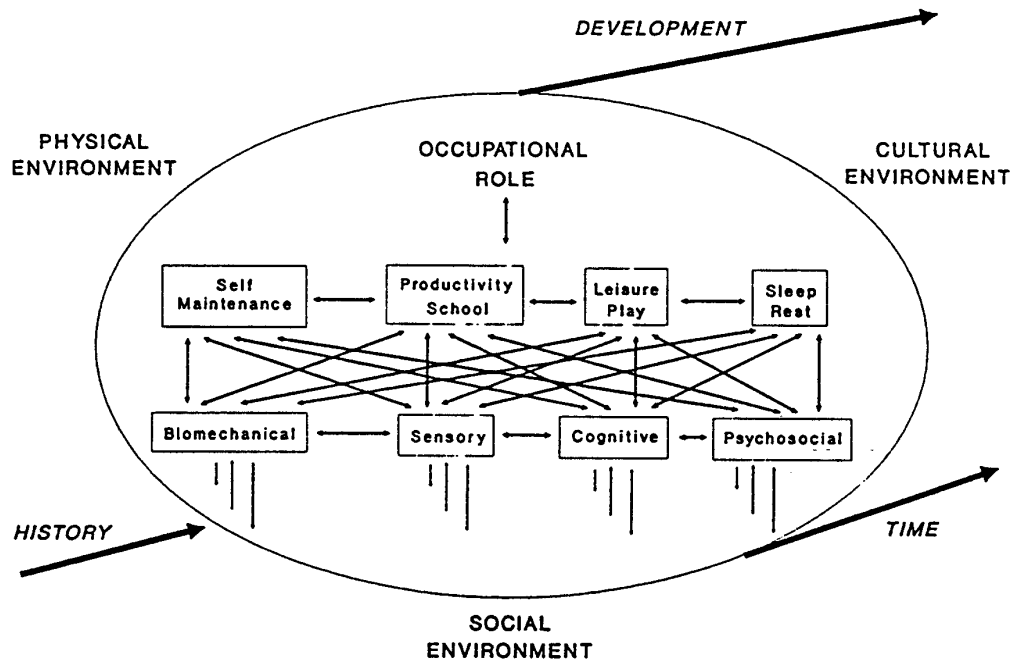


Figure 3: Schematic Diagram of Occupational Performance (1992c)

