Occupational Adaptation: Toward a Holistic Approach for Contemporary Practice, Part 1

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A theoretical perspective designed for clinical application and based on fundamental occupational therapy principles is offered. This perspective, the occupational adaptation frame of reference, is presented as an articulation of (a) a normal developmental process leading to competence in occupational functioning; (b) the process through which the benefits of occupational therapy occur; and (c) a perspective that promotes holistic practice. The person is viewed as operating occupationally through an idiosyncratic configuration of sensorimotor, cognitive, and psychosocial systems, all of which are inevitably involved in each occupational response. This occupational functioning is described as occurring through interaction of the person with a work, play and leisure, or self-care context that has distinctive physical, social, and cultural properties (i.e., the occupational environment). Occupational adaptation is a perspective that can influence practice, education, and research.

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tion, both large and small. The greater the adaptive transitional needs, the greater the importance of the occupation adaptation process, and the greater the likelihood that the process will be disrupted. The construct of occupational adaptation and its therapeutic implications will be introduced in two parts. In this paper, Part 1, the basic framework explaining the occupational adaptation process is described. In a subsequent paper, Part 2, treatment implications will be addressed.

Theoretical Background

Both occupation and adaptation have been accepted as critical concepts within the discipline of occupational therapy since its origin (American Occupational Therapy Association, 1979; Kielhofner & Burke, 1985; Meyer, 1922). Both constructs have been the subject of several Eleanor Clarke Slagle lectures (e.g., Bing, 1981; Fine, 1991; Gilfoyle, 1984; Johnson, 1973; King, 1978; Llorens, 1970; Reilly, 1962). The relationship between the two constructs in the provision of occupational therapy has been explored by many others (e.g., Breines, 1986; Clark, 1979; Fidler, 1981; Fidler & Fidler, 1978; Kleinman & Bulkley, 1982; Lindquist, Mack, & Parham, 1982; Llorens, 1984, 1990; Mosey, 1968; Nelson, 1988; Reilly, 1962, 1969; Yerxa, 1967, 1989) and by several occupational therapy theorists as an essential component of their theories. Four theories that have similarity with the proposed construct of occupational adaptation are the theory of spatiotemporal adaptation (Gilfoyle, Grady, & Moore, 1981, 1990); a model of adaptation through occupation (Reed, 1984); the Model of Human Occupation (Kielhofner, 1985); and the model of occupation (Nelson, 1988).

In the theory of spatiotemporal adaptation, as proposed by Gilfoyle et al. (1981, 1990), adaptation is presented as the process that human beings experience in developing the skills necessary for performing within the context of their environment. The environment is conceptualized as a primary stimulus for development. Spatiotemporal adaptation focuses on the sensorimotor adaptations essential to functional skills. Adaptation is represented schematically as a spiral-like developmental phenomenon progressing from primitive to mature neurological responses.

In Reed's (1984) model, adaptation through occupation, occupation is conceptualized as the means by which adaptation may occur both internally and externally. She described occupation as being adaptive, maladaptive, or nonadaptive. Reed also chose to conceptualize her proposed model as a developmental spiral. She emphasized the importance of the external environment, which she described as the social setting for work and play, as either a facilitator or a hindrance to occupational adaptation. Reed stated that "occupational adaptation and adjustment" are the outcomes of the adaptation through occupation process (p. 498).

Kielhofner and Burke (1985) proposed a hierarchical relationship between occupation and adaptation. In the Model of Human Occupation, they espoused that human adaptation is the more global construct under which occupational function and dysfunction is a subcategory. They concluded that the unique concern for occupational therapy is the adaptation of the person specific to his or her level of occupational functioning. Adaptation is conceptualized in the model as an outcome dependent upon both personal satisfaction and satisfaction of the environmental demands. Barris, Kielhofner, Levine, and Neville (1985) described the environment as consisting of four hierarchical layers: (a) objects, (b) tasks (work, play, and self-care activities), (c) social groups and organizations, and (d) culture. The Model of Human Occupation emphasizes that occupational performance is the outcome of the interactions between persons and their unique environment.

Nelson's (1988) model of occupation presents adaptation as a change that occurs within the person's developmental structure as the result of occupation. Such adaptation occurs not only as a result of the environment's demands for performance, but also because of the effect the person has on these demands. Nelson asserted that occupational performance is a result of both the person's unique developmental capacities and perceived meaning attached to the external expectation. Nelson conceptualized the dynamics of occupation as a continuous interactive loop made up of external demands, performance, and the resultant effect (adaptation).

Each of these four theories provides an explanation of the relationship between occupation and adaptation, and their conceptualizations have both similarity and divergence. The occupational adaptation framework also has similarities with these theoretical perspectives; however, we believe that the conceptual model and treatment approach in this perspective represent a different emphasis. First, occupation and adaptation are conceptualized as more than interrelated concepts. The term occupational adaptation refers specifically to how occupation and adaptation become integrated into a single internal phenomenon within the patient. Occupational adaptation is a process-based, nonhierarchical, and non-stage specific explanation of this phenomenon. Second, this framework emphasizes the patient's experience of self in relevant occupational contexts. This holistic approach gives equal importance to the occupational environment, the person, and their interaction. Within this framework the therapist can identify interventions that are consonant with the patient's unique occupational adaptation experience and that will promote the ability to perform occupations with greater efficiency, effectiveness, and satisfaction. Third, the occupational adaptation frame of reference focuses treatment on the patient's internal adaptation process and the use of meaningful occupations to affect that phenomenon as opposed to outward mea-
sures of performance (Schultz & Schkade, in press). Fourth, the assumptions that serve to ground this perspective are clearly stated, and the essential constructs are operationally defined to facilitate both practice and research. Although the construct of occupational adaptation has been previously addressed in the occupational therapy literature (Llorens, 1990; Reed, 1984; “Research Priorities,” 1984), we propose in this paper a unique explanation of the construct that is not only congruent with the evolution of occupational therapy theory, but also can add a new dimension to current practice.

**Occupational Adaptation: The Basic Framework**

The three basic elements of the OA process are seen as the person, the occupational environment, and the interaction of the two as they come together in occupation. The hypothesized occupational adaptation process is represented schematically in Figure 1. This representation follows the general systems depiction of an open loop where the feedback following an event influences the subsequent input of that system into future events. Most persons cycle through this process continually. Many of these cycles proceed rapidly; others are more protracted. In addition, multiple cycles can be operating simultaneously. The isolation of the process components in the figure is artificial but necessary for an understanding of these components.

**The Occupational Adaptation Constants**

Each of the three occupational adaptation elements (person, occupational environment, and interaction) is believed to be consistently influenced by a respective constant (see Figure 1). The constant for the person element is viewed as a desire for mastery in occupational situations. This results in an occupational challenge. The constant in the occupational environment element is the demand for mastery from the person in these occupational situations. These two constants interact and result in a press for mastery, which is the constant in the interaction element. The notion of a press for mastery is pervasive in the developmental literature, particularly the writings of Piaget (Flavell, 1963; Piaget & Inhelder, 1969). Before proceeding with a discussion of the occupational adaptation process flow, we must present four essential definitions: occupations, adaptation, and occupational adaptation as both a state and a process of occupational functioning.

**Occupations** are activities characterized by three properties—active participation, meaning to the person, and a product that is the output of a process. The product may be tangible or intangible. **Adaptation** is a change in functional state of the person as a result of movement toward relative mastery over occupational challenges. **Occupational adaptation (the state)** is a state of competency in occupational functioning toward which human beings aspire. The existence and strength of this state in a person is a function of the extent to which occupational responses have been effective in producing relative mastery over occupational challenges and the extent to which they have successfully generalized in a variety of occupational challenges. **Occupational adaptation (the process)** is the process through which the person and the occupational environment interact when the person is faced with an occupational challenge calling for an occupational response reflecting an experience of relative mastery.

We must also further describe the conceptualization of the person and the occupational environment elements from an occupational adaptation perspective. These conceptualizations are based on the traditional domains in which occupational therapists have operated. This is not to suggest that other ways of viewing persons and environments do not exist. These conceptualizations evolved through an effort to develop a framework that is consistent with occupational therapy practice arenas and with the occupational adaptation concept as described.

The person is viewed as being made up of three systems: sensorimotor, cognitive and psychosocial.

**Assumption:** All three systems are present and active in every occupational response. Each of the systems is active to varying degrees, depending on the particular occupational challenge and response. The person systems are uniquely configured for each person as the result of genetic, environmental, and experiential and phenomenological subsystems that contribute to the makeup of each person system.

The occupational environment (as distinguished from other environments) is one that calls for an occupational response. Occupational environments are contexts in which occupations occur. These contexts are work, play and leisure, and self-maintenance. Just as the person systems are uniquely configured by subsystems that contribute to their makeup, so are occupational environments. The subsystems that contribute to the nature of a particular occupational environment are physical, social, and cultural. These subsystem designations are based on the work of Spencer (1987). The physical subsystem is made up of the nonhuman factors. The social subsystem consists of the persons who are present and influencing a particular occupational environment through their social predispositions, attitudes, and actions. Both formal and informal social networks are part of this subsystem. The cultural subsystem reflects the ways that the physical and social subsystems come together in serving the mission or purpose of the occupational environment. The cultural subsystem is made up of the procedures, methods, rituals, values, and constraints of the work, play and leisure, or self-maintenance context.
The following discussion of the occupational adaptation process is intended to reflect the process in a single cycle. As stated earlier, this isolated account is presented for the purpose of clarification and analysis only. It does not represent the complexity of simultaneously occurring events that take place in day-to-day functioning.

The flow of the occupational adaptation process begins with the occupational challenge and proceeds to a
perception of the internal and external expectations for occupational performance. On the basis of these perceptions, the person generates an occupational response, evaluates the outcome, and integrates feedback from the response for subsequent use. At the same time, evaluation and feedback integration functions are taking place in the occupational environment element. The process is repeated as another occupational challenge emerges.

As shown in Figure 1, both the person and the occupational environment contribute to the nature of a particular occupational challenge. Some challenges are the result primarily of personal selection, whereas others are primarily chosen by the occupational environment. Still others reflect a mutual selection.

Each occupational challenge carries with it certain expectations for the person. Occupational challenges occur within roles played by the person. Thus the expectations of a particular challenge will vary as a function not only of the specific environment, but also of a particular role. With the existence of an occupational challenge, expectations for the person's performance also exist. These expectations are an interaction of the person's contribution and that of the occupational environment.

A kindergartner is in her first day of the student role. Her personal history of success experiences (relative mastery) in responding to occupational challenges typical of early childhood development has led her to view herself as a capable person, and her expectation is that she will succeed in school. As she is oriented to the classroom, she perceives that the hunger for her coat is of a height that requires her to stand on tiptoe and that the floor and chairs on which she sits are different from those at home. She further notes that there are some children with whom she has already made friendships, others she already knows like. She finds that she is expected to take care of her materials, to listen to and follow the teacher's directions, and to turn turns being leader. Thus the student as well as the physical, social, and cultural subsystems in her occupational environment contribute to expectations of how she will carry out her occupational role of student as she responds to the various occupational challenges with which she will be presented.

Thus far we have described situations in which the person is confronted with an occupational challenge and has perceived a set of occupational role expectations.

Subprocesses of the Occupational Adaptation Framework

Assumption: Because of the desire for mastery, the person intends to produce a response to the occupational challenge that will be adaptive and therefore will lead to mastery. Three subprocesses are available to the person for use: the adaptive response generation subprocess, the adaptive response evaluation subprocess, and the adaptive response integration subprocess. The output of these subprocesses will subsequently affect the state of occupational functioning.

Adaptive Response Generation Subprocess

With the occupational challenge and the role expectations perceived, the person generates the response. This feed-forward portion of the occupational adaptation process is represented by the adaptive response generation subprocess. This subprocess is characterized by two components— an adaptive response mechanism that functions to select energy levels, methods (modes or patterns), and behaviors; and an adaptation gestalt that configures the output of the adaptive response mechanism into a plan for the sensorimotor, cognitive, and psychosocial involvement. The gestalt becomes manifested as an occupational response. The two components of selection mechanism and gestalt, acting in concert, constitute the adaptive response generation subprocess.

The adaptive response mechanism determines the type of adaptation energy to be used and selects from a repertoire of adaptive response modes or patterns and adaptive response behaviors. The occupational adaptation conceptualization of adaptation energy was influenced by the work of Selye (1956) as presented in his research on the effects of stress. Selye concluded that unremitting stress led to excessively high usage of the adaptive capacity (adaptation energy) of endocrinological systems in laboratory animals and to premature death. He posited a general adaptation syndrome that described this process and that he also believed described a similar process in humans. If Selye's conclusions have validity, there is a compelling rationale to assert that one's supply of adaptation energy is limited and that careful management of that supply will enhance occupational functioning.

Assumption: Adaptation energy is a finite although adequate supply of energy present at birth, the bounds of which are idiosyncratic to each person. This assumption implies a need to manage energy wisely and to promote efficient use of what is believed to be a limited resource. The assumption of a bounded energy supply should not be construed to mean small. Instead, it should be interpreted as a supply adequate for a lifetime of adaptation needs if it is not depleted prematurely or injudiciously. Consistent with this assumption, occupational adaptation posits an approach to making better use of this energy that is consonant with fundamental occupational therapy notions regarding the influence of a balanced life-style on health and well-being.

Assumption: Adaptation energy operates at three levels of awareness. The primary level is a focused, higher awareness level. Excessive use of primary level adaptation
energy depletes the supply more quickly than use of the secondary level energy. Although this lower awareness level is more sophisticated and creative, it requires less of the energy supply to operate and therefore depletes energy reserve more slowly. The information processing notion of simultaneous or parallel processing (Posner, 1973) was a major influence on this assumption. A second influence was the literature regarding creative problem solving (Whetten & Cameron, 1984). Creative problem solving involves methods for seeking alternatives to existing approaches (“breaking set”) when those approaches fail to produce solutions. Implications for adaptive problem solving are that a person who becomes stuck after working at a primary level may shunt the task to the secondary level for more efficient and effective processing. When returning to the problem at a primary level, the person will be farther along toward a solution with less energy expenditure. The person may, in fact, have identified a solution when the problem-solving task was processed at the secondary level.

A sixth-grade boy must develop a science project from a set of materials that do not seem to have any relationship. He has been thinking about the project without success for several days. Feeling discouraged, he goes to the skating rink and spends a Saturday afternoon playing hockey with his friends. He comes home, looks at the science project materials, and has an idea for his project.

The repertoire of adaptive response modes or adaptive patterns (Spencer & Davidson, 1992; Spencer et al., 1992) has developed over the person’s experience with occupational challenges. These modes can be classified as existing, modified, and new. This conceptualization is influenced by Gilfoyle et al. (1981, 1990).

Assumption: It is common for persons to respond to occupational challenges with existing modes whether or not they are appropriate to the task. Only as these modes fail to produce relative mastery outcomes do modified or new modes develop. Adaptive response behaviors can be characterized by hyperstability (primitive), hypermobility (transitional), and blended mobility and stability (mature). The three classes of behaviors can be identified for all three person systems—sensorimotor, cognitive, and psychosocial. Hyperstabilized or primitive behaviors in the sensorimotor system are seen in frozen postures and nonfluid movement. They are manifested cognitively by rigidity of thinking or in less advanced forms of reasoning such as transductive reasoning. They are seen in the psychosocial system with primitive defense mechanisms that interfere with psychosocial movement. Regardless of the particular person system, hyperstabilized behaviors interfere with adaptive movement.

Assumption: When confronted with an occupational challenge that is beyond the person’s current capabilities, engagement in primitive behaviors is normative when used as a temporary balance-restoring strategy.

As in the case of hyperstabilized behaviors, hypermobile or transitional behaviors can be seen in all three person systems. Hypermobile behaviors are characterized as unmodulated, unsystematic, frequently random, and uncoordinated. For example, hypermobile sensorimotor behaviors might include high levels of activity with an out focus or clear goal direction. Hypermobile cognitive behaviors could include faulty attention, that is, attention to irrelevant cues and lack of attention to relevant cues. Problem-solving efforts are active but disorganized. Psychosocial hypermobility can be seen in interpersonally intrusive or presumptive behavior. It can also be seen in psychosocial activity where there is a lack of appreciation for consequences. In general, hypermobility behaviors are action for the sake of action rather than adaptive movement.

Assumption: Hypermobile behaviors offer more promise than hyperstable behaviors because they provide variability. This variability may ultimately produce a response that results in a successful outcome. Behaviors that demonstrate blended mobility and stability (mature behaviors) are most likely to produce occupational responses that will promote relative mastery. Such behaviors represent an exploratory strategy that is systematic and solution oriented while being grounded in realistic perception of the task. Sensorimotor behaviors are reasonably coordinated with a magnitude and direction likely to achieve relative mastery. Cognitive behaviors show attention to relevant cues and more systematic consideration of options. Psychosocial behaviors are neither bound by primitive defenses nor the result of ill-considered impulsivity.

Assumption: Expression of mature behaviors in response to one occupational challenge does not guarantee mature behaviors in subsequent situations. Human beings use all three classes of behaviors as a function of the nature of the challenge, the person’s experience with similar challenges, and the difficulty of the challenge as perceived by the person. The adaptive response mechanism offers a structural explanation of the way persons begin to produce a response that is intended to meet an occupational challenge with relative mastery.

A 15-year-old girl is learning with her mother’s help to make her own clothes. This is the only way she can afford the clothes she would like. She has thus far used fabrics that have no wrong side. After saving her money, she has purchased fabric for a much-desired velvet jacket. She has been cautioned to wait for assistance before cutting the fabric. She has never cut fabric without her mother’s assistance (existing mode), is afraid to begin, and is angry with her mother because she is not at home (hyperstable behavior). She is using a high level of primary energy. Her desire to begin overcomes her reluctance and she decides to try (new mode). Aware that she must cut the fabric differently but not knowing how, she places the pattern pieces randomly and incorrectly (hypermobile behavior). She continues to use high levels of primary energy. She concludes that the fabric is too expensive to risk. She can achieve part of her desire to begin by studying the pattern instructions, laying the pieces in place, and waiting for her mother to assist her work (modified mode). She decides to try (new mode) again. She has been thinking about it some more (secondary energy).
The *adaptation gestalt* reflects the organizational balance of the person systems as it programs the person systems into a plan for carrying out the adaptive response. In a holistic plan, all person systems are present and participating to some degree. Ideally, the plan is appropriately balanced for the occupational challenge; for example, tasks that are primarily cognitive will require more from the cognitive system and less vigorous sensorimotor participation than tasks emphasizing sensorimotor activity. The psychosocial involvement is also involved in cognitive activity and must be incorporated into the gestalt at a level that facilitates cognitive processing rather than interfering with it. Each task associated with responding to an occupational challenge requires a different person systems gestalt.

A 19-year-old high school graduate is enrolled in a trade school to learn the repair of electronic equipment. He is reasonably well coordinated but experiences difficulty in fine motor tasks when he is anxious. He is about to begin a practical exam in which he demonstrates the repair of a unit. His anxiety level is very high (high psychosocial involvement); he is reading the specifications incorrectly (low cognitive involvement), and his hands are shaking significantly (low sensorimotor involvement). Thus, the effect of the excessive psychosocial programming in this instance reflects an imbalance in his adaptation gestalt. The adaptation gestalt is not appropriately balanced to meet this particular occupational challenge.

When the adaptation response generation subprocess has resulted in an occupational response, an evaluation of the effect of that response takes place. Evaluation occurs in both the person and the occupational environment in question.

**Adaptive Response Evaluation Subprocess**

This subprocess is offered as an explanation of the evaluation phenomenon. It is activated by the person through comparison of the adaptation gestalt to the effect of the occupational response. It is in the evaluation subprocess that the person assesses the experience of relative mastery.

Assumption: Relative mastery is the extent to which the person experiences the occupational response as efficient (use of time and energy), effective (production of the desired result), and satisfying to self and society, that is, it is pleasing not only to the self but also to relevant others as agents of the occupational environment.

A 32-year-old professional woman is juggling a career and a family composed of a husband and two children (a preschooler and a second grader). The cultural subsystem in this family is that the wife has most of the child-care responsibilities and the husband bears most of the physical maintenance responsibilities. The woman often brings work home to avoid spending long hours at her office that interfere with family time. The present occupational challenge is to prepare a program proposal that she must present to her board of directors the next day. She has previously gathered necessary background information and materials and has thought about her presentation approach. She lacks the final preparation, which she is doing at home. Her evening consists of integrating her parental responsibilities with her professional responsibilities. She alternates between working, mediating sibling disputes, assisting the second grader with homework, reading to the preschooler, doing laundry, making carpool arrangements, and other tasks. After the children are in bed, she concentrates on finalizing her presentation. She discovers in short order that (a) part of her material was left at the office; (b) she needs one more overhead transparency to make her presentation really effective; and (c) her husband forgot to retrieve her favorite presentation attire from the cleaners. She makes as much progress as she can, plans to arrive at the office 2 hr early to complete her presentation, and changes her plan for clothing to a backup choice, which requires that she wash and iron the necessary blouse. She does not feel well prepared for her presentation but manages to be persuasive enough to have the proposal approved. She reflects on the outcome of this presentation and concludes that it was inefficient, basically effective, but not satisfying to her in the worker role or to her work environment because her performance was below internal and external expectations. It was satisfying to her and others in her self-care environment because her parental role expectations had been addressed.

Assumption: With evaluation, the occupational event is placed at some point on a continuum from occupational dysadaptation to occupational adaptation with homeostasis as a midpoint. The woman described in the example above might place this event on the occupational adaptation side of the continuum but not far beyond homeostasis. She did manage to have her proposal approved but realized that the overall picture was not consistent with her view of herself as personally and professionally competent.

An occupational environment evaluates an occupational event according to its own performance expectations. These expectations are based on the physical, social, and cultural subsystems and their performance implications. The occupational environment, when integrating the outcome of its evaluation, may be influenced to modify the expectations through relaxation of the expectations or through intensification of them. The expectations may also remain essentially the same.

**Adaptive Response Integration Subprocess**

At this point in the occupational adaptation process flow, the person has generated the adaptive response, executed it in the occupational response, and evaluated the occupational event in terms of relative mastery and placement on the occupational adaptation continuum. The final subprocess, the adaptive response integration subprocess, now comes into play. Here the learning that has taken place becomes integrated into the person systems and modifies those systems accordingly.

Assumption: The person's state of occupational functioning is changed as a result of an occupational event. One of three states of occupational functioning is reinforced as a result: occupational adaptation, homeostasis, or occupational dysadaptation.

A 40-year-old man has sustained a minor eye injury while engaged in his favorite woodworking hobby because he failed to wear protective glasses. He did not experience relative mastery with that occupational event and placed it well on the occupationally dysadapative side of the continuum. However, learning has result-
community reintegration after cardiovascular accident

cupational challenges confronted and addressed

the concept of occupational adaptation is proceeding with both qualitative and quantitative methods. One major line of research is focused on a longitudinal study of adaptive transitional patterns after spinal cord injury (Spencer & Davidson, 1992; Spencer et al., 1992). Other research has been initiated to study the fundamental nature of adaptive transitions and what role they play in community reintegration after cardiovascular accident (Spencer & Davidson, 1992; Spencer et al., 1992). Other research is focused on a longitudinal study of adaptive transition patterns after spinal cord injury (Spencer & Davidson, 1992). The adaptive transitional patterns of well elderly persons are also being investigated. An important aspect of this work is the investigation of cultural and ethnic influences (V. White, personal communication, January 31, 1992). Each of these studies should enhance the understanding of adaptive patterns (modes) used by persons in various circumstances and how such modes are important in the overall occupational adaptation process. The adaptation gestalt construct is the focus of another research effort. This research will attempt to identify patterns of person system involvement in the adaptation gestalt as a function of the occupational role expectations (Burros, 1991).

Applied research studies have also been initiated. Specific practice models have been developed for a variety of therapeutic settings, including acute care, hand rehabilitation, gerontic rehabilitation, and mental health. Outcome studies will be designed to assess the validity and use of occupational adaptation as a model for therapeutic intervention. ▲

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