Evaluation of Daily Living Tasks: The Home Care Advantage

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Occupational therapists working in home care have an advantage over those working in other settings because they can observe the influence of the naturalistic context on task performance. However, to use this advantage, therapists working in home care must use an evaluation approach that enables them to capture the client–task–context transaction. In this article, we discuss the ability of four “evaluation approaches”—norm-referenced, criterion-referenced, dynamic, informal—to provide information about the client–task–context transaction that therapists need in order to plan effective intervention. The potential of each approach for identifying clients’ performance problems, suggesting etiologies, determining rehabilitation potential, and guiding intervention is analyzed, and the appropriateness of each approach for application in the home is appraised. This analysis highlights the utility of combining the criterion-referenced and dynamic assessment approaches for use in home care. A sequential process for integrating these two approaches is provided, and the proposed outcomes to be obtained from this process are identified.

One fiscal intermediary, Blue Cross of California, defined a meaningful outcome of therapy as “one in which the activity level achieved by the patient...is that level necessary for the patient to function most effectively at home or at work” (Stewart & Abel, 1993, p. 213). Occupational therapy in home health focuses on the performance of routine tasks needed to maintain community residence. These home-based tasks usually involve activities of daily living (ADL); home management; care of others; play or leisure; and, for school-age clients, developmentally appropriate educational activities (American Occupational Therapy Association [AOTA], 1994). The primary goals of therapy in home health are to ensure that clients with physical, cognitive, or affective impairments complete these tasks as independently as desired or possible, as well as safely and efficiently, and that the outcome achieved is acceptable to clients and their family members. The outcome of the transaction among client, task, and context is optimal when task performance is safe, independent, efficient, and adequate. Occupational therapists working in home health have a distinct advantage over those working in hospitals, rehabilitation centers, outpatient clinics, and schools when evaluating home-based tasks. This advantage stems from evaluating and treating clients in the naturalistic context in which day-to-day, home-based tasks actually occur (Holm & Rogers, 1990;
The objectives of this article are to delineate the “home care advantage” in occupational therapy functional evaluation and to assess the extent to which several “evaluation approaches” enable therapists to maximize this advantage. These objectives will be accomplished by (a) identifying the role that “home” plays in the evaluation of the client–task–context transaction, (b) proposing four fundamental requirements of an in-home occupational therapy functional evaluation, (c) reviewing four evaluation approaches and delineating their client–task–context perspective, and (d) suggesting an evaluation strategy for home care. Because current trends in health care have shifted the emphasis of occupational therapy practice from the components of occupational performance (e.g., range of motion, muscle strength) to occupational performance (e.g., personal care) (Mathiowetz, 1993), we will focus our discussion on the evaluation of home-based tasks. Further, because fiscal intermediaries include utilitarian outcomes involving economical and efficient task performance under functional outcomes (Stewart & Abeln, 1993), we will emphasize direct or performance-based evaluation methods rather than indirect evaluation methods, such as interviews or questionnaires.

“Home” in the In-Home Evaluation

The outcomes of task performance in terms of parameters such as independence, safety, efficiency, and adequacy depend on the transaction between and among the capabilities of the person, the demands of the task, and the demands of the physical and social context in which the task takes place. As used here, transaction implies a negotiation or arrangement among the three components—person capabilities, task demands, and contextual demands. In performing a task, persons apply their capabilities to accomplish a task at a given time, using the objects available, in a specific place (Dunn, Brown, & McGuigan, 1994; Law et al., 1996; Rogers, 1982).

Person capabilities may be generic skills or task-specific abilities. Cognitive, motor, and affective skills underlie and support multiple tasks. Examples of these skills are attention, range of motion, and perceived self-efficacy. The Uniform Terminology (AOTA, 1994) calls them performance components. Generic skills are coalesced into unique combinations to form task-specific abilities. Examples of these abilities are preparing meals, playing a piano, and dressing. The Uniform Terminology calls these performance areas. Task-specific abilities are developed through training and practice, that is, through the person–task–context transaction in formal and informal learning situations.

Person capabilities are challenged by the requirements of tasks, which are usually referred to as task demands. Task demands are identified through task analysis, which is the analytic process of breaking tasks down into discrete, sequential steps. A task analysis describes the critical or essential actions of a task. For example, a simple task analysis of a bathtub transfer indicates that the transfer requires (a) lifting a foot over the bathtub edge and placing it inside the bathtub, (b) lifting body weight to the foot inside the bathtub, (c) lifting the second foot over the bathtub edge and placing it inside the bathtub, and (d) lowering the body to the bathtub bottom. The actions comprising a task are influenced by the objects used to perform them, which include the task materials, tools, and equipment. It is easier to lift a foot over a 15-inch tubside than it is to lift it over a 30-inch tubside. Thus, the specific objects used to perform a task have a strong impact on the quality of performance outcomes.

In addition to the demands inherent in tasks performed with available task objects, task performance is influenced by the ambient physical and social performance context (Dunn et al., 1994; Law et al., 1996; Rogers, 1982). If a bathtub is on the second floor of a two-story house, and a person cannot climb stairs, bathing in the bathtub may be precluded. Similarly, if lighting in a bathroom is dim, the safety of bathtub transfers may be compromised. The social context also affects task performance. Caregivers who are confident of their skills in assisting with bathtub transfers may encourage bathtub bathing, whereas those who lack confidence may choose other means of implementing the bathing process.

Persons are not passive recipients of the effects of their contexts. Rather, they act on, as well as are acted on by, contextual forces, thus creating a transactional relationship that is characterized as an interdependence among person capabilities, task demands, and context demands (Dunn et al., 1994; Law et al., 1996; Rogers, 1982). For example, a person may decide to use a bathtub bench for bathing, install a shower on the first floor of the home, provide a stair lift to the second level, upgrade the lighting in the bathroom, or resist dependency-reinforcing caregiving actions. Each of these decisions would change the context, and, in turn, these contextual changes would alter the person–task–context transaction.

When the capabilities of a person are sufficient to manage the demands of the task and context, task performance is competent, and a sense of satisfaction is generally experienced. However, when demands exceed capabilities, task performance is compromised, and a sense of dissatisfaction may be felt (Lawton, 1982). Competence may be regained by establishing or restoring capabilities, reducing task or contextual demands, or combining these two methods (Dunn et al., 1994; Law et al., 1996; Rogers,
With the diminishment of person capabilities through disease, injury, age-related processes, developmental disorders, or environmental deprivation, persons become more susceptible to contextual influences (Lawton, 1982). They have fewer internal resources and less energy to resist contextual forces or to devise adaptive strategies to counteract them (Lawton, 1982).

The Home Care Advantage

The home care advantage for occupational therapy lies in the opportunity to evaluate and treat home-based task performance in its naturalistic context. It is only in the home that meaningful observation of the transaction among client capabilities, task demands, and context demands is possible. When the occupational therapy functional evaluation of home-based tasks is conducted in a rehabilitation center or outpatient clinic, task performance must be extrapolated to the home situation. In other words, therapists must predict a client's ability to function at home on the basis of observations of task performance made in a prosthetic laboratory setting (i.e., occupational therapy clinic) with task objects that are likely different from those in a client's home. This requires an inference, or clinical judgment, about the extent to which home-based task objects and caregiver interactions replicate or differ from clinic conditions. Research suggests that evaluations conducted in laboratory settings often yield results different from those conducted in clients' homes (Holm & Rogers, 1990; Nygård et al., 1994; Park et al., 1994). Thus, it may be hazardous to assume, for example, that because clients can transfer into the bathtub in the occupational therapy clinic, which has a safety rail on the tub-side, safety grab bars along the front and back, and a non-skid surface on the bathtub bottom, they can also do this at home. In home care, the need to predict from one setting to another is eliminated, and therapists can base their clinical judgments on direct observation under naturalistic conditions. However, to make use of the home care advantage, an evaluation approach is needed that permits therapists to evaluate clients' task performance under normal or usual conditions, that is, an approach that refrains as much as possible from changing task objects and the social and physical context.

Requirements of an In-Home Occupational Therapy Functional Evaluation

For individual clients, the occupational therapy functional evaluation provides the key to accurate identification of problems and implementation of appropriate actions to resolve or alleviate them (Holm & Rogers, 1989; Mathiowetz, 1993; Rogers & Holm, 1989b; Trombly, 1993). Hence, an occupational therapist's concern with an evaluation is not merely to diagnose but more importantly to guide intervention (Rogers & Holm, 1991). Unless the evaluation yields information relevant for planning intervention, its purpose has not been met. For occupational therapy intervention to be focused precisely and for it to be effective, the evaluation should answer the following four sets of queries.

1. Identification of Performance Problems

What is the disability? What tasks are difficult or impossible to do? What tasks are performed in an inefficient, unsafe, or inadequate manner? The identification of performance problems targets intervention efforts. For example, does the evaluation approach yield information that enables a therapist to determine whether bathing or meal preparation are problem areas?

2. Inferences About Etiology

What is causing the problem? What is the presumed cause of disability? Why is the task difficult or impossible to do? Understanding the cause of performance problems provides insight into potential intervention strategies. For example, does the evaluation approach yield information that enables a therapist to know whether a problem in meal preparation is due to an inability to see versus a lack of motivation to cook?

3. Determination of Rehabilitation Potential

Can a client's task status be established, restored, or enhanced? Can deterioration be prevented? Evaluating a client's capacity for change, or modifiability, is essential because improvement or the prevention of further dysfunction is the principal objective of therapy. A client's capacity to respond and learn, including the ability to remember what is learned, is pivotal to intervention decisions (Neistadt, 1995). For example, intervention strategies for a client with brain injury who remembers to use a prosthetic memory device would be different from those for a client who could not remember to use the aid. Thus, the overall approach to intervention is determined by the extent to which a client—or in lieu of the client, a caregiver—is able to learn. Does the evaluation approach yield information about a client's ability to respond and learn?

4. Identification of Intervention Strategies

How can improvement of task performance be fostered most effectively and efficiently? The therapeutic utility of an evaluation approach resides in its potential for guiding therapy. The range of restorative, compensatory, and preventive interventions that can be brought to bear on actual or potential disabilities is extensive. The therapeutic value of the occupational therapy functional evaluation lies in its ability to reduce the options for interven-
The item content of norm-referenced tests reflects a rep-variation on the basis of age-adjusted and sex-adjusted stage of a client's performance or the degree of functional The purpose of a norm-referenced test is

Four Approaches to In-Home Evaluation
We have posited that to use the opportunity provided by the home care advantage, namely, evaluating task performance in the naturalistic context of the home, the occupational therapy functional evaluation approach or assessment instruments selected for home care should use the naturalistic context and tinker as little as possible with the usual task objects and the social and physical context. We have further posited that because the purpose of the functional evaluation extends beyond diagnosing performance problems to treating them, evaluation results must yield information that not only sheds light on the nature of performance problems and their etiologies, but also on a client's rehabilitation potential and the interventions determined to most likely elicit positive change.

The evaluation approaches that occupational therapists use to evaluate task performance can be grouped into four broad categories: norm-referenced, criterion-referenced, dynamic, and informal. We will discuss the purpose of each approach and the efficacy of its use in home health, specifically, its ability to identify performance problems, etiology, rehabilitation potential, and therapeutic interventions. In addition, we will evaluate the role of the physical and social context for each approach.

Norm-Referenced Approach
Purpose
The purpose of a norm-referenced test is to compare a client's performance on a test with the performance of others on the same test (Popham, 1990). Norm-referenced tests are used to establish the age-level or developmental stage of a client's performance or the degree of functional variation on the basis of age-adjusted and sex-adjusted norms (Johnston, Keith, & Hinderer, 1992; Montgomery & Connolly, 1987). They answer questions such as: Are Jeff's self-help abilities comparable to those of other children his age? What is Jeff's age equivalent for self-help abilities? At discharge, how do the ADL abilities of Mr. Smith, who is 81 and has right-sided hemiparesis, compare with those of other elderly clients with stroke who live in the community?

Content
The item content of norm-referenced tests reflects a representative sampling of the task domain, or domains, of interest. Because the intent of norm-referenced tests is to compare a client's test performance with that of an appropriate peer-reference group, items of varying levels of difficulty are needed. The difficulty of items is determined empirically through extensive item analysis and leads to the selection of items ranging in difficulty. Typically, fewer easier items, which almost everyone is expected to perform competently, are included on a test in favor of harder items, which some are expected to perform competently and others to perform with varying degrees of competence. Hence, a wide spread of scores is obtained when the test is administered to the standardization, or normative, sample. This spread of scores (i.e., the relatively high variation among scores) allows the scores of individual clients to be positioned more accurately in relation to their peers in the standardization sample.

Context
Norm-referenced testing involves establishing a controlled environment for the scientific measurement of task performance. Keeping test conditions uniform reduces the influence of the context on test scores and ensures that the scores reflect client capabilities. Test conditions are controlled through the use of standardized test objects and procedures for test administration. All needed objects are generally provided by the publisher for a standardized test. In lieu of the provision of test objects, precise and detailed descriptions are given of the objects that need to be made or purchased. Procedures for administering the test are given in the test manual. In addition to the instructions that the examiner reads to clients, the manual provides directions for conducting demonstrations and guidelines for managing client questions.

Interpretation
Raw scores on norm-referenced tests may reflect numerous dimensions of task performance, for example, the number of items performed competently, the number of errors, or the time required to complete the test. In and of themselves, raw scores have no meaning. They become meaningful when they are compared with normative data obtained from the standardization sample. One way of making this comparison is by matching a client's score to the scores achieved by a graded series of groups, as occurs when age norms or grade norms are used (Popham, 1990). Another way is to locate a client's score in relation to the scores obtained by members of a peer-reference group, as occurs when percentiles or standard scores are used (Popham, 1990). For score-based inferences to be valid, the reference group must be appropriate.
Match With In-Home Occupational Therapy Functional Evaluation Requirements

1. Identification of performance problems. Norm-referenced tests define client performance problems in terms of the presence and extent of disability. They can delineate whether a client's task performance is dysfunctional in relation to others and if it is dysfunctional, the extent of the dysfunction.

2. Inferences about etiology. Norm-referenced tests of disability do not provide information about the etiology of disability (Mathiowetz, 1993).

3. Determination of rehabilitation potential. Norm-referenced tests of disability focus on present status in task performance and do not provide data about client modifiability.

4. Identification of intervention strategies. Norm-referenced tests point out the need for intervention but do not provide direct guidance for intervention.

Client–Task–Context Transaction

Norm-referenced testing requires that the test objects to be used for evaluating task performance be transported to the home. This is the only way that these objects can be kept uniform from client to client, a prerequisite for valid score interpretation. For this reason, standardized tests tend to be more appropriate for measuring skills (e.g., visual perception, grip strength), which are intrinsic to persons, than for measuring task performance (e.g., making an emergency call), which is highly influenced by contextual demands. The transactional nature of task performance makes norm-referenced tests problematic for evaluating task performance. The more a test meets the standardization requirements, the less information it provides about clients' abilities to carry out tasks in their own homes. Even when therapists administer an instrument that has standardized directions, clients' homes are dissimilar and cannot be considered uniform.

Standardization extends to the social context. Therapists assuming the role of examiner must repeat the instructions given in test manuals to clients and subsequently interact with them only in the ways and for the purposes stipulated in these manuals. In essence, the therapist is neutral but friendly and assumes no responsibility for task performance.

Appropriateness for Use in the Home

Of paramount concern in appraising the utility of norm-referenced test results is the extent to which the assumptions on which these results are based can be met in home health (Anastasi, 1988; Lyman, 1971). A central assumption is standardization, and a uniform, controlled, physical context is difficult, if not impossible, to achieve in home situations (Hinojosa, Anderson, & Strauch, 1988). Substantive score variation, a prerequisite for data interpretation, may also be difficult to obtain for rudimentary home-based tasks. Although pediatric or developmental norm-referenced assessments, such as the Denver Developmental Screening Test (DDST) (Frankenburg, Dodds, & Fandal, 1970) and the Gesell Preschool Test (Haines, Ames, & Gillespie, 1980), include ADL items, there are no norm-referenced, performance-based assessments for normal adult ADL and home management tasks. Because the acquisition of these abilities is developmental in nature, and mastery occurs in childhood or adolescence, adult norms would be largely uninformative. All normal adults would reach the test's ceiling (i.e., get a perfect score). Disability norms for various diagnostic groups may be appropriately established because these groups may exhibit a range of ADL abilities. Problems stemming from a lack of standardized test administration, however, would still apply.

When the assumptions of norm-referenced tests are met, they function best as indicators of overall disability. For planning individualized intervention, however, knowing that Johnny's baseline ADL score indicates that he surpasses 26% of his age peers is not very informative. To obtain detailed information about task performance, such as the specific tasks in which deficits occur, a test must be reviewed item by item. Even then, critical information may be lacking. For example, donning a cardigan-type garment may be selected to represent dressing on an ADL test because it is more difficult than donning an overhead garment and, hence, a better discriminator of clients with more and less disability. However, the item would provide a therapist with little information about a client's overall dressing abilities.

A further consideration in appraising test utility is the extent to which it provides the information needed to plan effective intervention. Norm-referenced tests provide no direct information about the etiology of performance problems, rehabilitation potential, or interventions worth pursuing. Instead, a therapist would need to infer this information from other standardized tests. For example, if a child is developmentally delayed, as determined by the Personal–Social scale of the DDST, and scored 2.5 years below age level on the Gross Motor and Fine Motor subtests of the Bruininks-Oseretsky Test of Motor Proficiency (Bruininks, 1978), a therapist might infer that disability was caused in part by a deficit in motor skills.

Criterion-Referenced Approach

Purpose

The purpose of a criterion-referenced evaluation is to compare a client's performance on a test with a performance standard (Popham, 1990). Thus, a key distinction
between norm-referenced and criterion-referenced evaluations is that in the former, test results are interpreted in relation to others, whereas in the latter, they are interpreted in relation to an absolute standard. Examples of performance standards are the self-help abilities that 4-year-old children are expected to have achieved and the ADL and home management tasks an adult needs to perform to live independently in the community. Criterion-referenced testing focuses on task mastery and addresses such questions as: Can Mary perform all tasks needed for bathing in the bathtub? Does Mrs. Jackson have the abilities needed to live independently and safely in the community?

Content

A criterion-referenced test ascertains a person’s status with respect to a well-defined task domain (Popham, 1990). A task domain may be as broad as ADL or as narrow as a specific task, such as dressing or feeding. Criterion-referenced tests are constructed to incorporate the critical, essential components of the task domain under examination. These components are identified through task analysis, and they cover both content and process (Lesgold, Lajoie, Logan, & Eggen, 1989). For example, the content of a dressing test may be upper-body and lower-body clothes involving underwear, outerwear, and footwear. The process for this content may cover donning and doffing the identified clothing.

In criterion-referenced tests, there is no need or attempt to select items to obtain a spread of scores to increase variability. The fundamental requirement for item selection is its importance for task completion. However, because tests are developed for different purposes, the array of domains (e.g., dressing, emergency communication) and the number and specificity of items for each domain differ from test to test.

Context

Evaluation in the naturalistic context, that is, the physical and social setting where task performance is expected to take place, is preferred for the criterion-referenced approach. This permits clients to use the actual task objects that they use daily or will learn to use. If evaluation in the naturalistic context is not feasible, the evaluation should be conducted in a setting that approximates the naturalistic context as closely as possible. Task objects should be matched as closely as possible to those that are, or will be, used. For some task domains, simulations of task performance are generally set up because they are impossible or extremely difficult to assess otherwise. Shopping for food and clothing and managing emergency situations (e.g., home accidents, fire) are examples of such task domains. Simulations need to be carefully constructed so that they place the same task and context demands on clients as does the actual performance of the task.

As in the norm-referenced approach, the therapist plays a neutral role in the criterion-referenced approach. Directions for administering criterion-referenced tests may or may not be standardized. During the evaluation, usual caregivers may or may not be permitted to assist with tasks. For tasks for which caregivers provide assistance, a therapist may need to evaluate the dyad performing the task for safety, efficiency, and adequacy of performance. This is especially important if independent performance of a task is unlikely.

Interpretation

Client performance on a criterion-referenced test is usually interpreted in one of three ways: (a) description of performance, (b) percentage of items completed to criterion, and (c) mastery or nonmastery in relation to a predetermined cutoff score. Description of performance consists of identifying and summarizing the task domains or task components that the client performed or did not perform to criterion (e.g., dressing, stovetop cooking, and oven cooking were performed to criterion, but bathing and emergency communication were not). Percentage of items completed to criterion involves converting a client’s raw score to a percentage (e.g., a client may competently perform 65% of the items in a domain). In mastery testing, the percentage score is compared with a performance standard to determine mastery or nonmastery of a task domain, or domains. Performance standards are identified a priori (e.g., 80% of items in a task domain) to reflect the level or quality of performance that clients must achieve to be evaluated as having mastered a task domain. Therefore, if a client successfully completed 65% of the items in a domain, it would denote nonmastery, whereas 81% would denote mastery. A critical question that must be addressed in constructing criterion-referenced tests is the proportion of items that must be performed to establish mastery. Ultimately, performance standards are based on human judgment. However, those that take into account performance data are more defensible than those that are based only on professional opinion. For example, preintervention, immediately postintervention, and follow-up data on task performance of a particular diagnostic group would be useful in establishing feasible performance standards for discharge from occupational therapy. The seriousness of the consequences of a misclassification must also be taken into account in setting cutoff scores for mastery.

Whereas data on norm-referenced tests are collected only at one point in time, data on criterion-referenced tests may be derived from one session, such as with the
A major asset of the criterion-referenced approach is its precision in evaluating home-based tasks. A therapist has the opportunity to observe caregiver-client transactions as well as the physical context-client transactions. Further, unless assistive technology is needed, evaluation and training materials will be identical, thus lending efficiency to the transition from evaluation to intervention.

The fundamental assumption of criterion-referenced tests is that their items contain the critical, essential components of the task domain under examination. Judgments of competency are based on these items, and the judiciousness of these determinations depends on test content. Task analyses selected for application in home care must be carefully reviewed for their relevance to intervention outcomes at the level of individual items as well as of task domains. For example, the item “dresses upper body,” as opposed to a more detailed analysis, such as “dons brassiere, dons camisole, dons front-opening blouse with buttons,” involves a critical component of dressing but gives clients more leeway in how dressing can be accomplished. Hence, a client may satisfactorily dress her upper body, even though she may not be able to put on a brassiere, camisole, or a front-opening blouse with buttons. Although the more detailed analysis describes more thoroughly the range of a client’s dressing proficiency, the broader conceptualization targets the desired task outcome of dressing more “functionally”: that is, it places less emphasis on how a task is accomplished as long as it is accomplished competently. Similarly, the task domains included on tests need to be critically evaluated for their salience for home use. For example, a test developed for use with nursing home residents may limit the home management domain to telephone use and buying the evening newspaper. Thus, available tests may need to be adapted or revised for in-home use. Another factor to consider when tests are selected is the time frame allowed for completion, specifically, whether tasks are to be rated at one session or over several sessions.

Criterion-referenced tests have high diagnostic value. They identify the initial step in the task sequence where breakdown occurs and the competence with which additional steps are executed. Dysfunctional task components are targeted for intervention. Task abilities are also clearly identified. Insight into factors contributing to disabilities and abilities may be gleaned from comparing and contrasting task disabilities and abilities and reasoning about their causes. Data about rehabilitation potential are not available from criterion-referenced tests. However, guidelines for intervention strategies may be obtained from them if task components are rated with graduated prompts but not if they are rated only as “performed competently” or “performed incompetently.”

Dynamic Assessment Approach

Purpose

The purpose of the dynamic assessment approach, also
known as an interactive or process assessment, is to identify and diagnose performance deficits and, subsequently, to determine effective intervention strategies for developing or restoring performance or compensating for the deficits (Jitendra & Kameenui, 1993; Lyons, 1984; Missiuna, 1987). Its distinguishing feature is the incorporation of a learning component into the evaluation process. Unlike norm-referenced and criterion-referenced approaches that focus primarily on intervention outcomes, dynamic assessment focuses on the processes by which task performance is accomplished and may be improved as well as performance outcomes. It provides responses to such questions as: Did Jane's approach to lower-body dressing facilitate or hinder adequate performance? What is Jane's potential for improving her performance? What types of caregiver assists enable Mrs. Jones to perform stovetop cooking in a safe, efficient, and adequate manner?

Content

Although the dynamic assessment approach encompasses several different models, most models use a test–intervention–retest format (Jitendra & Kameenui, 1993). Accordingly, a test item is administered, and competence in task performance is determined (i.e., test phase). If competence is identified, evaluation is completed. However, if a deficit is identified, evaluation proceeds to the intervention phase of the assessment. Having ascertained that a client is unable to perform under baseline conditions, the therapist hypothesizes about the causes of poor performance and potential ways of improving it. Interventions are then tried one at a time and introduced in a systematic, hierarchical order so that less assistive interventions are followed by more assistive ones (Jitendra & Kameenui, 1993). These interventions aim at changing (a) the client through teaching, (b) the task through task simplification or assistive technology, (c) the physical context through rearrangement, or (d) the social context by adapting the manner in which the therapist or caregiver relates to the client. Interventions continue to be introduced until performance is successful or at least improved. A second test, a retest, is then administered under modified conditions, which define the circumstances under which task performance will be most successful (i.e., least dependent).

Although the dynamic assessment approach may be used in conjunction with either norm-referenced or criterion-referenced tests (Lidz, 1983), the latter are more useful because they are based on task analysis and provide more explicit diagnostic information (Jitendra & Kameenui, 1993). Tests may also be uniquely designed to accommodate the test–intervention–retest format. Tests incorporating task analyses in conjunction with graduated prompts (e.g., verbal guidance, physical guidance, physical help) and assistive technology are particularly suited to this approach. Instruments such as the Performance Assessment of Self-Care Skills (Rogers, 1984; Rogers & Holm, 1989a, 1994) and the Vulpe Assessment Battery (Vulpe, 1977) are congruent with the dynamic assessment approach.

Context

During the test phase, the context is standardized or naturalistic depending on whether dynamic assessment emanates from a norm-referenced or criterion-referenced approach. Subsequently, during the intervention phase, the physical and social context can be manipulated by the therapist to facilitate optimal task performance. In marked contrast to the other approaches discussed, a therapist is free to interact with clients in a systematic process during which the therapist identifies and describes performance problems, generates hypotheses about their cause and possible mitigation or removal, and tests these hypotheses during the intervention phase of the assessment (Meyers, Pfeffer, & Erbaum, 1985; Missiuna, 1987). During retesting, task performance takes place in the supportive context identified during intervention. Thus, the therapist remains neutral during the test and retest phases, but during the intervention phase (in collaboration with the client), the therapist takes on the roles of motivator, problem solver, assistive technology consultant, and ergonomist. In fact, during the intervention phase, the therapist, as examiner, is responsible for mediating the physical and social environment for the client.

Interpretation

In the dynamic assessment approach, test results are referenced to changes in task performance that occur as a result of learning or restructuring the context. Baseline performance (i.e., test phase) is documented in a manner consistent with the underlying evaluation approach or test. When performance is deficient, the number and types of assists provided to improve or achieve competent performance are recorded for each performance problem during retesting (Haywood & Wingenfield, 1992). The number and type of assists are interpreted in two ways: (a) as an indicator of the severity of disability and (b) as a guide for intervention strategies. Instruments designed from a dynamic assessment framework often provide a numerical index of modification in performance brought about during the test–intervention–retest sequence.

Match With In-Home Occupational Therapy Functional Evaluation Requirements

1. Identification of performance problems. The results of dynamic assessment describe the disability in consider-
able detail because the steps of a task that can and cannot be performed are identified.

2. Inferences about etiology. Hypotheses about the cause, or causes, of identified problems are generated. Client capabilities, as well as task and contextual demands, may be identified as causing disability. Modifications in performance resulting from the interventions help to confirm or reject hypothesized etiologies.

3. Determination of rehabilitation potential. The modifications elicited in task performance during the intervention phase are interpreted as an index of rehabilitation potential. These modifications may require additional intervention for performance to stabilize, but evidence has been obtained that the client can benefit from occupational therapy. A progressive decrease in the kind and amount of assists from test to retest also validates a client's modifiability (Campione & Brown, 1987; Feuerstein, Rand, Hoffman, Egozi, & Shachar-Segev, 1991).

4. Identification of intervention strategies. In addition to a judgment about rehabilitation potential, the intervention phase enables the therapist to specify the means by which task performance is promoted. On the basis of the therapist's evaluation of the performance problem, its cause, and potential resolution, a number of interventions are tried. Those that elicit improvement or show promise of doing so are retained and pursued, whereas those that do not are rejected. At the conclusion of the intervention phase, the potential interventions related to the client's capabilities, the task demands, and the task context have been identified.

Client–Task–Context Transaction

In contrast to the norm-referenced and criterion-referenced approaches where the therapist is neutral and refrains from interacting with clients, the therapist using dynamic assessment assumes a facilitative role and deliberately interacts with clients and is free to arrange the social and physical context to elicit improved performance. Thus, the dynamic assessment approach is based on the transactional relationship among client capabilities, task demands, and contextual demands and affirms the necessity of recognizing this transaction as a means of facilitating competent task performance.

Appropriateness for Use in the Home

The major benefit of the dynamic assessment approach is the direct linkage between evaluation and intervention. Information needed to make informed intervention decisions to produce beneficial outcomes is obtained by experimenting with various reasonable alternatives. Because the cause of disability ascertained with this approach may be extrinsic (i.e., task and contextual demands) or intrinsic (i.e., person capabilities) to clients, experimenting by adjusting task and contextual demands to induce improved performance is allowed and encouraged. For therapists working in home care, task and contextual demands are real and concrete, not hypothetical and vague. They do not need to be imagined on the basis of client or caregiver reports or inferred from in-hospital task performance. As a consequence, the extent and types of adjustments needed can be appraised more sensitively. Rather than being distressed by the repeated experience of failure during evaluation, clients experience immediate success. In addition, they do not need to wonder whether this success can be transferred to the home. The experience of success in one task may increase clients' motivation to work toward improvement in other tasks. Further, some clients may be able to generalize the adjustments needed for success in one task to other tasks (Gamlin, 1989). Thus, dynamic assessment has the advantage of yielding meaningful outcomes and utilitarian outcomes simultaneously (Misiuna, 1987). It is meaningful to clients because interventions change performance capabilities immediately, and the impact of occupational therapy becomes obvious to them. It is also utilitarian because by the time the evaluation is completed, some problems may have already been resolved, and the therapist knows the intervention strategies that will be useful for advancing client outcomes of task safety, efficiency, adequacy, and independence (Misiuna, 1987).

Although dynamic assessment can be added to either the norm-referenced or criterion-referenced approaches, its combination with the latter approach furnishes a greater advantage pursuant to the use of the naturalistic setting and descriptive clarity of both disabilities and abilities. The dynamic assessment approach yields not only a level of task performance, but also the conditions under which that level can be achieved. This prescriptive information is readily available for sharing with clients or caregivers so that the same level of task performance can be achieved when the therapist is not present.

During dynamic assessment, therapists are expected to be responsive to clients' needs. They use themselves therapeutically by encouraging task participation, explaining why failure has occurred, indicating what needs to be done to improve performance, providing assistance as needed, and affirming success. These behaviors are invaluable for establishing good rapport with clients and caregivers and for engaging and reassuring when meeting clients for the first time in their own homes.

Informal Evaluation Approach

The distinguishing feature of informal evaluation is sub-
and document which performance problems remain. A standing and compliance (Cope & Ling, 1995) focused intervention can begin, using continual dynamic assessment. Additionally, during this period, home programs can be demonstrated by the client to ensure understanding and compliance (Cope & Sundance, 1995). Finally, the criterion-referenced approach is recommended to evaluate which achieved outcomes have been sustained and to document which performance problems remain. A discharge summary that includes the client's initial status, projected outcomes, achieved outcomes, and recommendations is then forwarded to the case manager.

Conclusion
We have presented four general approaches to occupational therapy functional evaluation in home care. Each evaluation approach is intended to serve a different purpose. The norm-referenced approach is used to compare the performance of individual clients with the performance of others. It uses a relative interpretative strategy and is useful for identifying the presence and extent of disability. However, the standardized test conditions required for making valid score-based inferences are difficult to achieve in home care. Further, because norm-referenced tests do not provide data about the etiology of performance problems, clients' potential for rehabilitation, and useful strategies for improving performance and because the diagnostic information on these tests lacks detail, they are of limited utility for planning individualized, in-home intervention programs.

The criterion-referenced approach is used to compare the performance of clients with a predetermined performance standard. It uses an absolute interpretative strategy and is advantageous for describing disability in detail and in the naturalistic setting. Criterion-referenced tests are similar to standardized tests in that they do not yield data about rehabilitation potential. They identify the etiology of task performance deficits in terms of dysfunctional components of the task sequence but not in terms of the underlying impairments that cause breakdown. When the rating scale for disability involves graduated prompts, criterion-referenced tests can provide data about potentially beneficial intervention strategies.

The purpose of the dynamic assessment approach is to diagnose disability, determine rehabilitation potential, and ascertain beneficial intervention strategies. It uses an intraindividual interpretative strategy by comparing test performance with retest performance in a supportive context. It requires therapists to infer the etiology of disability; however, the test-intervention-retest format allows therapists to test the validity of these inferences coincident with the evaluation of disability. As with criterion-referenced evaluation, the integrity of the client-task-context transaction is maintained in dynamic assessment, and the therapist is not only allowed, but is encouraged to manipulate the environment to enhance task performance. The dynamic assessment approach is capable of providing all the information the therapist needs to plan an individualized intervention program.

The distinguishing feature of informal evaluation is its subjectivity, with yields depending on the practice pattern preferences of individual therapists. Hence, informa-

Suggested Approach to Conducting Evaluations in Home Care
Table 1 identifies an approach to conducting home health evaluations that can yield meaningful and utilitarian outcomes for clients. Because of the descriptive data they can yield, we have suggested that therapists use criterion-referenced self-reports or caregiver reports to gather initial information about performance problems and to ascertain client or caregiver priorities for problem resolution. Performance-based dynamic assessment would then follow for those problems deemed most critical or most likely to be resolved easily. The dynamic assessment approach is capable of providing a therapist all the information needed to plan an individualized client intervention program efficiently and economically (Missiuna, 1987; Stewart & Abeln, 1993). After desired client outcomes have been established and timelines and number of visits agreed upon and approved (Evans, Small, & Ling, 1995), focused intervention can begin, using continual dynamic assessment. Additionally, during this period, home programs can be demonstrated by the client to ensure understanding and compliance (Cope & Sundance, 1995). Finally, the criterion-referenced approach is recommended to evaluate which achieved outcomes have been sustained and to document which performance problems remain. A discharge summary that includes the client's initial status, projected outcomes, achieved outcomes, and recommendations is then forwarded to the case manager.
Table 1

Actions and Outcomes of a Suggested Evaluation Approach for In-Home Care

<table>
<thead>
<tr>
<th>Evaluation Stage</th>
<th>Actions</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>Initial occupational therapy evaluation</td>
<td>• Criterion-referenced self-report or caregiver report of problems in performance and priorities for problem resolution</td>
<td>• Functional problem identification according to client, caregiver, or both and priorities for problem resolution</td>
</tr>
<tr>
<td></td>
<td>• Dynamic assessment conducted for problems deemed by therapist to be most critical or most feasible for early resolution and for those of highest priority to client</td>
<td>• Rehabilitation potential of client</td>
</tr>
<tr>
<td></td>
<td>• Collaborative setting of client outcomes that incorporates information about client's ability to learn and successful and unsuccessful intervention strategies</td>
<td>• Successful and unsuccessful intervention strategies for each functional problem identified</td>
</tr>
<tr>
<td></td>
<td>• Establishment of total number of occupational therapy visits and weekly schedule needed to accomplish outcomes</td>
<td>• Number of outcomes to be accomplished by client through occupational therapy intervention</td>
</tr>
<tr>
<td></td>
<td>• Focused intervention</td>
<td>• Number of visits and weekly schedule known to therapist, client, and caregiver</td>
</tr>
<tr>
<td></td>
<td>• Continual dynamic assessment conducted for performance problems to establish progress and sustained intervention outcomes</td>
<td>• Number or percentage of outcomes achieved</td>
</tr>
<tr>
<td></td>
<td>• Implementation and monitoring of home program compliance</td>
<td>• Identification of new problems</td>
</tr>
<tr>
<td></td>
<td>• Request for recertification (Medicare) or submission of justification (private payers) before last approved visit if therapy needs to be extended to meet outcomes</td>
<td>• Modification of intervention strategies</td>
</tr>
<tr>
<td></td>
<td>• Review of client and caregiver performance of home program</td>
<td>• Number or percentage of outcomes achieved</td>
</tr>
<tr>
<td></td>
<td>• Discharge summary to case manager</td>
<td>• Modification of home program</td>
</tr>
<tr>
<td>Occupational therapy intervention and continuous evaluation</td>
<td>• Modified dynamic performance evaluation conducted for initial and newly identified problems in order to document client outcomes</td>
<td>• Number or percentage of outcomes achieved and subsequent recommendations</td>
</tr>
<tr>
<td></td>
<td>• Criterion-referenced self-report or caregiver report of problems in performance and priorities for problem resolution</td>
<td>• Recommendations</td>
</tr>
<tr>
<td></td>
<td>• Number or percentage of outcomes achieved</td>
<td>• Case closed</td>
</tr>
<tr>
<td></td>
<td>• Number or percentage of outcomes not achieved and subsequent recommendations</td>
<td>• Case continued by other team members</td>
</tr>
<tr>
<td>Reevaluation and discharge</td>
<td>• Functional problem identification according to client, caregiver, or both and priorities for problem resolution</td>
<td>• Total number of occupational therapy visits and weekly schedule needed to accomplish outcomes</td>
</tr>
</tbody>
</table>

These actions and outcomes are aimed at evaluating the effectiveness of occupational therapy services as well as for individual therapists (Johnston et al., 1992). For example, the discharge or gain scores evidenced on the FIM for a representative sample of clients with hip fracture may be used to establish national guidelines for rehabilitation outcomes. Sanctions or rewards may be attached to the results achieved by programs (e.g., level of reimbursement) or individuals (e.g., promotion, termination) (Dejong & Sutton, 1995). These kinds of applications of test results bring with them the risk that items on assessment instruments may be used to dictate the focus of interventions so that clients' scores may improve. Thus, test items, even if they do not specifically match client needs, may unduly influence intervention efforts.

Standardized tests have been put forth as the preferred method for evaluating the outcomes of occupational therapy for clients as well as for services, despite a keen recognition of their dearth of use in day-to-day clinical practice (Kielhofner & Barris, 1984; Watts, Brollier, & Schmidt, 1988). Standardized implies uniform testing conditions and a controlled scoring procedure (Payne, 1992). In the home, the instructions for disability tests may be given uniformly, and clients' responses may be scored according to the designated procedure, but the home context itself varies from client to client, thus introducing substantive measurement error. The value of standardized tests is predicated on their capability for provid-
ing well-supported data (Rogers, 1983; Watts et al., 1988), documenting the efficacy of practice for clinical and research purposes (Jackson, 1984; Llorens & Gillette, 1985), and obtaining funding (Jackson, 1984).

These reasons for using standardized tests are viewed as so compelling as to make it difficult to understand why they are not used more often in clinical practice. Their lack of use is postulated to lie in an inadequate understanding of, or belief in, their benefits for client care as well as in time constraints; lack of familiarity; and, most importantly, lack of availability of standardized tools that yield treatment-relevant data (Watts et al., 1988). In fact, failure to provide intervention-relevant data is a salient explanation that is often overlooked for the lack of use of standardized tests. The risk that standardized tests pose for destroying the home care advantage, by disrupting the day-to-day client-task-context transactions, appears to be an equally plausible explanation for their nonuse by home care therapists.

Compared with the norm-referenced and criterion-referenced approaches, dynamic assessment represents a relatively new approach to evaluation (Haywood & Tzuriel, 1992). Its origins are in education and psychology where, as in occupational therapy, practitioners are responsible not only for evaluating performance, but also for helping the person being evaluated. Therapists should welcome new evaluation approaches that have therapeutic as well as diagnostic utility. As has occurred with the application of Rasch analysis to occupational therapy assessments, such as the Assessment of Motor and Process Skills (Fisher, 1994), dynamic assessment has the potential for improving both the practice and the science of occupational therapy. ▲

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