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Activity Gradation and Adaptation

Thus, the unique contribution of occupational therapy is to maximize the fit between what it is the individual wants and needs to do and his or her capability to do it.
(Christiansen & Baum, 1997, p. 40)

Objectives

Upon completion of this unit, the student will be able to:

- Define the terms *grading* and *adapting* as applied in occupational therapy intervention.
- Explain how grading or adapting activities can contribute to improving the client's performance.
- Give examples of a graded activity in each of the occupational performance areas.
- Give examples of adaptations in each of the occupational performance areas.
- Recognize specialty areas in service delivery related to grading and adapting activities.

With a thorough understanding of how to perform an activity, the student can begin to see ways in which the activity can be graded or adapted to meet specific client needs. Like analysis, there is no one way to grade or adapt activities. Both gradation and adaptation are used in the process of intervention to help a client change performance. The practitioner determines the intrinsic values within an activity through analysis and then may grade or adapt the activity to develop its potential value to a specific client (Trombly & Scott, 1977, p. 243). In this unit, several approaches to grading and adapting activities will be shown.

"An occupational therapy practitioner grades or adapts a chosen activity for an individual to promote successful performance or elicit a particular response" (American Occupational Therapy Association [AOTA], 1993). For the purposes of this unit, grading will refer to changing the complexity of what is to be performed, and adapting will refer to modifying or substituting objects used in performing the activity.

Grading

Grading activities are a part of daily life. Making a list of errands to do and checking them off as they are completed is a graded activity. Separating laundry into piles of dark- and light-colored clothes before placing them in the washing machine is another example. As the AOTA (1993) states:

> *Grading activities challenge the patient's ability by progressively changing the process, tools, materials, or environment of a given activity to gradually increase or decrease performance demands. These incremental modifications are made in response to the individual's dynamic changes and provide opportunities for gradual development of skill and related therapeutic benefits.*

Grading means to arrange or position in a scale of size, quality, or intensity. Grading can be compared to measuring how much of a specific task is performed. Most students experience "being graded" in school, in other words,

how they measure up against a given standard. Grading involves setting a goal and then backing off to see how to complete it: the number of steps to be taken, the amount of time to be given each one, and the details required to perform them. In one sense, it is reversing the analysis of an activity. Performing the activity is the goal. The challenge is how the client will do the activity given specific strengths and limitations. The method used to reach that goal must be chosen by the therapist using professional experience and expertise to determine the appropriate means. Grading the activity is comparable to setting the stage for the client to succeed in performing it.

Some common examples of grading include:

* Breaking a lengthy activity into smaller units with given endpoints instead of tackling the entire job, such as reading one chapter of a weekly reading assignment each evening instead of trying to read all seven chapters in one sitting.
* Organizing items logically and in location according to priority use instead of having them in the general work area, such as placing writing utensils and paper on the desk on the dominant hand side.
* Changing the amount of energy needed by using lighter weight materials or tools to complete a project, such as working with softwoods (pine or poplar) instead of hardwoods in making a bookcase or using a power saw instead of a handsaw for cutting the wood.
* Increasing or decreasing the number of repetitions of an activity, such as walking a longer distance to improve endurance or doing less keyboard work to rest wrist extensors.

Another way of looking at grading is comparing the process to normal growth and development. As a toddler, it is normal to play with a telephone (real or replica) such as turning the dial or pushing buttons, holding the receiver, talking to an imaginary friend, and placing the telephone back in the cradle. As a child grows, the mechanical and proper use of a telephone takes on importance, including skills such as obtaining correct numbers, understanding the significance of these numbers, and listening as well as replying. Later, additional skills are added: to look up specific numbers by alphabetical order, to make and receive calls, respond courteously, limit phone conversations in time or subject, handle phone options such as call forwarding, and perform long distance or credit card calls. A toddler would not be expected to perform the activity of making a phone call on the same level as an adult. By grading the activity to what is appropriate to the individual's ability, the occupational therapy practitioner provides the setting, opportunity, and means for the individual to adapt and master the task.

For example, telephoning a beauty parlor to make an appointment is the purposeful activity chosen for a client experiencing mild confusion and problem-solving skills following a seizure. The therapist may grade the activity on a continuum from one extreme to the other based on the client's needs and progress as follows:

* All items assembled in one area for client use, gradually changing to the client locating and retrieving all items needed to perform activity.
* No time constraint placed on client to complete activity, gradually changing to a set amount of time in which to perform activity.
* Working without distraction in a quiet setting, gradually changing to working with background noise and frequent interruptions.
* Providing verbal cueing and a written sequence of steps, gradually changing to self-initiated activity.
* Role modeling the phone call, gradually changing to spontaneous independent performance.

Activity grading is used by the therapist to help a client improve performance level. Most activities involve overlapping use of multiple skills. In the above example of making a phone call, an activity analysis provides information that performance skills, performance patterns, context, activity demands, and client factors are all involved when performing this activity. Through gradual changes of the context, the client is provided the means for gradual improvement in occupational performance. "As a general rule, an activity should be graded up when the patient is able to accomplish the task and further progress is desired, or graded down when the patient is having difficulty with performance" (Levine & Brayley, 1991, p. 610).

Consider a graded exercise and activity program in a cardiac rehabilitation unit of a hospital. The first intervention session may involve passive range of motion to all extremities of the client and teaching proper breathing techniques. The client may be allowed to perform oral hygiene and feed self with the bed elevated at a 45-degree angle and with arms supported but is dependent on nursing for bathing and dressing. By the fourth session, the client may have progressed to performing active range of motion to all extremities with the bed in a 45-degree angle. The client may now be able to wash the front of the torso and use a bedside commode. By session eight, the client may be standing with 1- to 2-pound weights to perform range of motion exercises, bathe in a tub with assistance getting in and out, and begin independent dressing activities. The gradual increase in occupational performance can be well-documented and illustrates the use of grading.

Knowing the client's occupational history is an important resource for determining how to grade the activity. The individual's anxieties, interest level, and expectations regarding therapy help the practitioner determine where and how to focus on improving performance. In the above example, the activity of making a phone call to set up an appointment may range from being the infrequent task of a homemaker to the major job component of an executive assistant. The significance of performing specific components of this activity within a variety of activities versus performing this one activity successfully as part of the person's occupational needs is an important distinction to be made.

Another aspect of grading is looking at where occupational therapy intervention should begin. There are many types of standardized forms to "grade" the client's ability to function during an evaluation. Observing clients perform a functional task such as oral hygiene, feeding, dressing, or homemaking can pinpoint problems in attention, memory, initiation, safety and judgment, problem solving, visual tracking, body awareness, and/or motor planning. Through grading the client's performance, the practitioner identifies more precisely the specific disability. The intervention can begin at a point where the client successfully performs with subsequent sessions gradually increasing the demands on the client's occupational performance.

Every activity used in occupational therapy intervention should be gradable. With that prerequisite, every activity used has the potential for documenting the client's progress.

ADAPTATION

A background in the historical and conceptual use of the term *adaptation* in occupational therapy is beyond the scope of this book but is an important part of the student's education. A list of references is given at the end of this unit as a starting point for learning more. In one sense, the real goal of all occupational therapy is to facilitate the client's adaptive responses to promote health and well-being.

What is an adaptation? Simply put, something that makes doing some activity easier. Technically, an adaptation is a change in structure, function, or form that provides a better adjustment to the environment in which people live. For the purposes of this textbook, the term *adaptation* is being used as defined in the statement below:

> *Therapeutic adaptations refer to the design and/or restructuring of the physical environment to assist self-care, work and play/leisure performance. This includes selecting, obtaining, fitting and fabricating equipment, and instructing the client, family and/or staff in proper use and care of equipment. It also includes minor repair and modification for correct fit, position, or use.* (AOTA, 1979)

Adaptations surround us daily. As humans, we are constantly looking for ways to perform activities competently, effectively, and efficiently. Some common examples of adaptations are:

- Applying Velcro to serve as a fastener on the flap of a purse.
- Color coding files of information for quick retrieval.
- Recording foreign language phrases on a cassette to play/pause/repeat as needed.
- Marking the grain of the fabric with a safety pin to lay out a dress pattern.
- Wearing a Walkman to weed out unpleasant stimuli while working.
- Putting different textured surfaces onto individual keys to aid in finding the correct one.

Adaptation may require changing the tool or technique used to perform an activity. The therapist must judge whether or not to use a device to substitute for a specific performance component designed to function in place of the client's ability. Using a stationary cutting board to substitute for bilateral function in slicing vegetables or installing a grab bar in a bathroom to facilitate transfers are examples of adaptations.

Adaptations do not change the outcome of an activity, but the means of accomplishing the activity is purposefully altered to make it within reach of the client's ability. Looking up a phone number and dialing it may be a difficult task for the client experiencing hemiparesis, loss of memory from a head injury, or severe depression. Adaptations may include setting up a Rolodex to replace a phone book, learning to use a redial feature on a phone console, or plugging a headset into the receiver instead of handling the traditional one.

In some instances, the therapist may decide not to adapt the activity used in intervention. The client may be working to reach the same level of function before disability occurred, including doing the activity as it was "normally" performed prior to dysfunction. For example, a woman suffering from a stroke may benefit from using a plate guard while eating but be motivated to learn how to perform without it. The client may also resist or deny the need to have adaptations until the need is clearly demonstrated. For example, a person experiencing a double below-knee amputation may feel learning to wear prosthetics is discouraging and a bother until the desire to be independent in a public restroom provides the meaningful incentive for using them. The client may also have a preference to perform activities in a specific way despite the timeliness or expenditure of physical energy involved. The purpose and meaning attached to the way in which the activity is accomplished may be more important than making the task easier. For example, a man with multiple sclerosis may choose to use leg braces rather than a wheelchair to walk down the aisle at his daughter's wedding.

The therapist must know when to subordinate personal preferences to the client's desires, yet not jeopardize the welfare and safety of the client. Again, the context in which the client performs is an important component of knowing when an adaptation is needed and what is an appropriate one to use.

Occupational therapy practitioners are increasingly involved in delivering services in specialty areas of practice. Two of these are mentioned here because of their specific use of skills in adapting and grading activities. Ergonomics is a field of study using applied science to specifically adapt equipment and the surrounding work environment to maximize human productivity. Adapting working conditions to suit the worker includes the physical space, lighting, and sensory input, as well as tools and equipment.

Assistive technology is formally defined as "any item, piece of equipment, or product system, whether acquired commercially or off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capability of individuals with disabilities" (Public Law 100-407, Technology-Related Assistance for Individuals with Disabilities Act of 1988). The use and development of technology or applied science has exploded in the past half century to affect people around the world in a myriad of ways. In all its varied shapes and forms, from basic devices such as long-handled reachers, to complex environmental control units, to general information technologies such as the Internet, assistive technology is within the scope of occupational therapy service delivery when applied to enhance an individual's performance. Technology can be an important tool to the practitioner when used appropriately to enhance an individual's occupational performance. Like prosthetics and orthotics, assistive technology is one of the categories of therapeutic adaptations.

The rapid pace with which changes and new developments are taking place in both ergonomics and assistive technology has created a demand for personnel with the proper qualifications to fill this need. Occupational therapists are well-suited to work in both of these fields because of their skill in adapting activities or the setting to match the individual's needs.

Three further points should be mentioned regarding grading and adaptation. First, it is important not to contrive inappropriate activities as a means of grading or adapting them to improve client performance—for example, having the client roll putty into pea-size balls to simulate eating them with a fork rather than dining with actual food and utensils in the cafeteria, or fastening a weight to a hanger to improve upper extremity strength and endurance rather than hanging a variety of garments of different weights. The activity should be meaningful as well as purposeful while matching goals of intervention. Whenever possible, substituting a simulated situation for the actual one in which the client will perform should be avoided. Realistic gradations rather than artificial ones should be provided as needed.

Second, the practitioner often must choose between fabricating an adaptation using clinic time and materials or buying a commercial product to do the same job. It may be more cost-effective to purchase a similar product and modify it to fit when received. On the other hand, a manufactured item may not be available or not have the capability of being customized for the individual and require the therapist to pursue other solutions. Similarly, in some instances it may be more efficient to have the client perform a commercially produced activity than to devise one to facilitate the desired response. Liability of the product used or the practitioner's own occupational readiness to perform certain physical modalities are other considerations. Again, knowledge, experience, and the individual client's response to the activity will enter into the decision of how the therapist will proceed with intervention.

Third, the practitioner must personally be able to grade and adapt professional performance. In other words, the therapist grades and adapts not only activities used in intervention, but also personal behavior to meet the client's needs. The therapist must adjust and "fit" modalities given multiple variables: the client's health status, time restraints, resources available, the acceptable practice standards, physician approval, and other therapy requirements to name a few. In a sense, the practitioner is the master role model of demonstrating adaptive behaviors and facilitating the adaptive response in the client's occupational performance.

Discussion Questions

1. How have you changed in your ability to perform successfully in school since kindergarten? High school? College? How has "grading" influenced this ability?
2. What are some common adaptations you use in your own life? In what way do they make the activity easier to perform?
3. When you are ill, in what ways do you grade the activities you are able to perform?
4. Why are occupational therapy practitioners well-qualified to contribute in the fields of ergonomics and assistive technology?

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