

International Encyclopedia of Rehabilitation

Copyright © 2010 by the Center for International Rehabilitation Research Information and Exchange (CIRRIE).

All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system without the prior written permission of the publisher, except as permitted under the United States Copyright Act of 1976.

Center for International Rehabilitation Research Information and Exchange (CIRRIE)
515 Kimball Tower
University at Buffalo, The State University of New York
Buffalo, NY 14214
E-mail: ub-cirrie@buffalo.edu
Web: <http://cirrie.buffalo.edu>

This publication of the Center for International Rehabilitation Research Information and Exchange is supported by funds received from the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education under grant number H133A050008. The opinions contained in this publication are those of the authors and do not necessarily reflect those of CIRRIE or the Department of Education.

Assistive Product Selection Focusing on the Person, Milieu and Product

Marcia J. Scherer, PhD, MPH, FACRM

President

Institute for Matching Person & Technology

486 Lake Road

Webster, NY 14580 USA

585-671-3461 (phone/fax)

<http://matchingpersonandtechnology.com>

Professor of Physical Medicine and Rehabilitation

University of Rochester Medical Center

Rochester, NY 14642 USA

Rehabilitation professionals who recommend and/or prescribe assistive products (APs), and the consumers who use the products, may have varying goals when they begin the product selection and decision-making process (Scherer, Jutai, Fuhrer, Demers & DeRuyter, 2007; Cushman & Scherer, 1996). Most often, professionals view the primary role of APs as restoring functional independence to individuals with disabilities. They tend to see their role as including the following:

- Assess individual for AP needs and preferences
- Order AP for individuals
- Train individuals on new AP use
- Repair and/or adapt AP

Less frequently, professionals and AP providers monitor functional outcomes and use of the AP.

Consumers, on the other hand, have reported significant dissatisfaction with obtained AP and tend to apply their own criteria to what is a useful AP (Scherer & Lane, 1997; Lane, Usiak, Stone & Scherer, 1997). Some reasons they give for not viewing an AP favorably or for not using it are:

- AP did not meet user expectations
- AP use did not result in a gain
- User's need for the AP changed
- The AP was too inconvenient to use
- AP use caused pain, strain, or fatigue
- A different or upgraded AP was needed

It is very important that providers and consumers are afforded the time and resources to engage in a comprehensive AP selection process. It is just as important that three key

elements known to be associated with AP use and non-use are evaluated: Characteristics of the person who is to use the AP, relevant aspects of the milieu or environments of use and features of the AP under consideration [Scherer, 2004; Scherer, 2005a). Examples of influences within each of these three elements are listed below:

Characteristics of the person

- *Mood*: Many individuals experience bouts of anxiety and depression over their lifetimes, regardless if they have a disability or not. When these mood states exist, they can cloud judgment and color the way a person views support from an AP.
- *Background experiences*: If a person has not had prior exposure to or use of APs, they may have expectations that are vague, distorted or unrealistic.
- *Judgment and preferences*: For a variety of reasons, people may not perceive the benefit of using an AP, some people may prefer to use personal assistance rather than an AP, or they may prefer a product that is low- vs. high-tech, or the opposite.
- *Outlook*: The existence of pain, the effects of some medications, poor family interactions, these are just some factors that can affect a person's view of their current situation and likely future.
- *Abilities, aptitudes, and attitudes*: Some consumers prefer the simplicity and reliability of mechanical devices over those that are computerized because they want to, but do not, understand how a complex product works and is maintained.

Characteristics of the *milieu*

- *Exposure and opportunity*: Consumers and professionals alike may not have been exposed to the benefits and value APs offer. They may have had limited contact with persons who use an array of AP and, consequently, do not think of AP as a first choice.
- *Support from others*: Therapists as well as family members often have their own preferences and perspectives of AP use. Despite well-meaning intentions, these can overshadow what the consumer wants and thinks is most appropriate.
- *Resource availability*: Some regions, or facilities within regions, may not be equipped with a variety of products for consumers and professionals to become familiar with or trial.
- *Cultural expectations*: In many cultures it is expected that a person with a disability will not participate actively in community living and events. It is also expected that the individual will receive primary support from other persons, not products.

Characteristics of the Assistive Product

- *Appropriateness for the Consumer:* It is important that the AP is a good match with the consumer in terms of style, size and weight. It needs to have the desired portability, set up and use requirements, and not cause undue fatigue to use
- *Conspicuousness:* A value many consumers hold is looking the same as their peers who do not have disabilities. An AP that they perceive makes them stand out in a crowd or look less independent
- *Benefit from use:* APs that are not viewed as resulting in a gain for the user are apt to be discarded.

It can be appreciated how crucial it is to discover the consumer's needs, preferences, and expectations of AP use at the start of the AP decision-making and selection process. The professional or provider and the consumer ideally work together, in partnership, to:

- choose the most appropriate product when there is a choice of several;
- decide whether a particular product is the most appropriate choice given the characteristics of the person, environment and product;
- decide on the most appropriate training strategies for an individual's optimal use of the selected product.

It is the professional's job to get to know the consumer, identify goals and dreams, and conduct a good assessment of AP needs and preferences. The process would progress as in the diagram below:

Steps in User-Focused AP Assessment

1	2	3	4	5
Goals & dreams	Need for AP	Readiness for AP	AP and lifestyle fit	Comfort with use

Steps after number 5 are to make any adjustments or modifications in the AP and conduct follow-up assessments to determine changed needs.

To summarize, the professional and consumer each bring to the AP selection process a set of needs and expectations. Each wants information that is different, but can be combined to result in the shared desired outcome: the selection of the most appropriate AP for that consumer's use.

Information the Professional Wants

- The consumer's goals and expectations
- What the consumer tried that worked out well
- What the consumer tried that did NOT work out well
- The desirability of a no-tech, low tech or high tech intervention – or other form of support.

Information the Consumer wants

- Available AP choices and their quality
- How to master use
- How well the AP is likely to perform

There is a validated assessment process, Matching Person and Technology, that consists of different measures to choose from to assist the professional and consumer in considering all the elements and questions discussed in this article. One measure is the Assistive

Technology Device Predisposition Assessment (Scherer, 2005b). It has several positive characteristics:

- Good psychometric properties. Predictive of a match.
- Useful when evaluating a person's device expectations and realization of benefit with a specific device.
- All materials available on a single CD-ROM
- Computerized scoring and interpretations available
- Website and listserv updates available from <http://MatchingPersonandTechnology.com>

It does require a commitment of at least 25 minutes to complete (longer if other forms are also used such as History of Support use) and to involving the consumer in the AP selection process. It also asks consumer questions about their Personal Factors and this makes some professionals uncomfortable because they were not trained in asking such questions.

This article has emphasized that there is a need for improved matching of person and assistive product. It has described examples of information needed about a consumer in order to select the most appropriate AP or other support for that person's use and it has outlined the benefits of using the MPT measures to collect such information. It is hoped that this brief communication will help both professionals and their consumers to better achieve their goals.

References

- Cushman LA, Scherer MJ. 1996. Measuring the relationship of assistive technology use, functional status over time, and consumer-therapist perceptions of ATs. *Assistive Technology* 8.2:103-109.
- Lane JP, Usiak DJ, Stone VI, Scherer MJ. 1997. The voice of the consumer: Consumers define the ideal battery charger. *Assistive Technology* 9(2):130-9. 10177450
- Scherer MJ. 2005a. *Living in the State of Stuck: How Assistive Technology Impacts the Lives of People with Disabilities*, Fourth Edition. Cambridge, MA: Brookline Books.
- Scherer MJ. 2005b. *The Matching Person & Technology (MPT) Model Manual and Assessments*, 5th edition [CD-ROM]. Webster, NY: The Institute for Matching Person & Technology, Inc. [Funded by the U.S. Public Health Service, National Institutes of Health].
- Scherer MJ. 2004. *Connecting to Learn: Educational and Assistive Technology for People with Disabilities*. Washington, DC: American Psychological Association (APA) Books.

Scherer M, Jutai J, Fuhrer M, Demers L, DeRuyter F. 2007. A framework for modelling the selection of assistive technology devices (ATDs). *Disability and Rehabilitation: Assistive Technology* 2(1):1-8.

Scherer MJ, Lane JP. 1997. Assessing consumer profiles of 'ideal' assistive technologies in ten categories: an integration of quantitative and qualitative methods. *Disability and Rehabilitation* 19(12):528-535.