Applied Behavior Analysis for Therapeutic Recreation Specialists:

Technological Offerings for Practitioners

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In an age of increased liability and accountability, therapeutic recreation practitioners must also meet higher standards. Leaders and specialists can expect the request or demand for data on client performance change by parents, client advocates, allied professionals from other fields and even clients themselves. Further is a demand for evidence that practitioner efforts were responsible for the change.

Data are collected by personnel from bank tellers to food services personnel to gas station attendants to name just a few. To assist in this effort, there are computer systems for storing in assisting data analysis for decisions ranging from scheduling, inventorying of equipment and from personnel to quality control.

Unfortunately therapeutic recreation has developed without a data collection tradition or research base. As with other human services' fields that developed in the absence of data bases, the on-going development of an applied behavioral technology makes it possible to reverse the earlier nondata-based trend. Procedures do exist that would allow most therapeutic recreation professionals to document client performance as a function of interventions.

Applied behavior analysis offers therapeutic recreation professionals great assistance in the areas of direct measurement of behavior, systematic applications and in experimental methodology.
Direct Measurement of Behavior

In the beginning, there was the response. And the behaviorist looked at the response and saw that it was good. At least it was real, and the behaviorist was weary of creativity. There had passed considerably more than six days, during which numerous psychologists had invented even more numerous souls, minds, instincts, drives and mediating mechanisms, all to explain the response. (Baer, 1975, p. 16).

Most human services professionals, including therapeutic recreation specialists, are subject to passing fads in treatment as a result of basing many changes in practice on historical accident, the opinions of influential individuals and untested theories and hypotheses. Applied behavior analysis has identified systematic tactics for the direct measurement of behaviors in many settings: leisure, education, psychiatry, physical education, residential and home settings, physical fitness settings, industry and public facilities. By using direct and frequent measurement of client leisure and leisure related behaviors, therapeutic recreation leaders and specialists may be in a position to better defend themselves against educational fads and other pressures for unproven change.

Frequent and direct measurement of specific behaviors means that specific target behaviors are measured on a continual basis. Frequent samples of performance are obtained. This helps minimize the probability of obtaining erroneous client data due to an unusual day. For more information on direct measures including permanent product collection, event recording, duration recording, interval recording, and momentary time sampling, the reader is referred to Cooper (1981), Eaton (1978) and Hall et al., 1975).
Systematic Applications

...But to the behaviorist, who had started with the response because it was clearly there, began to explain the response with what was also clearly there, which was the external environment. And indeed, the response proved responsive to the external environment, indicating that the word was good too. Therefore, another word was made to name those parts of the clearly-there external environment to which the response was responsive; and the new word was called stimulus. And together the two words were functional and begat many new words, such that the land was filled with them. In the first generation were the reinforcers, positive and negative; and their children were called schedules... (Baer, 1975, p. 16).

Students enrolled in college and university courses in the introductory principles of behavior often claim that the principles (for example, stimulus control, reinforcement, extinction, punishment, etc.) are not new. Many give detailed explanations of how they have applied the principles without knowing what they were called. Each generation of practitioners rediscover these principles through trial and error experiences, through verbal reports of fellow practitioners and through direct observation of other practitioners working directly with clients. Although many of these practitioners may be masters in practice without realizing it, applied behavior analysis can offer therapeutic recreation leaders and specialists several benefits concerning the application of the principles of behavior.

First, applied behavior analysis offers a foundation for the systematic applications of strategies incorporating applications of the principles of behavior. When reinforcement procedures are utilized, clear specification of the reinforcer, amount and conditions for systematically applying the reinforcers is made.
These specifications are applied consistently and systematically. To the naive practitioner, many consequences and antecedents are not usually used in such systematic and consistent manner for specific periods of time.

Second, applied behavior analysis decreases the need for practitioners to learn these procedures through trial and error processes. This allows for better service to clients and is more efficient than having to "rediscover" information already available. Also, this may reduce the opportunity for beginning practitioners to practice other less precise techniques.

Third, although knowledge and general application is not new, new information from applied behavior analysis for practitioners is available in the experimental demonstration of effectiveness of these principles.

For more information on knowledge and general applications of the principles of behavior, the reader is referred to Sulzer-Azaroff & Mayer, (1978) and to Martin and Pear (198). For more information on specific applications, there are now approximately 25 journals that are devoted almost exclusively to applied behavior analysis.

**Experimental Methodology**

The effects were wondrous: they existed; they were clear, powerful, and repetitive; and they hinted of eventual usefulness. But the effects were also mischievous: sometimes they appeared only once, and then were never seen again. And at other times, they appeared not because of the schedules but because of other schedules and discriminative stimuli that had come along since the first ones, probably to play, and had not been noticed. Playmates being what they are, these effects sometimes appeared in the same plan again and sometimes did not. The behaviorist was often puzzled as to what conclusion might be drawn. But another generation was produced; its children were
called experimental designs....After the experimental designs came, the effects were still wondrous, but much less mischievous than they had been before; now they were said to have reliability. (Baer, 1978, p. 17).

Many models for experimentation in human service fields are not appropriate for therapeutic recreation specialists, teachers, social workers. These models often require between-group comparisons which are beyond the resources of an individual practitioner. To find enough clients with the same problem as well as a control group in a large enough number to prove statistical significance may be beyond the time or resources of most practitioners.

Hersen and Barlow (1976) characterized applied behavior analysis by defining dependent and independent variables and systematically manipulating those variables with single subjects. This information provides practitioners with the methodology of a "true" experimental approach to the analysis of therapeutic recreation technique. Practitioners in other fields (music therapy, special education, art, early and middle childhood, etc) have recognized this potential. The effect has been the rapid development of experimental technology since the 1960s. Some significant landmarks include: Publication and utilization of the Journal of Applied Behavior Analysis, and the first published descriptions of the experimental designs.

The Journal of Applied Behavior Analysis (JABA) was the first major journal focusing on applied behavior analyses in America. The publication gave researchers an outlet for publishing findings of single case experimental research. Barlow (1981) has stated that JABA subscriptions outnumber all but the largest
journals and "that major advances first reported in JABA have affected every aspect of our functioning." (p. 1).

In 1968, Baer et al., gave the first published description of using the multiple baseline design for applied research. Many professionals were more receptive to the multiple baseline design than the reversal design because it did not require a reversal of behavior to demonstrate a cause and effect relationship between interventions and target behavior change. In 1975, Ullman and Sulzer-Azaroff reported the multielement baseline design used to measure the differential effects of several independent variables. In 1976, Hartmann and Hall reported the changing criterion design used primarily to measure interventions involving shaping and/or fading. In addition to these technological developments, the call for improved procedures to check or verify interobserver agreement (Kazdin, 1977) and for social validity considerations (Wolf, 1978) led to improved studies. For more information on experimental methodology, the reader is referred to Ramp and Semb (1978), Cooper (1981), Hersen and Barlow (1978) and Tawney and Gast (1984).

Behavioral technology is now available to therapeutic recreation specialists who work with individuals and with small groups of clients. Many therapeutic recreation specialists are in the unique position to perform analyses that could lead to significant advances in providing leisure services for special clients and populations. This would allow for the gradual development of a research base as well as a more precise and scientific approach to our practice.
References


