The Foundation

Research Seminar

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The American Occupational Therapy Foundation sponsored a seminar on research in occupational therapy April 24-26, 1976 in an effort to give impetus and substance to a national commitment to research in the profession. Seminar participants were specifically charged to identify researchable areas, topics, and questions, and to recommend national strategies by which occupational therapy research could be improved.

For three days participants engaged in spirited discussions of barriers to the conduct of research, areas of critical need, specific problems requiring research, and the components of a systems theory of occupational therapy as a basis for identifying research needs. Both sponsors and participants hoped that recommendations from the seminar would lead to a variety of long-range efforts by many members of the professsion. It was fitting that this effort was the result of collaboration between the American Occupational Therapy Foundation and the American Occupational Therapy Association, both of which share the objective of fostering occupational therapy research.

Participants

Participants were: Susan Fine, Ann Fisher, Elnora Gilfoyle, Ann Grady, Alice Jantzen, Jerry Johnson, Mary Kawar, Lorna King, Claire Kopp, Lela Llorens, Josephine Moore, Patricia Ostrow, Joan Rogers, Diane Shapiro, Catherine Trombly, Wilma West, and Elizabeth Yerxa. William B. Michael, Professor of Educational Psychology at the University of Southern California, was the research consultant. Russell Davis, consultant to AOTF, was an observer.

Barriers to Research

Barriers to the production of quality research in occupational therapy were identified as attitudinal, organizational, and material. Faculty and students should be more actively involved in research. Schools and clinical settings need to interact more frequently in conducting studies. The rewards for doing research need to be improved, both in increasing the peer recognition of researchers through increased status and salary, as well as in promoting an increased sense of competence as an intrinsic motivating force. Curiosity should be encouraged in students and fostered among practitioners. Complete and accurate recording of data by all clinicians would provide the foundation for many studies.

Areas of Critical Need

The data collected by AOTA since 1970 via the membership questionnaire need to be further analyzed to determine what trends exist in practice, who is doing research, and with what kinds of problems occupational therapists are working.

Participants agreed that future research studies should be concentrated in critical areas. "Critical" in this sense was defined as: 1. most contributory to client improvement—that is, treatment outcome; 2. most important to the payers for occupational therapy services; and 3. most significant and unique to the profession in its present state of development. Themes essential to our research were stated: 1. research is needed in all major specialties of the profession; 2. research areas selected should be those with greatest poten-

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tial for documentation; 3. most of the studies should document the effect of activity, or its absence, on health (or on such essentials to health as growth and development, physiology, motor performance, condition, interpersonal relationships, or social behavior); 4. the treatment process can be conceptualized as a research model: evaluation—problem identification—intervention hypothesis—treatment plan—treatment implementation—re-evaluation of outcome—disposition proposal; 5. we need to develop standard evaluation tools such as those that are used in medicine—for example, the activity history and performance evaluation are to the occupational therapist as the medical history and physical examination are to the physican.

Against this general background, the following specific areas needing research were elicited from participants during group discussions. No attempt was made to put them in order of importance, nor were they grouped by category. Some general categories of purpose are, however, apparent among them—for example 1. to define a conceptual framework or systems theory for practice (5, 8, 14, 19); 2. to document effects of therapeutic activity with different client populations (9, 11, 17). The list of all areas as proposed follows:

1. What occupational therapy techniques are being used and how do they affect clients?

2. With what client groups (age, sex, duration of involvement) are occupational therapists most effective? What occupational therapy process produces what outcomes?

3. What are the component parts of occupational therapy activity? Purposeful activity is subcortical, exercise is cortical. Is the former more effective than the latter?

4. What are the special needs and roles of the adult female who is disabled?

5. How can the literature in the neurobehavioral sciences be searched to provide a basis for occupational therapy theory and to identify gaps in it?

6. Do the play process and the normal use of objects serve as a model for occupational therapy intervention?

7. Is dyslexia, which is more prevalent in males, correlated with the "lag" in central nervous system development in males versus females? (Are boys being forced into the educational system at too early an age in relation to CNS maturation?)

8. What are the critical developmental factors that interfere with integrated achievement?

9. What are the critical gaps remaining in attempts to develop independence among physically handicapped children and youth?

10. What collaborative studies could be done on a regional or national scope to increase the number of subjects, thus the power of statistical tools used? (For example, could laterality norms be established in this way?)

11. In what ways and to what extent can the use of activity reduce the need for drugs and/or improve physiology, cognition, and physical function in the elderly?

12. How can new methods of measuring visual and auditory responses to treatment be effectively utilized by occupational therapy?

13. How can more valid/reliable measures for assessing performance in psychiatric occupational therapy practice be developed? How is sensory integrative dysfunction related to daily performance? What are the effects of deinstitutionalization?

14. In a systems theory of occupational therapy, is purposeful activity the thread that ties it all together? Is neurophysiology the least common denominator?

15. Does activity involvement help decrease disorientation in persons with restricted mobility?

16. Do alcohol, drug, and other substance abusers have a higher threshold of stimulation (and a greater need for sensory input)?

17. What are the potential areas of occupational therapy intervention—for example, in primary care or with juvenile delinquents?

18. Could a collaborative research project demonstrate the effectiveness of alternatives to drugs for hyperactive children?

19. Since sensory integration crosses all age groups and all disability areas, is sensory integrative theory the basis of occupational therapy?

Components of Research Grid or "Systems Theory" of Occupational Therapy

In identifying research needs as well as the knowledge base of occupational therapy, participants hypothesized a unifying grid, one that could possibly tie together the several areas of practice. Everyone agreed that occupational therapists, regardless of specialty, are concerned with the normal developmental continuum, occupational performance, human and nonhuman objects, intra- and interpersonal relationships. The Table (or grid, below) represents a beginning effort to formulate this systems theory.

Specific Problems That Need to be Studied

The following problems were generated by the group as important research studies in relation to client improvement, to payers, and to the profession. They are not listed in order of importance and all would require refinement for specific studies.

1. Develop a battery of evaluative techniques of the components of occupational performance that yield quantitative scores. (A literature review would precede and the battery would consist of what is already available as well as incorporate new instruments to be developed.)

2. Work out a uniform data collection system to gather a broad base of clinical information regarding the process (perceptual, activity, interpersonal interaction) of occupational therapy and the determination of how that relates to components and areas of occupational performance (see Table. This might provide a systematic way to evaluate occupational therapy processes and outcomes.)

3. Perform a literature search (total, not just occupational therapy) to provide the bases of occupational therapy theory and ultimately comprise a systems theory for practice.

4. Undertake a demographic study to examine the members of the population with suspected or identified performance limitations (as in **B** category of the grid) for whatever reasons, to determine whether there is evidence of central nervous system or sensory integrative dysfunction in order to experiment with the application of purposeful activity to remediate identified problems. (Such a study could be done with a minimum sample size of 400 to 500; ideally, it should be done with 4,000 to 5,000 subjects. An underlying as-

TABLE (Grid)

Tentative Grid or "Systems Theory" of Occupational Therapy

A. Components of Occupational Performance	B. Areas of Performance	C. Occupational Therapy
Social	Work/Play	Occupational therapy activity includes objects, actions, and interpersonal relationships
Psychological	Academic Education	
Cognitive	Leisure (includes sleep)	Occupational therapy activity is meaningful and purposeful in accordance with clients' value systems, developmental levels, etc.
Sensory-Motor	Self-Care	
(A Developmental Continuum)	(Environments/ Structures)	(Thread of Integration)

sumption: performance limitations may be due to some unidentified problem.)

5. Compare a developmentally sequenced program of stimulating activities with random activities in counteracting effects of aging on the central nervous system.

6. Initiate a large collaborative study to determine with which groups occupational therapy is most effective. (The variables could include disability, severity of disability, age, sex, length of treatment; client outcomes in terms of social, psychological and cognitive functions could be assessed. The occupational therapy processes that influence outcome, including specifically delineated treatment techniques, could be studied. This could be done as a collection of studies.)

7. Determine the effects of occupational therapy versus no occupational therapy on the functional performance of adult hemiplegics. (Relates to the definition of functional performance.)

8. Study the relationship between the development of the vestibular mechanism and functional performance. (Such a study could be initiated with an occupational therapy-sponsored interdisciplinary, investigative seminar to review the literature on the vestibular mechanism.)

9. Establish the norms for dominance (eye, hand, foot, ear) for a "normal" cross section of the U.S. population. (This could be coupled with a knowledge of dominance in parents and siblings to suggest a genetic factor.)

10. Compare the effects of medication versus specific kinds of sensorimotor integration techniques on hyperactive children in relation to their academic and social behavior. (This study could be expanded to look at different types of patients.)

11. With persons who have identified limitations in performance of purposeful activities, compare three approaches to treatment:

a. facilitation and/or exercise
b. involvement in purposeful activity
c. simultaneous a and b (above)

12. Ascertain the relationship between patients' perceived needs and therapists' views of patient needs in specific populations of patients relative to diagnosis and age. Assess whether or not a specific occupational therapy treatment technique is effective in meeting those needs.

13. Carry out an EMG activity analysis to determine the motor components of activity performed by persons with and without central nervous system damage.

14. Investigate and elaborate on the primary care roles of occupational therapy. (Develop and test a model.)

15. With traumatic hand injuries, determine the comparative effect of pure exercise versus occupational therapy on: 1. the speed of recovery, and 2. the degree of functional recovery.

Recommendations of the Seminar

To spur the process of research throughout the profession, seminar participants made the following recommendations:

To: AOTF Board of Directors

Recommendations

1. That AOTF present two annual awards for the encouragement and recognition of occupational therapy research: An **Award** (as yet unnamed—under consideration by the Executive Board of the Foundation) for a therapist who has been an AOTA member for ten years or less, who shows promise as a researcher; and the **A. Jean Ayres Award** for a well-established therapist who has contributed significant research to the profession.

A. That the awards be given only when outstanding candidates are identified.
B. That recipients be selected by an AOTF Research Advisory Committee (to include one member who is not an occupational therapist but who is qualified to evaluate the quality of research).
C. That each recipient be granted an award of $500.00 and possibly be given an opportunity to present and discuss his/her research at the Annual Conference.

2. That the AOTF sponsor pre- and/or post-Conference seminars to encourage the development of research. The first seminar could be designated to develop objective evaluation tools that later could be used to gather data.

3. That AOTF sponsor "retreats" to bring together therapists with research in process and consultants/resource personnel to assist in preparing reports for publication.

To: Editor of AJOT

Recommendations

1. That *AJOT* publish a Research Quarterly.
2. That the criteria for writing a good research article be made more clear to writers, perhaps using a checklist such as that in *Handbook in Research and Evaluation* by Stephen Isaac and William Michael (Robert R. Knapp, Publisher, San Diego, CA 92107).
3. That research papers published in *AJOT* be followed by discussion that raises questions or points out new implications. (Challenge would add new interest to the research content of the Journal.)
4. That occupational therapy reviewers who are sought to critique other journal articles of relevant research be solicited with the goal of encouraging their development as potential writers and researchers.
5. That *AJOT* solicit and publish literature reviews of topics pertinent to occupational therapy research. Perhaps graduate students could be given awards for the best literature review published. Graduate students might also be enlisted as "case writers" to help prepare reports of completed research for publication.
6. That a scientific writer work with those authors who are having difficulty preparing their research reports for publication. (Universities have qualified junior faculty who may provide assistance with organization, analysis, and interpretation of data in exchange for co-authorship.)

To: AOTA Publications Committee

Recommendations

1. That authors consider publishing in journals other than *AJOT* in order to provide further dissemination of occupational therapy research.
2. That research monographs continue to be published.
3. That copies of occupational therapy research articles and monographs be sent to other journals for review.

To: AOTA Executive Director

Recommendations

1. That the Public Affairs Division be asked to write about the results of occupational therapy research for popular consumption via newspapers and other lay publications. The paper by Linda Faria, "Development Observations on Offspring of Parents Ingesting Illicit LSD" published in *Research in Sensory-Integrative Development* (and *AJOT, 27:* 4, 1973) would be a possible source.
2. That AOTA staff allocate time and resources to plan continuing education strategies in research and to explore the possibility of obtaining grant funds to support research projects such as 1. laterality normative study (see page 511), 2. the development of evaluation tools for occupational therapy, and/or 3. research training institutes.

To: Delegate Assembly

Recommendation

That, if the Delegate Assembly votes to allocate two percent of AOTA dues to research, such funds be used to employ one full-time staff person to act as Research Coordinator with responsibility for research development within AOTA/AOTF. This individual would seek grant funds in order to develop at least three short-term training courses per year, for approximately 20 people each for the development of research in major specialty areas—that is, psychiatry, physical disabilities, pediatrics, or geriatrics. These workshops would be conducted according to a format similar to the one completed in the area of sensorimotor integration in 1971 in Colorado (published in *AJOT* between May-June 1973 and February 1975 and now available from AOTA in a monograph entitled *Research in Sensory-Integrative Development).*

The Research Coordinator could also be responsible for identifying a national network of occupational therapy researchers to encourage communication and to put potential researchers in touch with funding sources. A national occupational therapy information retrieval system, similar to MEDLARS, could be established by the Coordinator so that researchers could obtain current literature reviews pertinent to occupational therapy research. The Coordinator could work with the National Office staff in devising items for the AOTA membership questionnaire, which would obtain data on current research in oc-

cupational therapy. The effectiveness of the Research Coordinator's activities and the value of the position could be evaluated at the end of the first two years.

To: Chairperson, Accreditation Committee

Recommendation

That the Accreditation Committee be asked to be alert to the objective regarding research in the "Essentials of an Accredited Curriculum in Occupational Therapy," and that emphasis in schools be placed on the ability to read and interpret research reports.

To: Chairperson, Council on Education

Recommendations

1. That occupational therapy faculty be required to be actively engaged in research in order to provide appropriate modeling for occupational therapy students.
2. That universities and clinical centers be urged to form consortiums for the purpose of increasing the quantity and quality of research in occupational therapy.

To: Affiliate Presidents

Recommendation

That the Affiliate Presidents be asked to encourage continuing education to upgrade research competencies in their state associations.

To: Mental Health Task Force/Other Special Interest Groups

Recommendation

That the following model for a global research project be presented to the AOTA Mental Health Task Force and Special Interest Groups as a stimulus for research. This model could serve as a "master plan" for research, which could be accomplished in smaller units, on a regional basis:

Model for Psychiatric Research Project

I. *Search of the Literature*

a. Philosophical, theoretical, scientific literature of other disciplines and occupational therapy. For example, the population could be chronic schizophrenia. The literature search could include education, leisure, work/play, and self-care for schizophrenics.

b. Outcome studies in other fields with this population (e.g., psychotherapy, recreation).

II. *Tools for Evaluation*

a. Survey evaluation resources as evidenced in the literature and in unpublished evaluation instruments.

b. Analysis of available tools.

c. Develop battery after determining what needs to be evaluated.

Possible tools might include:

1. *Screening:* functional areas of occupational performance.
2. *In-depth Evaluation Assessment:* Components of function in order to identify problem areas. (One regional group could develop tools and conduct a pilot project for validity.) A workable kit of tests with norms could result.
3. *Tools for Intervention:* These component parts of the occupational therapy process would need to be defined precisely: a. objects, b. actions, c. interpersonal relationships.
4. *Occupational Therapy Intervention:* Standardized, sequenced programs of purposeful activities. Hypotheses could be generated around the concept that objects, actions, and interpersonal relationships facilitate behavioral change in occupational performance.
5. *Measuring Outcomes:* What changes in occupational performance could be observed?

Research Model Possibilities: Keep disability categories constant and vary intervention; vary disabilities and keep intervention constant; vary age groups, keep intervention constant.

Conclusion

Participants concluded the seminar with a deepened personal commitment to the future development of research in occupational therapy and the hope that their efforts might stimulate the beginning of a new era of occupational therapy knowledge. •