Seeking a Relevant, Ethical, and Realistic Way of Knowing for Occupational Therapy

Occupational therapy is realizing some of its professional potential in generating new knowledge. Many occupational therapists are pursuing graduate degrees, including the scholar's criterion, the doctor of philosophy (American Occupational Therapy Association [AOTA], 1989). The American Journal of Occupational Therapy is publishing more research papers, and the Occupational Therapy Journal of Research, devoted entirely to research, is thriving. Faculty members, in recognition of their roles and responsibilities, are launching their own research programs. Clinicians, seeking increased accountability, are engaging in clinical research or are seeking literature that supports practice. Students are required by the Essentials (American Medical Association/AOTA, 1983) to develop a beginning knowledge of research. All of these activities underline the increasing importance of research and knowledge development within the occupational therapy profession.

Background

In the 37 years during which I have been an occupational therapist, my thinking has evolved about what we need to know and how we need to go about learning it. As a clinician working with patients with severe disabilities, I looked for better approaches in books and journals. I believed in the traditional scientific method as the key to finding out what I wanted to know, that is, define the problem, generate the hypotheses, select instruments to measure outcomes, test the hypotheses, and provide new knowledge about the problem. Later, I entered graduate school, seeking stimulation and growth. I majored in educational psychology, a field that is quite sophisticated about experimental research and precise measurement. Subsequently, I returned to occupational therapy with a doctoral degree and the motivation and skills with which to do research. I did interdisciplinary research in a clinical setting and then became a professor and chair of an academic department. Concurrently, practice, education, and research in occupational therapy seemed to become more focused on exercise, range of motion, and other modalities and less focused on occupation.

Even in my earliest years as a clinician, I was not completely satisfied with the biomedical approach to knowing. I thought of patients as much more than organ systems. I recognized that we needed to listen to them and to seek to understand their experiences and points of view (Yerxa, 1967). In graduate school, even while supervised by a behaviorist, I completed a doctoral dissertation in which, while using experimental methodology, I sought to understand and affect social attitudes toward persons with physical disabilities (Yerxa, 1971). I learned to cast my concern for the social milieu of patients into the structure of current scientific thinking in order to legitimize it.

I read continually. Then I heard Mary Reilly speak about reductionism. I was never her student, but I was nonetheless challenged by her views (i.e., I was frustrated, threatened, puzzled, and infuriated). Her ideas, the breadth and depth of her knowledge, and her insistence on humanistic values reawakened my curiosity. I explored new territory with a shadowy guide but with a frequent experience of recognition, like meeting an old friend. This paper reflects not an arrival at a destination, but some snapshots of my continuing journey. The views expressed are entirely my own.

Assumptions

Listed below are assumptions that support my views of research:

- Occupational therapy provides therapeutic intervention to human beings, not to muscles or synapses or superegos.
- Human beings are complex, multileveled systems who act on and interact with their environments.
- Unique human qualities include language, history, culture, and the endowment of life experiences with spiritual meaning.
- Occupational therapy is designed to enable people to adapt to the challenges of their environments through the use of their hands, mind, and will (Reilly, 1962).
- Occupational therapy, grounded...
in humanistic values, has an ethical responsibility to persons with chronic conditions.

- Human beings have interests, goals, aspirations and plans that, when achieved, provide a valued sense of efficacy.
- Occupational therapy is concerned with how occupation enables persons to achieve competence and economic self-sufficiency and to contribute to themselves and others.
- Although it may be provided in a medical milieu, occupational therapy is different from and complementary to medicine in its thought process, view of the human being, and scientific foundation.
- Occupational therapy's knowledge is based on a synthesis of evolutionary biology, the social sciences, and the humanities; medicine's foundation rests in the physical and natural sciences.
- Occupational therapy views the individual as embedded in the stream of time (i.e., evolutionary, developmental, and learning) (Reilly, 1974).

**Epistemology**

To think about these assumptions requires a concern with epistemology. The longer I am a member of this fascinating profession, the more I read and talk about epistemology. According to the *Dictionary of Philosophy* (Angeles, 1981), epistemology is "the study of (a) the origins, (b) the presuppositions, (c) the nature, (d) the extent and (e) the veracity (truth, reliability, validity) of knowledge" (p. 78). It asks probing questions about how we know what we know and how much confidence we can have in our knowledge.

My experience, which involves thinking and reading as well as preparation of a new doctoral curriculum in the science supporting occupational therapy, has led me to a rather startling conclusion: To be true to our patients, ourselves, and our ethical traditions, we as occupational therapists need to seek or invent new ways of knowing. These ways will need to be of a different order than those of the physical sciences (i.e., experiments that use statistical tools to determine significance are the methods of choice of the physical sciences). Occupational therapy's epistemology differs radically from that of physics and medicine, which are founded in the physical sciences.

These new ways of knowing may include what are now called *qualitative, naturalistic, or new paradigm* research approaches (Bogdan & Biklen, 1982; Lincoln & Guba, 1985; Reason & Roman, 1981). Qualitative research is a generic term encompassing many research approaches. In general, it is descriptive, uses the natural setting as the direct source of data, is concerned with the process as well as the outcome, analyzes data inductively (so that theory is built from the ground up), and has an essential interest in meaning from the participant's perspective. In qualitative research, we frame questions not by operationalizing variables, but by dealing with complexity, in context (Bogdan & Biklen, 1982). I propose that qualitative research approaches have a goodness of fit with finding out what is worth knowing for occupational therapists.

Future research in occupational therapy will require that our epistemology be consistent with our assumptions. We need to address three issues: (a) What is the nature of our knowledge? (b) To what ethics ought our scientists attend? and (c) What is the culture of our knowing?

**The Nature of Knowledge in Occupational Therapy**

The knowledge that supports the practice of occupational therapy needs to do the following:

1. Elucidate the skills, capacities and strengths of the patient, rather than overemphasizing pathology. This focus requires a different way of thinking from the diagnostic thought process of medicine, which seeks to identify what is wrong in order to remediate it with physical agents. Skills enable patients to be agents on their own behalf.
2. Study persons in their environments, not as decontextualized entities. Persons act on and interact with a myriad of environments using occupation, thus an understanding of occupation requires an understanding of the demands and resources constituting these environments.
3. Focus on the level of the person, in all of his or her complexity, as the author of his or her occupational behavior. The person is a living system, capable of self-organization, which cannot be reduced to cells or organ systems (Bertalatny, 1968).
4. Encompass the process by which occupational behavior develops throughout the entire life span.
5. Recognize that the experience of occupation is highly individualized and that individual interests, curiosity, and intrinsic motivation are its prime movers.
6. Be concerned with the organization and balance of the occupations of the person in daily life and how these are related to adaptation, life satisfaction, and the ability to meet societal expectations.
7. Welcome the complexity of occupation, which requires a new synthesis of knowledge from evolutionary biology, the social sciences, and the humanities.

How well do traditional research approaches fit these specifications for knowledge in occupational therapy? The experimental method, which emanates from physics (Gergen, 1982), is the primary accepted model of science in the United States today (Mayr, 1988). Researchers in the social sciences, in their quest for true scientific status, have also adopted this model, even though it often constitutes an uncomfortable procrustean bed.

Traditional experimental methods based on a philosophy of positivism require that phenomena be reduced to measurable units in order to be studied (Reese, 1980). Ideally, when this is done, researchers using randomly selected samples (the larger the better) from a population attempt to establish a cause-effect relationship between an independent and a dependent variable. The results are then generalized to the population with a certain probability of a true effect, rather than error. The effects of all other extraneous variables must be controlled through manipula-
tion of the research situation (Campbell & Stanley, 1963).

Experimental, positivistic methods do not seem to fit the specifications for the knowledge necessary to support the practice of occupational therapy. A person's skills, capacities, and other adaptive qualities cannot be reduced to the level of cells, neurons, and synapses and remain as human attributes. The results of experiments may instill confidence but may actually produce distorted or irrelevant data, because they only deal with an isolated part of what is really a large tapestry.

The experimental method requires a controlled research milieu that must ignore or manipulate the environment, often decontextualizing the experimental subject. Even when the environment is included as a variable, it is simplified and reduced to causal variables. It is therefore not a real environment.

At Oxford University in Oxford, England, I asked an expert on sociological theory whether sociology was adopting the experimental method as its model internationally, as it seemed to be doing in the United States. He replied that sociology in the rest of the world is moving more toward phenomenological approaches and away from experimental approaches, thus becoming less precise but more real. Occupational therapy has always addressed the patient's real world of home, community, and family. The experimental method, in its zest for precision and certainty, does not represent the patient's reality.

Persons are authors of their occupational behavior simultaneously as biological, psychological, social, cultural, and spiritual beings. Experiments that try to reduce occupation to a single cause–effect relationship lose sight of both the person and occupation and actually study something else. Persons are agents who, for various reasons, decide what they will do and when and how they will do it.

Sameroff (1982), a developmental psychologist, observed that traditional scientific experiments that are conducted at one point in time cannot reveal the dynamic, developmental processes of a living human being. They are ideally suited for the study of inert matter, not living, breathing, ever-changing human beings that he called human systems. Bateson and Bateson (1988) addressed the same issue when they differentiated pleroma (i.e., the material world) from creatura (i.e., the living world) and observed that the methods of physics, suitable for studying pleroma, are inappropriate when applied to creatura.

Occupational therapists know that two persons performing the same occupation, for example, playing chess or woodworking, may have very different experiences (Csikszentmihalyi, 1975). Experimental approaches treat persons as objects. A person's experiences are not considered credible because experiences are subjective, whereas science is objective. Thus, an important, perhaps the most important, aspect of occupation, the person's experience while engaged in a task, is eliminated from study in the name of objectivity.

Experiments that reduce phenomena to variables are incapable of capturing complex interactions, for example, of the organization and balance of a person's occupations in the stream of time. Nor can experiments reveal how these phenomena relate to choices, interests, and, ultimately, to adaptation, life satisfaction, and capacity to meet societal expectations.

Finally, because of its reductionistic philosophy, the experimental method is incapable of developing the new synthesis of knowledge from evolutionary biology, the social sciences, and the humanities that is required to study occupation in all of its complexity. For example, experimentalists have given up trying to understand play (Reilly, 1974), a phenomenon of profound significance (along with work, self-maintenance, and rest) to occupational therapists.

Ernst Mayr (1988), the great evolutionary biologist, argued that biology is a legitimate discipline in its own right and cannot be reduced to physics and chemistry because it studies living systems. Occupational therapy's science, likewise, because it deals with living, self-organizing systems, cannot be reduced to the physical sciences. It is an epistemological error to employ the methods of physics to study occupation. When occupational therapy chooses the experimental method, it places our discipline in danger of being reduced to the physical sciences. This reduction is not only risky, but forces us to adopt an inappropriate level of discourse. For example, the erroneous naming and framing of sociocultural issues as physiological phenomena would be limiting the patient's need for occupational therapy to a goal of increased range of motion. The patient in this situation, however, needs to develop the skills that will enable him or her to be reconnected with the daily routines of his or her culture (Beissler, 1989).

Knowledge in occupational therapy needs to emphasize the skills and capacities of the whole person and include the experience of engagement in occupation. As Gergen (1982) observed, "Theories emphasizing contextual embeddedness, diachronic sequence (change over time), and volitionistic action are all discouraged in the commitment to an experimental orientation" (p. 133). Occupational therapy, with its concern for the environment, temporal adaptation, and patient autonomy and self-directedness, needs to encourage, not discourage, such theorizing.

Ethics

Occupational therapy was founded on humanistic values (Meyer, 1922). Our practice grew out of the spirit of reform demonstrated by the work of Pinel (1801/1948) and Tuke (1816/1948), who viewed patients with mental illness not as possessed by evil, but as persons who needed, above all, to be treated humanely. Meyer (1922) and Sagle (1922) continued in that tradition when they perceived patients with mental illness as persons who had problems in daily living, requiring normalization of their activities and environments.

Today, occupational therapy views patients with a wide array of medical diagnoses as persons who have the potential to be capable, competent, and productive citizens while living with a disability or chronic condition. To us, health does not mean the absence of a disease or disability, but rather, the capacity to participate in life through occupation.

The experimental method, in its treatment of subjects as objects and its use of statistical tools, reduces persons to less than human beings, for example, to muscles, synapses, or homeostatic mechanisms. In so doing, individuality, choice, and autonomy, which are the very essence of occupation, are lost.

Often, the experimental method assesses individual characteristics on a
normal–abnormal bell-shaped curve according to a diagnostic thought process. Many of our patients, however, will never be “normal” in biomedical terms (Estes & Binney, 1989). Occupational therapy has always held an ethical commitment to improving the health and quality of life for persons with chronic conditions. If we overemphasize normality and a diagnosis of pathology, we may lose sight of our ethical responsibility to those who will never get well.

Even when persons give informed consent to become research subjects, the experimenter subjugates their individuality while having to control the research situation. Subjects are treated as objects, often as numbers, rather than as conscious, intrinsically motivated human beings. Even animals such as chimpanzees were misunderstood when studied in laboratories rather than observed in their natural environment (Goodall, 1986). What constitutes an ethical aberration for chimpanzees may be dehumanization when applied to people. Such research methods are contrary to occupational therapy’s humanistic traditions.

If adopted by our researchers as a model, the methods of the biomedical sciences could lead to reductionism in occupational therapy practice, thereby making our scope of practice too limited. Our patients then would not receive the kind of occupational therapy that addresses the significant issues of their lives (i.e., survival, adaptation, competence, satisfaction). Instead, occupational therapists would deal with precisely measured units such as muscle power, range of motion, or changes in psychotic ideation. Evidence is mounting that occupational therapy practice is focusing more on modalities designed to treat acute conditions and less on occupation (Bissell & Mailloux, 1981; Gohlin, Giese & Eliason, 1986; Kieler & Nelson, 1986). It is becoming more difficult to differentiate occupational therapy from physical therapy practice.

Many occupational therapists do not have time to help patients develop independent living skills (Pendleton, 1989). Our scholars who have doctoral degrees and who have been trained in experimental science may inadvertently contribute their research to this trend toward reductionism in practice. The knowledge generated from experiments can be misapplied because it represents oversimplified thinking about complex human beings. Consider parallels in medicine (the prefrontal lobotomy, the “miracle” of cortisone) and education (the faddish new math, behaviorism). Experiments might seemingly prove that occupational therapy does not help patients because the wrong outcome measures were selected or the experimental situation was manipulated to have no resemblance to the real world of home and community. The great idea of occupational therapy could be lost in oversimplification and, with it, the potential for service to patients and society.

If occupation is purposeful, self-directed, and concerned with human choice and autonomy, then our science needs to reflect these perspectives (Yersa et al., 1989). Ethically, it is essential to understand the patient’s goals and how he or she experiences daily occupations. Rosaldo (1989), an anthropologist, observed that the “study of consciousness becomes central because people always act (however imperfectly) relative to their desires, plans, whims, strategies, moods, goals, fantasies, intentions, impulses, purposes, visions or gut feelings. No analysis of human action is complete unless it attends to people’s own notions of what they are doing” (p. 103). This principle applies to the study of the human as an occupational being. Such study must be concerned with purpose, plans, and goals.

Occupational therapists are often advocates for and allies of persons with lifelong disabilities. Such advocacy is a product of our concern for patients’ autonomy and self-directedness and the quality of their day-to-day existence. Conclusively, congruence exists between the goals of the independent living movement, a consumer-operated alternative to the biomedical approach to disability (Grewe & Zola, 1983), and occupational therapy’s goal of enhancing independent community living. Research and clinical approaches that treat persons with disabilities as passive objects or as medical diagnoses have been criticized by members of the independent living movement (Staff, 1989). Occupational therapy’s ways of knowing must be ethically consistent with advocacy through our welcoming of the experiences and perspectives of people with disabilities as valued contributions to our knowledge of occupation.

Finally, Fraser (1987), the founder of the International Society for the Study of Time, recognized the limits of the physical sciences to address issues of human temporality. “Dealing with the collective conduct of societies by means and models useful in the study of statistical aggregates in physics—is also bound to remain an incomplete and incompletable enterprise. For it cannot address the dynamics of intentionality peculiar to collective responses to the call of symbolic causes, which is a hallmark of sociotemporal reality” (p. 214). Researchers studying occupation need to adopt ways of knowing that preserve the symbolizing, imaginative qualities of human beings, because humans live by and for symbolic causes. To circumvent the symbolic level is to diminish human beings and to ignore the eternal human quest for meaning (Campbell, 1988), a quest that is often expressed through occupation.

Culture

Many political forces both within and external to the occupational therapy profession impinge on our ways of knowing. Those who have adopted the physics model seem to be quite powerful, particularly in the traditional medical milieu. Steeped in the biomedical tradition, researchers and physicians in the United States may label qualitative research or other alternatives as unscientific. My experience as a member of a biomedical human subjects committee was that these persons often dislike or discount approaches with which they are unfamiliar, considering them to be soft, weak, or easy. Once trained to think statistically and experimentally, they are not interested in changing their perspectives and often misapply the criteria appropriate to physics to assess qualitative research. They are unaware of new or different ways of thinking in the social sciences, having been socialized to think that reductionism is science. It may be impossible for researchers in occupational therapy to convince these scientists of the validity of qualitative approaches. We may need to seek other sources of support and understanding, for example, in the social sciences and humanities, where these epistemological issues are central.

Is it desirable for researchers in occupational therapy to employ both sta-
tistical and qualitative approaches? I doubt it. The schizophrenic process of trying to conform to two different philosophies, each of which has different demands, criteria for excellence, and, most importantly, sets of ethics, seems virtually impossible. It may create feelings of insecurity to go against the flow. Consequently, if a marriage of both approaches were attempted, the pressures to do reductive and positivistic science would probably win out. We in occupational therapy, seeking a reassuring sense of certainty, might feel more secure but produce a science that fragments or even demonizes patients. I think that we should employ qualitative research approaches by choice. I also believe, however, that our scholars need to know enough about the experimental method and statistics to be worthy adversaries for those who consider qualitative approaches unscientific.

We could be on the cutting edge of change. Both my international experiences and my reading have revealed to me that interest is growing around the world in nonpositivistic, phenomenological research and clinical approaches. Robinson (1988), a British social scientist, predicted that occupational therapy, because of its focus on occupation and activity, would adapt more readily than other professions to future changes in rehabilitation in which patients will have greater autonomy. In Sweden, rehabilitation medicine is embracing occupational therapy's traditional concern with activities of daily living and studying the relationship between attainment of personal goals and quality of life. Scientists in many disciplines (psychology, political science, anthropology, biology) are challenging the reductionistic view of science with a science that treats human beings humanely, thereby suggesting that new paradigms are needed in order to know what is really important to persons (Harre, Clarke, & De Carlo, 1985; Reason & Roman, 1981).

Research approaches that can contribute new knowledge to occupational therapy and that are consistent with our values include ethnography (Geertz, 1975), systems theory (Sumeroff, 1982), life history (Langness & Frank, 1981), naturalistic inquiry (Lincoln & Guba, 1985), historical research (Stone, 1979), dramaturgic models (Harre et al., 1985), case method (Line, 1969), psychobiographics (Waele & Harre, 1979), and other forms of new paradigm research (Reason & Roman, 1981). Our scholars and graduate students need to explore these approaches to assess their relevance to occupational therapy's questions, ethical treatment of participants, and concept of reality.

Occupational therapy faces opportunities and challenges as it develops its science and selects its tools of thought for knowing. I hope that we shall be leaders who contribute to society by basing our science on an epistemology that is congruent with the idea of occupation, ethical, and appropriate to an understanding of the patients' real world of home and community. If we succeed, we will surely have a positive influence on the quality of daily living for humankind in the 21st century.

Editor's Note

Dr. Yerxa has assembled a stunning collection as well as wide range of papers for this special issue on qualitative research. When it became time to produce the issue, we found that it required more pages than our usual allotment. This attests to the willingness of the invited authors to be included in the issue. It also underscores the very nature of qualitative research as being highly descriptive. We therefore moved two papers intended for this issue to a future AJOT. The papers, "Early Object Rule Acquisition" by Doris E. Pierce, MA, OTR, and "What is Worth Knowing in Occupational Therapy?" by Hakan Tiurnbohm, PhD, will appear in the May issue.

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References


skills training for adult inpatients who are physically disabled. Occupational Therapy in Health Care, 8, 93–108.


