This paper describes the research process and methodology used in the American Occupational Therapy Association/American Occupational Therapy Foundation Clinical Reasoning Study. This study examined the clinical reasoning of occupational therapists through a 2-year ethnography of therapists at one hospital site. The research was innovative in several important respects. One important innovation was a combined ethnographic and action research design that involved collaboration between the research team and those therapists being studied. Therapists who were research subjects became actively involved in examining and reflecting on their own practice through group analysis of videotaped sessions with clients. One outcome of this action research component was that the study served as both a research and a staff development project.

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A growing confluence exists between recent methodological turnst in ethnographic research and the basic premises of action research, particularly concerning the role of the research subject. Within anthropology, there is a strong critique of the traditional belief that valid, or objective, research requires a strict separation between the researcher and the subjects. Much of this recent critique points out the essential role of the native informant as a co-investigator working with the outside anthropologist (Clifford, 1988; Marcus & Fisher, 1986). Even in cases where the ethnographic researcher has not acknowledged it, most good ethnographic studies have relied heavily on collaboration with one or a few members of the social group under study.

The action research component of this study became much more important than the research team initially anticipated. Originally, the primary intent was to conduct a 1- to 2-year ethnographic study focused on the description of clinical reasoning as it was manifested in concrete practice situations. Data collection was to consist of the usual ethnographic techniques of participant observation and in-depth interviewing, accompanied by videotaping of treatment sessions between participating therapists and their clients.

The design of the Clinical Reasoning Study generated considerable interest locally, and the third collaborative element was born. Members of the faculties of local programs in occupational therapy were quick to recognize the excitement generated by the research process. They made it possible for their students to participate in the study in various ways. Four graduate students from Tufts University and Boston University worked as research assistants and wrote master's theses based on the data they collected as part of the study. Faculty members, too, attended research sessions whenever possible. Programs represented regularly and frequently included Boston University; Tufts University; University of New Hampshire, Durham, New Hampshire; and Worcester State College, Worcester, Massachusetts. These faculty members contributed substantially to the discussions and data analysis sessions, as did many of the master's degree students who were, in their own right, highly seasoned clinicians.

But it was the unique design of the study that gave rise to the strongest and most important element of collaboration. The study used an ethnographic approach combined with action research. Although action research takes many forms, it requires collaboration between those doing the research and those whose practice is studied.

Collaborative Ethnography: Combining Action Research With Anthropology

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The action research component, which grew as the study progressed, differed from certain action research traditions. A common mode of action research involves research subjects joining with researchers from the start in defining the problems to be investigated (Elden, 1981; Forester, in press; Foster, 1972). This did not occur. The research problem and method were developed prior to the selection of a research site and involvement of those therapists who were studied. Also, the research problem was more typical of basic anthropological research than action research because it was a theoretical problem rather than a directly practical one. In action research, the problem is typically devised collaboratively with the research subjects and is directed to solving certain practical problems. Action research often involves data collection and analysis that is used to inform some organizational action. It is research for action (Borda, 1979; Greenwood, in press). Much action research has taken place in work organizations, where various work groups or work teams, from managers (Argyris, 1964, 1979) to workers at the bottom of the organizational ladder (Elden, 1983; Oquist, 1978), identify work problems that they want to solve. By contrast, this study did not initially address any concrete problems.

The study's action research slant was not strictly accidental, however. It emerged from an initial commitment by the researchers to be as collaborative as possible. They invited the therapists being studied to examine their own practice with the research team. This was an experiment in collaboration. It crossed disciplinary boundaries and traditional academic and practice boundaries. It combined the theoretical interests of the research team with the practical and professional interests of the therapists. It served as an experiment in having clinicians reflect on their practice. This degree of participation opened the doors for a much more extensive and practical action research project.

Inviting the participating therapists to use this research as a place to reflect on their own practice used one important action research tradition that is perhaps most common in applied anthropology, particularly socially radical third-world development projects. Here the action of participatory research is often directed less at solving immediate work-related problems and more toward encouraging a deep reflection on practice. This has the potential for taking a far-reaching and transformative turn by provoking inquiry into underlying values and beliefs. Freire's (1970) pioneering action research projects around literacy education in developing countries focused on reflection as an impetus to social change. In Freire's work, participants—the very poor illiterate—become researchers of their own cultural practices, and in the course of learning how to read, they were asked to reflect on their central underlying assumptions about their world. Literacy education becomes a place for culture critique. It is intended to propel participants into a
process where they recognize that their deep beliefs about the world are not necessarily inevitable but are, to a great extent, man-made and can potentially be remade.

The Clinical Reasoning Study also focused on inquiry into practice as a form of action in its own right, one that might lead to recognition, if not critique, of underlying tacit values and beliefs guiding professional practice. There was a concern to use the research as a place for participants to become reflective not only about their skills and competencies or immediate problems but about the basic assumptions embedded in their professional culture as these assumptions became apparent in their day-to-day practice.

The process of conducting a study in which participants gradually became increasingly invested in studying their own clinical practice is described more concretely below.

The Research Process
The site selected for the Clinical Reasoning Study was a 900-bed acute care hospital with some rehabilitation wards. The occupational therapy department consisted of 14 therapists working in a wide variety of specializations: acute neurology and cardiology, oncology, psychiatry, a regional spinal cord unit, an outpatient hand clinic, and an outpatient pediatrics clinic. Senior therapists from each of these departments became involved in the study. Initially, four experienced therapists volunteered to take part. This number gradually expanded to seven senior therapists, and finally, as the project grew into its second year, it became a staffwide research project.

A critical aspect of the research design was that clinical reasoning was studied as part of the whole therapeutic process, from initial assessment to discharge. Because the entire clinical process, not just assessment, was examined, this study yielded a different understanding of thinking in occupational therapy than is sometimes described in the classroom or in textbooks.

We assumed from the start that clinical reasoning is a thinking process that develops over time as therapists interact with patients, and therefore the study should strive to understand and describe it as an unfolding process. We examined the therapists' reasoning in the context of their interventions with their clients. This produced a more individualized and untidy, though far more intricate, conception of the reasoning process. The therapist's mental process was always placed within the social and interactional context that triggered it, namely, work with specific clients in particular clinical settings.

Data were collected in three ways: through participant observation; through in-depth interviewing of therapists (and sometimes of patients as well); and through the videotaping of clinical sessions between therapists and patients.

The research was divided into three phases, moving from open-ended field observations that relied heavily on naturalistic observation, to more focused interviewing and videotaping of therapists and clients, and, finally, to data analysis. We spent the first 4 months of the research observing therapists by attending assessment and treatment sessions, staff meetings, and lunch hours. Observations were recorded through field notes. This first phase allowed the research team to become familiar with the setting, with the pace and schedule of the therapists, and with the range of clinical problems that the therapists addressed. It also permitted observations of the therapists' interactions with each other, with other colleagues, and with clients. It allowed the research team to begin to understand the world in which these therapists lived, that is, the professional and institutional context in which they made their clinical decisions.

The second research stage was more focused. Therapists were videotaped treating their clients. They were also interviewed before and after sessions. Clients were sometimes interviewed as well. In addition to these highly detailed interviews about particular sessions, the therapists were asked to provide larger histories of their work with the clients being videotaped. In interviews, therapists were asked to tell, in rich detail, the story of the session. They were also asked to identify what they saw as key decision points, dilemmas, and surprises. Their stories and their experiences of frustration or surprise all served as cues to the underlying assumptions and theories that guided their reasoning. Finally, they were asked to talk directly about their rationale and their theoretical assumptions in making particular decisions.

The final research stage involved analysis of the data. By the time the data were finally collected, there were approximately 2,000 pages of field notes and written transcripts taken from videotapes of sessions and audiotapes of the accompanying interviews. There were also approximately 30 videotapes of clinical sessions.

The three stages of the research process overlapped. Analysis actually began as the first field notes were written up and distributed among research team members. This is typical in ethnography. The ethnographic approach is essentially iterative; data gathered early in the process are examined and used to help in the continual redesign and modification of the data collection process. In the Clinical Reasoning Study, the initial data from the field-note stage were invaluable in informing the design direction of the more focused data collection that followed.

The research shifted from a purely ethnographic study to an action research study in the process of data analysis. The therapists whose practices were being studied were asked to analyze videotapes of their work with clients and transcripts of their own interviews. The first group session in which the research subjects met together with the research team to begin collective analysis of the data occurred in December 1986, just 2 months after
data collection had begun. These meetings continued throughout the 2 years in which the study took place. As the research project moved into its second year and into an increased emphasis on analysis, regular meetings were held with participating therapists at the hospital, where the team engaged them in structured analyses of their own videotapes.

During the group sessions, the therapists were asked to "tell the story" that they saw in a videotaped session of a therapist treating a client. The videotapes were viewed by all members of the group, and each therapist told a different story about what she had seen. The therapists were often asked to watch a videotape of a clinical session as though it were an unfolding story that they were reading or perhaps even a whole novel. They were then asked to tell the novel and the chapters within it. This interpretive strategy highlighted the differences in the overall meaning that each participant assigned to what was going on as well as the differences in how the videotaped session could be chunked as parts that contributed to the general themes they had identified in their story titles. These were usually followed with other interpretive exercises.

Some examples of these exercises follow. One exercise emphasized clinical work as action among multiple actors (e.g., therapist, client, other medical staff, family members). In this exercise, the group members were asked to title the story of the videotape segment from the therapist's perspective. They then watched the same video segment again and were asked to reframe it from the patient's perspective. In a second exercise, the group members were instructed to identify what story they thought the therapist in the tape was trying to enact and then to identify what strategies or decisions the therapist appeared to be using to bring that particular clinical story about. In a third exercise, the subjects examined a videotaped session as a drama and described the nature of the dialogue. A fourth, especially fruitful, exercise had the group finding places in a videotape where they saw the therapist getting stuck in trying to carry out some clinical activity and identifying the strategies that the therapist used to extricate himself or herself from the situation.

These exercises emphasized the many ways that therapists (and researchers) could interpret the same segment of practice. It undermined the view that there is one right answer about what to do in a particular situation. The interpretations and suggestions that the therapists made about what was going on in a videotape segment revealed their assumptions about what constitutes good practice.

Creating Clinician-Ethnographers

The therapists who participated in this study would be surprised to hear themselves described as ethnographers of their practice. But in one important sense, they took on this role as part of their involvement in this research.

Ethnography is commonly associated with data collection that relies heavily on living with the people one studies and participating in their lives, if only as an observer who sits nearby taking notes. The 14 occupational therapists in this study were not ethnographers in this sense. However, in the course of reflecting on their practice, they became ethnographers in another sense.

Recently, the primary task of ethnography has been redefined, beginning with Geertz's (1973) seminal essay on ethnography as "thick description." Ethnography has come to be viewed more as a process of production than of data collection, and what ethnographers produce are written texts. They take the actions they observe and the oral discourse they overhear or elicit and transform that into written form. The fact that ethnographers write things down was considered trivial but now has become recognized as critical to a kind of anthropological reflection on practice that is available to the note taking, analyzing, observer but not necessarily to the people being studied.

Writing down things that people do or say involves a kind of fixing of actions that would otherwise disappear (Ricoeur, 1981). When we do something or when we speak, these actions come and go; they are ephemeral moments in an ongoing process of getting things done in the world. Because they disappear, it is difficult to step back and reflect on them or to ask others to reflect on them. When we function as practitioner, that is, as actor, we rarely have time to stop and think about the significance of what was just done or said because we are busy getting on with the next thing. But all action, to follow the philosopher Ricoeur, can be understood as a kind of text. Ricoeur argued that human action has features that make it amenable to interpretation through the creation of written texts.

Geertz (1973) and anthropologists who have followed his path (Clifford, 1988; Clifford & Marcus, 1986; Crapanzano, 1980; Marcus & Fisher, 1986) note that ethnographers study human actions and do so by inscribing passing moments of action through writing. They are scribes of a sort. They record what they observe and what they hear. In so doing, they create a written record that can be perused by others, one that can be compared with other texts and examined by many people with various perspectives. This allows a level of reflection and analysis not available without the ability to transform actions from their natural context as disappearing objects into objects that stand still.

In this study of clinical reasoning, we fixed the actions of the occupational therapists in three ways. First, we, the research team, acted as scribes; we wrote down what we saw and heard, and these field notes became one form of written record. Second, we audiotaped and transcribed interviews with the therapists. Third, we videotaped the clinical sessions, again turning talk into written words. The group sessions drew on the transcriptions of
inscriptions that were made, group viewings, Therapists whose tapes were being what they were seeing with a patient was not necessarily During analyses of videotapes, what often occurred was interviews and particularly on the videotapes as a basis for practice, they did collaborate in their interpretation of the inscriptions that were made.

The significant feature of this ethnographic fixing of ephemeral actions is that once a record has been created, it can be recognized as just one possible version of the actions it represents, and any discussion of raw transcriptions and videotaped footage of clinical work offers a further interpretive version of the original representation. This layering of interpretation on interpretation is part of the ethnographic process. Ethnographers take their field notes, audiotapes, and videotapes (each of which is already an interpretation) and create more complex written texts. Ethnographers interweave and offer theoretical analysis of the raw data through the making of the written text. The participating clinicians entered at this second stage of interpretation.

The participating therapists’ efforts at interpreting texts based on their own actions greatly influenced their perceptions of practice. The videotapes that were viewed were always of an occupational therapist who was a member of the group. This meant that group members were offering multiple interpretations of a session that one of them had conducted. The variety of interpretations that emerged from the viewing of a videotape, therefore, had a powerful effect on the group participants. Overall, the multiplicity of interpretations allowed the therapists to view their own interpretations of their clinical sessions as just that — interpretations — rather than as mirror images of how things are.

This multiplicity of perspectives raises an important issue. If there is no one right answer, does this mean that any interpretation is as good as any other? Definitely not. During analyses of videotapes, what often occurred was that a more complex story was developed that integrated many of the particular stories that the therapists had told. Practice is so complex that many things occur simultaneously, and during analysis, different therapists often recognized different aspects of the situation. Each story represented one view of the session. This range of interpretations proved to be one of the most useful features of group viewings. Therapists whose tapes were being viewed often commented that these analysis sessions allowed them to see more of the complexity in their work, because others saw things going on to which they had been blind. In effect, these multiple interpretations were like so many spotlights lighting up the therapeutic stage, allowing the therapists to see more clearly and fully what was occurring in a session. The presence of multiple points of view also helped the therapists to recognize that what they were seeing with a patient was not necessarily all there was to see. Sometimes the therapists reframed their interpretation of a client because of group discussion (Schön, 1983, 1987).

There were times when these multiple story interpretations did not blend nicely into a single overarching story, but instead, reflected different ways of seeing the same clinical interaction. These were difficult analysis sessions that pointed toward certain key disagreements about what constituted appropriate therapy. The strongest disagreements were not about the therapist’s skill, medical knowledge, or even theoretical frame of reference, but about whether a therapist was adopting a proper professional role or whether a therapist was dealing with the personal and social issues a client was having because of a disability. The educational value of raising these differences was that they highlighted deep assumptions and values that the therapists held about what their role with patients should be or what clinical problems were appropriate to address. Often, these assumptions were held tacitly, which meant that they were not made available for questioning. But during analysis, when disagreements became sharp about how to interpret a session, tacit assumptions began to be uncovered, thereby allowing the therapists to reflect more explicitly on the professional and personal values that influenced how they practiced.

Conclusion

Not all professionals are willing to look closely at their own practice, particularly in the company of colleagues. The success of action research depends on the willingness of the research subjects to be deeply reflective and open. We on the research team found the Clinical Reasoning Study to be the most rewarding study that any of us had ever undertaken, and this is due almost entirely to the intense interest that the therapists under study evinced in examining how they worked with clients. Perhaps there is something unusual about occupational therapy as a profession that encourages this openness. Certainly, neither Donald Schön nor the first author, who have done action research studies with other professional groups, had ever seen this level of commitment.

Although the team was extraordinarily lucky to find such a good research site, it is now clear that this openness to reflection was not a feature peculiar to this hospital setting. As the interest in clinical reasoning has grown, other occupational therapists in other clinical settings have begun similar experiments in reflecting on practice with their staffs. Additionally, professors in several academic programs have introduced clinical reasoning courses to graduate and undergraduate students and have required that the students be reflective about their initial experiences in affiliations. This has sometimes involved collaborative ventures between academic and clinical settings, as at Thomas Jefferson University in Philadelphia, Pennsylvania, or Dalhousie University in Halifax, Nova Scotia.

Although all of this experimentation in reflection on
practice is still in the early stages, the clinical and academic entrepreneurs who have been trying out new teaching and staff development projects have often met with more success than they had anticipated. This seems to say two things about current practice in occupational therapy. First, many therapists are starved to talk about their practice in a way that is neither highly judgmental nor constrained by a medicalized discourse (i.e., chart talk), which emphasizes the pathology and biological dysfunction rather than the social, cultural, and psychological aspects that influence how a particular patient is adapting to dysfunction. Many therapists in the Clinical Reasoning Study were particularly eager to reflect on the phenomenological aspects of treatment, that is, on how they were treating the illness experience of a particular patient in a particular life situation. (For further discussion about treating the illness experience, see the articles by Fleming, 1991, and by Mattingly, 1991a, 1991b, in this issue of AJOT.) The way in which reflection was structured in the Clinical Reasoning Study gave the therapists the freedom to discuss these aspects of practice and legitimized those discussions.

Second, therapists in practice often speak of their frustration at pushing patients through a system without time to reflect on their treatment or to individualize it in a way that they value professionally. An action research or staff development project will not solve the problems of shortened hospital stays, but such reflection can build clinical reasoning skills that will help therapists devise more individualized, appropriate treatment strategies, even in quite rigid systems. Furthermore, experienced clinicians are better able than novices to recognize how to bend the rules within the system to improve treatment. Although clinical reasoning appears only to be about an interaction between a client and a therapist, an important aspect of clinical reasoning concerns how the therapist can devise a realistic individualized program for clients and argue for it to colleagues. As therapists in the Clinical Reasoning Study began to reflect on their practice, it became increasingly apparent that their success depended partly on their capacity to argue their case to influential colleagues, such as physicians, within the hospital system. In reflecting on the videotapes of practice, the therapists became more adept at making their thinking more explicit. This, in turn, gave them more confidence in presenting their perspective, which often conflicted with that of other health professionals.

Although Polanyi (1967) was correct in speaking of practical knowledge as largely tacit, careful reflection on actual situations of practice can help in the articulation underlying assumptions, values, theories, and hypotheses. In the Clinical Reasoning Study, reflection did not focus on judging the rightness or wrongness of a particular treatment technique, but instead, on making the tacit explicit. This is invaluable in building professional confidence. It is especially critical for professionals, such as occupational therapists, who so often work in settings where many other professionals neither understand nor deeply value their perspective on disability.

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