The Foundation

A New Concept: Research Apprenticeships for Occupational Therapy Researchers

Occupational therapy needs people who are trained to do research and are willing to commit a major part of their time to it. In urging the profession to become an academic discipline, Dr. Peter Tanguay (1985) warned that "a profession that neglects its academic base is in grave danger for several reasons. Unless you are constantly proving the worth of your new ideas or the effectiveness of your services and unless you are creating substantially new theoretical approaches to enliven your profession, the world will pass you by." (p. 467). Assuming we agree with Dr. Tanguay, we might ask the profession that neglects its academic career doing research (Bland & Schmitz, 1986) another essential feature of the project we were proposing was that it would provide what might be called research apprenticeships for newcomers to research who had volunteered to collect data, but who had not yet done research themselves. These newcomers to research (therapists or students) would be given the opportunity to work side by side on a research project with a team of therapists who had had varying degrees of research experience. It must be mentioned that without the commitment of the volunteers, the project could never have been executed. Just before the summer of 1984, I learned that I had been awarded the fellowship. The Letter of Award notice mentioned that peer reviewers had identified what I am now calling the research apprenticeship element as one of the strengths of the proposal.

Project Design
The project involved essentially four phases: a planning phase, a phase for collecting data on 90 learning-disabled and nondisabled children in Fresno, a phase for collecting data on 16 autistic children in Los Angeles, and a data handling phase for scoring tests and analyzing and interpreting data. In total, each subject would be given about 10 hours of testing on more than 20 instruments. With a budget of only $15,000, many volunteer work hours were needed and, fortunately, were donated. Moreover, participation in the study required some volunteers to move from their homes in Los Angeles 200 miles north to Fresno where they shared a one-bathroom house or apartment with as many as seven other people for a minimum of a few days to a maximum of 5 weeks. The principal investigators will always be indebted to Barbara Abel, Ema Blanche, Sheryl Bonanno, Terri Chew, Sheryl Hehr-Roman, Shelly Lane, Vy Maas, Shea McAtee, Le Phi Phoung, Jane Ruske-Goodman, Julie Shuer, Carolyn Snyder, and Harry Trigg for their assistance on the project.

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Learning by Participating
The simple answer would be to send more occupational therapists to graduate school or to have occupational therapists take continuing education courses on research methods. Yet a recently published paper, in which the characteristics of successful researchers were reviewed, suggests that the acquisition of research skills and a knowledge of content areas are necessary but not sufficient for producing a person who will spend a substantial portion of his or her academic career doing research (Bland & Schmitz, 1986). Another essential element appears to be the participation in some kind of research apprenticeship during which the newcomer is taught academic values, develops mentors, and is prepared to do research through "hands-on" experience with experienced researchers. Although few of us in the occupational therapy discipline can claim to be experienced researchers, some of us do have research programs sufficiently well established to create research apprenticeships for others.

The Fresno Project
In this paper, I will describe briefly the advantages that were provided to newcomers who participated as apprentice researchers in the Fresno Sensory Integration and Praxis Test (SIPT) Construct Validation Project, which I conducted with my coinvestigators, Zoe Mailloux and Diane Parnham.

In April 1984, I submitted an application for the first AOTF Postdoctoral Fellowship describing and seeking funding for the Fresno study. The application indicated that the proposed study would be part of a larger project, spearheaded by Dr. J. Ayres, PhD, and Western Psychological Services, the goal of which was to standardize and gather reliability and validity data on the SIPT. (Dr. Ayres had just constructed some parts of the test and other parts were revised versions of the "Southern California Sensory Integration Tests: Ayres, 1972") An essential feature of the project we were proposing was that it would provide what might be called research apprenticeships for newcomers to research who had volunteered to collect data, but who had not yet done research themselves. These newcomers to research (therapists or students)

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The Importance of Volunteer Participation

It is obvious that those who volunteered or received token payment for their help gave the project the work hours that were needed. Some of the volunteers had done research before, others were newcomers to research and served as research apprentices. We were hoping that this experience would, in the long run, contribute to their becoming the productive researchers of tomorrow. There are several reasons why I believe that the apprenticeship experience increased the probability that these newcomers will do research in the future.

Data Collection

First, the experience of collecting data in the field was perceived as enormously exciting. Within one day, a team member was likely to collect data on a normal and a dysfunctional child who might be of the same age, visit two schools with strikingly different atmospheres, or enter classrooms in which the environment ranged from militaristic to free-flying, from dull to captivating, or from open to closed. Because all testers returned to the same home base, some portion of the evening was devoted to discussing that day's "pearl of an encounter," a new clinical insight, or a perspective on the status of the tests we were validating. There was a healthy balance between work and play; the team managed to spend some time in the evenings and on weekends getting to know Fresno, the High Sierra, skiing, and one another.

Alternating the Leadership Role

Second, apprentices were made aware of the fact that research does not have to be conducted by a single individual working alone or in a hierarchical manner in which one individual directs the research team. Zoe Mailloux, Diane Farham, and I were coprincipal investigators on the project, and apprentices could observe the manner in which we shifted in and out of leadership and follower roles. Moreover, some of the volunteers had done research in the past and were very competent in discrete research-related skills or had other special talents that were needed at points during the project. They periodically emerged as leaders as a true system of division of labor was put in place.

As the project progressed, our respect for the unique contributions of each member of the team grew and we made accommodations to ensure that participation in the project was as comfortable as possible for everybody involved. As an example, women with children were invited to have their children live with the team in Fresno and be cared for by babysitters or child-care centers when their mothers were involved in data collection. The picture that emerged was that the "process" of doing research can be adapted to meet the special needs of women, to take on a more cooperative rather than strictly hierarchical mode, and to maximize the use of unique talents of each individual involved.

Shared Values

Third, apprentices learned through experience that the research process need not be dry, tedious, or a strictly academic affair. Rather, they were imbued with the sense that doing research can be a kind of adventure based on a shared sense of human concern. Apprentices (at least in the second two phases) did not spend their days at a computer; they were with children, some of whom had learning problems that were accentuated during testing. The connection between the research process and clinical practice became evident. We all believed that the research in which we were engaged would eventually contribute to the availability of instruments that would refine occupational therapists' ability to help these children.

Interaction With the Public

Fourth, apprentices learned that a strong research program can create greater public awareness and recognition of the services that are provided to society by a profession. Fresno had been chosen as the site for the second phase involving most of the data collection because of its demographic characteristics, size, and the receptivity of its health professionals and the school district to the project. The fact that a team of researchers from the University of Southern California had moved to Fresno to collect data created great public and media interest. Members of our team made presentations to the Fresno Chapter of the Occupational Therapy Association of California, Therapists of the California Hawaii-Elks Program, the occupational therapy staff of the Fresno Community Hospital and Medical Center, and a prominent local physician; our research project was featured in the Fresno Bee, the city's daily paper, and on local news.

The team members witnessed public recognition for and appreciation of the team members' hard work and what it would offer to society. This reinforced their commitment to research.

The Experience of Sponsorship

A final benefit for the apprentices was that the experience enabled them to find or build a stronger relationship with a mentor, locate "peer-pals," and join the network of therapists doing the same kind of research in Southern California and throughout the nation. Every potential kind of sponsorship as described in Rogers's (1982) excellent article occurred in this project. As already mentioned, among the principal investigators, a peer-pal or collegial relationship existed in which leadership roles alternated in relation to the special talents momentarily needed. The more experienced and older therapists who participated were also part of these collegial relationships. However, the younger, less experienced therapists and the graduate students tended to form relationships more like those classically described for mentors and protégés, characterized by hierarchy. The mentors provided knowledge, support, and guidance to the research newcomers; in turn, the protégés provided a tremendous service. In my 10
years of academic experience, I believe no situation has been as fertile for developing rich mentor-protégé relationships as the second phase of the SIPT validation study in which team members lived and worked together for a defined period of time to complete a specific task. The relationships that were established in Fresno are still thriving and are expected to continue. We have all experienced the euphoria that came with knowing that we tested well over 90 children on more than 20 measures in a 5-week period.

Summary
In this brief paper, I have sketched out some of the ways in which participation on the Fresno SIPT Construct Validation Project may have increased the probability that apprentices will become productive researchers. I would recommend that AOTF fund similar projects in the future so that occupational therapists do not feel that they have to begin their research career by being "out on their own." The research apprenticeship system offers newcomers the chance to align themselves with known research teams and be shepherded through the research process by more experienced researchers, to be taught academic values, and to observe the strategies by which more experienced researchers tackle momentary disillusionment, interact with the media, remedy difficult problems, and persist in spite of obstacles. In such projects, apprentices are likely to become enthusiastic about the research process and develop the readiness that they need to tackle their own research programs. In addition to formal training in the research process, we must make research apprenticeships available to occupational therapists if we wish to create the next generation of productive researchers.

References