Developing a Research Career: Advice From Occupational Therapy Researchers

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Objective. Occupational therapy faculty members often need guidance in developing a research program that will result in publication and sponsorship. This qualitative study investigated how university faculty members had successfully established research programs.

Method. Nine well-known occupational therapy researchers were interviewed by telephone regarding how they had established a research career. These interviews were transcribed and analyzed.

Results. The advice of the occupational therapy researchers included the following: complete a doctoral education, find mentors, and link with colleagues who have similar research interests. They also recommended that new researchers learn to take risks and accept criticism, prioritize, manage work time, and learn about the systems that support research.

Conclusion. Occupational therapy researchers’ experiences can be used to provide helpful advice and guidance for faculty members who are beginning research programs.


For more than 5 decades, occupational therapy leaders have recognized the importance of research and encouraged the pursuit of scholarly activity among faculty members (Christiansen, 1981, 1991; Gillette, 1982; Llorens & Gillette, 1985; West, 1949, 1976; Yerxa, 1991a). Research and scholarly activities are crucial to establishing occupational therapy as a legitimate profession (Christiansen, 1991; Clark et al., 1991; Gilfoyle, 1984; Grady, 1987; Nelson, 1997) and as an academic science (Yerxa, 1991a). Llorens and Snyder (1987) summarized, “A research base for the profession of occupational therapy that provides empirical evidence for the science of occupation and for the effectiveness of its practice will...provide professional stability, increased academic credibility, authenticity, and accountability to society” (p. 492).

As with other disciplines, occupational therapy research has grown in recent years and has become more sophisticated. Christiansen (1991) documented the changes in occupational therapy research designs and methods from 1949 to 1989. During that 40-year span, the percentage of published occupational therapy journal articles that were research articles increased from 14% to 60%, and more powerful research designs were used (fewer descriptive designs and more quasi-experimental and experimental designs).

In the past 2 decades, occupational therapy scholars have defined priorities for research within the profession. Acknowledging the limited available resources for occupational therapy research, the American Occupational Therapy Research Foundation and prominent researchers have articulated priority goals (Gillette, 1991; Llorens & Snyder, 1987; Ottenbacher, 1992; Rogers & Holm, 1994; Yerxa, 1991b). Important themes regarding the priorities in occupational therapy research have been consistent. Christiansen (1981) stated his belief that occupational therapy research should develop a knowledge base that informs and guides practice, proclaiming that in professions such as occupational therapy, the discipline is responsible for generating and evaluating its own unique empirical knowledge base. Yerxa (1991a) viewed the most critical arena for occupational therapy research to be that which establishes the discipline as a legitimate universe of knowledge. She challenged researchers to pursue new knowledge of occupation that becomes a unique contribution to the scientific world, explaining that this unique research base is needed to establish an academic discipline (i.e., that of occupational science). Yerxa (1991b) further recommended that qualitative research design be embraced by the profession to acquire new knowledge about occupation and its multifaceted dimensions. Ottenbacher (1992) countered Yerxa’s recommendation with a plea for using multiple research methodologies. He reminded the profession that the integrity of the scientific endeavor was most important.
and that a careful match was needed between the intent of the study (the question) and the method selected. Nelson (1997) also encouraged different types of scientific inquiry, including basic research to study the nature of occupation and applied research to examine models of practice.

Ottenbacher and Short (1982) emphasized the importance of empirical investigation of the therapeutic effectiveness of occupational therapy practice to the profession’s continued viability. In the past decade, numerous scholars have identified outcomes research as crucial to the future of occupational therapy (Ellenberg, 1996; Gillette, 1991; Rogers & Holm, 1994). Outcomes research is generally accomplished through collaboration with professionals in related disciplines by building data sets for evaluating interdisciplinary (e.g., rehabilitation, medical) outcomes. Outcomes research complements and moves beyond research that solely develops the discipline and practice of occupational therapy. With clear acknowledgment of the importance of research to the profession’s growth and continued viability, the question to be asked is: How do occupational therapy faculty members become researchers?

How Do Faculty Members Become Researchers?

A primary criterion for a faculty member to qualify as a researcher or scholar is the attainment of a doctoral degree (Yerxa, 1991a). Doctoral programs provide “a socialization experience toward a new identity as a scholar in a particular field” (Nelson, 1997, p. 22).

Ottenbacher and Hasselkus (1988) identified the supportive elements that promote research among new faculty members. One element is successful faculty member models who engage in scholarly work with enthusiasm and excitement. These experienced faculty members can mentor young faculty members by sharing their failures and their successes. Another supportive element to promote research is the development of collaborative relationships that are professionally enhancing (e.g., with faculty members who hold similar research interests) (Corcoran & Clark, 1984).

Some scholars view research to be an integral part of teaching. As Mahoney (1997) explained:

I have come to realize that the teaching I enjoy involves research; it stimulates and requires research. Similarly, the research I enjoy would be sterile without the accomplishment of teaching. For me, teaching and research are but different emphases of the same process....The one central theme that integrates my varied experiences into a career is that of learning. (p. 124)

The rewards of research include the opportunity to pursue sustained interest in a topic and the inherent professional and intellectual stimulation. Parham (1987) found that intrinsic rewards, such as autonomy to work in the area of one’s own interests, professional development, and opportunity to contribute to the profession, were important to faculty members’ research activity. Extrinsic rewards can also be associated with research activity, such as teaching or research assistants, sabbaticals, and light teaching loads (Parham, 1987).

To accomplish research of high importance to the profession, resources beyond those readily available within the university are needed. These include governmental and other funding sources; however, federally funded research often requires a high degree of scholarship (Christiansen, 1991; Nelson, 1997). Whether funding is awarded is influenced most strongly by the scientific integrity of the research (Lane, 1990).

When Boyle, Dunn, and Kielhofner (1990) surveyed occupational therapy educational programs about the types and levels of external funding received for research from 1985 to 1987, 60% of the 49 responding programs reported that they were funded but in small amounts. Most of this funding went to training, model programs, or other types of activities. Boyle et al. (1990) concluded, “Funding levels for occupational therapy must increase dramatically to support large-scale, experimental outcome studies that are the hallmark of acceptable evidence of clinical efficacy” (p. 341). To establish this knowledge base, research programs across universities need to link and build on collaborative efforts.

In summary, beyond obtaining a doctoral degree, receiving the support of successful mentors and colleagues, and obtaining external funding from governmental agencies and research foundations, the literature does not provide specific guidance in how to develop a research career. Therefore, the purpose of this ethnographic study was to investigate how to develop a research career from the perspective of occupational therapy faculty members who had successfully implemented ongoing research programs.

Method

Sample

Using purposive sampling, I selected 12 well-known occupational therapy researchers. Each had frequent publications (two to six annually) in peer-reviewed journals, had received funding for research from national agencies (e.g., National Center for Medical Rehabilitation Research), and was generally recognized as an important occupational therapy researcher. Nine faculty members (seven women, two men) from seven universities consented to participate. They represented all major regions of the United States. All held doctoral degrees and tenured positions at the rank of Associate Professor or higher in major universities; five held administrative positions (e.g., associate deans, department chairpersons). Of the nine, five published primarily in occupational therapy journals, one published primarily in journals of other disciplines, and three published in both.

Date Collection and Analysis

An interview guide of six questions was sent to each participant for review before a single in-depth telephone interview was conducted (see Appendix). The interviews were 30
min to 90 min in length and were tape recorded and transcribed.

Initially, the data were organized into categories according to the guide. Then, with constant comparative analysis, the data were reorganized into concepts and themes (Glaser & Strauss, 1967). A draft of the themes was sent to four of the participants for verification and revision. Feedback was received from three of the participants and incorporated into the final report.

**Results and Themes**

Several themes were common in all of the phone interviews. The participants concurred that completing a high-quality doctoral program, being supported by mentors, establishing working relationships with colleagues, accepting criticism, and taking risks were important to their productivity as researchers. The participants also identified barriers and resources to developing a research program and explained how they had worked with bureaucratic systems (e.g., funding agencies) to achieve their research goals. Finally, their stories were translated into advice for faculty members beginning a research program.

**Why Become a Researcher?**

None of the participants planned to become a researcher at the start of his or her occupational therapy career. Several described the development of their research career as “something I fell into.” Although many participants indicated that their initial success as a researcher was somewhat a surprise, each indicated that becoming a researcher had taken time and effort. The researcher role was one that they had assumed gradually rather than achieved all at once. During the developmental period, each learned research skills (e.g., application of methodologies or measurement techniques), and, of equal importance, each became “socialized into the role of a researcher.”

The participants described research as a “flow” experience that provided “the just-right challenge.” A flow experience, as defined by Csikszentmihalyi (1990), provides a sense of discovery, a creative feeling of transporting the person into a new reality. Flow is an experience of deep concentration that requires the person’s entire attention. It engages the person’s skills at an optimal level between boredom and frustration. Through a flow experience, a person experiences satisfaction and often achieves new accomplishments.

Research was also described as a creative problem-solving process: “It requires thinking broadly about new ideas, new solutions.” Often new solutions suggest new questions: “I like to solve the problems, although you end with more questions.” Three participants indicated that research is similar to solving a puzzle: “It is tremendous fun to get to the answer.” “I like being able to see how all the pieces fit together.”

The participants spoke definitively about the rewards of research and their satisfaction with being a researcher. Intrinsic rather than extrinsic rewards were described (e.g., none of the researchers described their number of publications as a reward). Intrinsic rewards included the personal satisfaction that comes with learning and discovery. All participants seemed to be intrinsically motivated by the research process itself. They enjoyed the process of operationalizing a theory into a research method and finding evidence to support or refine occupational therapy theories and assumptions. All of the participants expressed excitement and enthusiasm about their research and indicated that all steps of the research process were rewarding: “The rewards are in the internal logic of research. I love to analyze the data. I love to collaborate [with others] around ideas.”

One participant believed that through her research she was contributing something to the world: “It is exciting to think that you might make a difference in someone’s life.” Another showed the same enthusiasm, while admitting that research is hard work. She explained that through her research,

> I feel like I come alive. I am passionate about it. I love going into libraries. I love contacting people to gather my data. It is like being a detective. When you find something, it is a high experience. I love the struggle, teasing out the themes, making sense of things. It is a struggle, but I love it. When I am mired in administrative work, I try to think about my research. I look forward to it. It is my reward.

In summary, research seemed to energize the participants. Each looked forward to his or her research activities and coveted more research time. The participants’ enthusiasm suggested an intrinsic motivation in research characterized by curiosity, motivation to learn, and desire to solve problems.

**How Does One Become a Researcher?**

“Get a good doctoral education.” All of the participants agreed that a doctoral education was a must to becoming a researcher. A doctoral education at a major research institution seemed ideal. The participants indicated that their doctoral work “immersed them in research.” Most had entered a doctoral program without a specific plan to become a researcher yet with an interest in learning and a recognition “that I needed to know more.” All the participants had received a doctoral degree in disciplines other than occupational therapy (e.g., education, psychology) and, therefore, had to create a bridge from the field of their doctoral study to research in occupational therapy. For some, linking their doctoral work to occupational therapy was facilitated by a flexible doctoral program that allowed them to focus their dissertation research on occupational therapy topics. For those in basic science doctoral programs, applying the research paradigms of basic science to occupational therapy had been difficult. For those in education or psychology doctoral programs, making the bridge had been easier.

Whether the transition from a doctoral program to his
or her own research program was difficult, each participant had recognized the essential nature of completing a good doctoral program. Most of the participants had learned a particular research method or paradigm in their doctoral program that they then applied to occupational therapy research. For example, one participant learned about meta-analysis, another learned about historical research, and another learned about factorial analysis. A strong grounding in a particular research method or multiple methods appeared to facilitate subsequent development of a research career.

Two participants expressed the need to become “socialized into research.” The social skills of a researcher include confidence to present one’s research and openness to others’ critique and analysis of one’s methods and findings. As part of their doctoral programs, they learned how to discuss their own research, to accept and value criticism and comment, and to seek knowledge using scientific methodology.

“Find a mentor (or two or three).” All but two of the participants described one or more mentors who helped them to learn research skills and initiate research programs. One defined a mentor as “someone who is further along than you are and is willing to take you under his or her wing.” Finding a mentor was critically important as articulated by one participant: “Find at least three; for emotional support; for intellectual support....Have a formal mentor and a couple of informal mentors.” Three themes described the participants’ discourse regarding mentors: a mentor can (a) support and help socialize the new researcher into a role of researcher–scholar–academician, (b) help the new researcher learn to critically analyze and apply research methodologies, and (c) guide the new researcher into the “system,” meaning the funding agencies or university tenure systems.

One participant stated: “My mentor made me believe that I could do it [research]. She socialized me into a process and included me in things that really made me want to continue research.” Another concurred, “through [my mentor] I learned a lifestyle.” One participant shared that her mentor

would tell me about his own struggles in writing. He was able to put the process on a human scale...he provided me, not just with tools of the trade, but also with an understanding of the process. He gave me the support that I needed.

Mentors helped the participants learn to think and analyze critically, to ask questions, and to solve problems systematically: “All of the faculty members of my doctoral program contributed something different to me. One helped me think outside the box. One helped me learn the methodology and critically analyzed my work.” Another explained, “She [my mentor] was always questioning. She knew rigor in research. Her work integrated clinical work and research, as I want to do.” One participant defined a mentor as “somebody who excites you in the process of learning, helps you develop a new way of thinking, and makes you want to learn more. My mentors helped me develop a new way of analyzing information.”

Finally, the participants described the great value of their mentors in teaching them about the systems (e.g., the university system, agencies that sponsor research). One participant explained:

They mentored me regarding how the system works, who gets what, what connections were important to make. They taught me how to build a network and to call on my network. They helped me lose my naïveté. They helped me learn how to get federal research grants.

Mentors were helpful in learning the steps of writing a grant or research proposal, teaching what should be included, with whom to communicate, how to demonstrate collaboration, and the importance of conveying that the institutional (university) support and researcher’s experience and skills are sufficient for successfully implementing the project. Mentors seemed to be instrumental in learning the steps to achieving sponsorship of a research program. As one participant described, “[my mentor] helped me learn how to compete. He helped me learn the system and learn the politics. He taught me where I needed to be known in order to be taken seriously [as a researcher].”

“Nourish relationships with colleagues.” Colleagues, or fellow occupational therapy researchers with common interests and goals, were of immense value to most of the participants. Each identified one or more colleagues who had offered sustained and vital support. As articulated by one participant, “My fellow doctoral students were absolutely critical to going forward. Their support was instrumental.” Another advised that “it is tremendously important that new faculty members work with colleagues and not try to be lone rangers. You cannot do it by yourself.”

In one example, a participant explained how her colleague had helped her get federal funding by teaching her “how to play the game.” Networking is crucial in achieving grant funding, and colleagues help to identify and initiate those linkages. One participant expressed that occupational therapists who are beginning researchers are reluctant to enter into collaborative research relationships, fearing that they do not have anything to contribute to that relationship: “We need to be explicit about what we have to offer and what we want from a relationship. We can build relationships where each member gains....Occupational therapists have lenses that can enrich [interdisciplinary] projects.” Colleague collaboration seemed to enrich the participants’ projects and increased their accountability in the research process. The sharing and time spent in collaboration seemed to benefit the quality, credibility, and importance of the research outcome.

“Take risks.” Participants described the risks involved in undertaking research and believed that in occupational therapy the risk is greater than in other more established disciplines: “We do not have a tradition of research in the occupational therapy field. Being a clinical profession, people do not understand the importance of research....We do
not yet have a tradition that appreciates science.” With skepticism and a lack of understanding about research prevalent among practitioners, research efforts are more likely to be criticized and viewed as irrelevant. The role of “researcher” seems to lack credibility among many occupational therapy practitioners.

One participant clarified the risk: “When you do research, you have to take risks, intellectual risks. You have to be prepared for people to criticize. My advisor helped me take that criticism and stand by my beliefs.” Testing our beliefs and assumptions about practice means accepting the possibility that our beliefs are incorrect. Critical, objective analysis of our practice can be threatening to our self-image as effective practitioners. One participant believed that in the type of research that she produced (historical research), “there is a lot of interpretation, so I learned to be tough and to take criticism.”

“Overcome barriers, find and protect resources.” Many of the participants described system issues that need to be considered as one begins a research program: “Research takes great manpower, time, and money. These are barriers.” Time and funding could be resources when plentiful and well managed. Each had a strategy for finding the time (and financial support) to devote to research projects. One participant illustrated the time-management problem, that is, fitting research into her schedule of teaching and administrative duties:

Research requires 30% on top of your 100% time. If you spend all of your time doing the things that are necessary, you will never do the things that are important...The necessary things [e.g., administrative and teaching responsibilities] continue to hang around. If I don't do the important things, then I spend a lot of unnecessary time with the necessary things. Doing the important things [research] gives me energy, it keeps me moving and inspired and growing professionally.

All of the participants recognized that good research projects take a considerable amount of time. Therefore, they had become very protective of their time. They voiced that planning ahead was necessary to anticipate the time a project would need. This sometimes involved negotiating with the chairperson of the department to allocate adequate time for research. One participant had two young children when she began her research career:

I was able to negotiate working part time at the beginning of my faculty position. I started at 40% and then 60% but had some time with my family. The slow start helped me enormously. It is important to look at different options...if possible, lengthen the tenure process to give you adequate time to develop a portfolio.

Another participant protected her teaching contract, keeping it at 9 months so that she had the summer months to accomplish research and writing.

One participant described the need to balance time for teaching and research: “Teaching makes it easy to put off research and scholarship. I have had to set limits on my time with my students.” Another spoke of the benefits of developing congruence between research and teaching so that research time contributes to teaching preparation. Time management becomes easier when one’s teaching topics and goals match one’s research goals and interests.

Another barrier mentioned by two participants was recruiting clinical subjects. Finding subjects who were able to participate in a study took an incredible amount of time and effort, particularly when specific inclusion criteria were required. This barrier is somewhat unique to health care professions, such as occupational therapy.

“Develop and sustain an ongoing research program.” To develop and sustain a program of research, the participants expressed that they had to learn how to work with bureaucratic systems, particularly university systems and federal funding agencies. Knowing how the university system works (e.g., the standards and criteria for tenure, the politics of getting a research assistant) and what this system values are important to survival in academia. For example, if obtaining external funding is a criterion for receiving tenure, then one must place a high priority on grant writing.

One recipient of major federal funding for research explained the planning involved in establishing a sponsor-funded research program:

Find out what it takes to begin. Look for collaborators and work on research activities (e.g., pilot studies) together. Look down the road to the bigger picture. Think about a series of studies. Plan 10 years of [research work]. Good research projects that will have a significant impact take a long time.

Thinking about a desired outcome for a research plan will ultimately help to prioritize the order of small studies and create a research program. An ongoing focused research program is needed to build empirical knowledge and is highly valued in the tenure process. In making a research plan, the participants encouraged linking and relating to others. Collaborating with students, particularly graduate students, in productive ways can help accomplish the steps of a research program.

Discussion
All participants recognized that the research process is inherently rewarding. They particularly valued the opportunity for critical thinking and analysis of practice, systematic planning of a research program, and solving practice problems. Of highest value was the experience of discovery and learning through the research process. The participants believe that the research process is integrally related to practice; research or results enlighten the therapy process and contribute to our knowledge of practice.

Participants also recognize that the research process is a social process facilitated by a collaborative relationship with colleagues and mentoring by a more experienced researcher. For them, steps in becoming a researcher included critical analysis of the literature, objective questioning, presentation, and review of critiques of one’s own research.

Advice for Developing a Research Career
The following themes were voiced repeatedly by the nine
faculty members interviewed. These themes represent their collective wisdom.

Complete a doctoral education that emphasizes research skills. A doctoral education provides the necessary foundation in research design and methodology. As reinforced by occupational therapy scholars, one learns through a doctoral program how to present and discuss one’s own research and accept critiques of one’s work (Clark et al., 1991; Nelson, 1997; Yerxa, 1991a). One develops skills in critical analysis of the research literature.

Find mentors. Mentors offer intellectual and social support and help one enter and learn the systems that sponsor research. A mentor needs to be “a few steps ahead of the new researcher” but does not necessarily need to have identical interests. The participants’ descriptions of the benefits of a mentor relationship echo the words of Schemm and Bross (1995) who stated that a “mentor counsels, critiques, and teaches the mentee how to perform technical, social, and tactical techniques” (p. 33). Mentors help to teach research methods and counsel how to negotiate political systems. They are important in developing linkages to those who have established research programs.

Find colleagues with similar research interests. This advice is especially important for new researchers. Through relationships with other faculty members and fellow researchers, one can learn to articulate and make understood what is desired from the relationship and what will be given. Reaching an understanding of roles and responsibilities in the research project promotes an openness in communication that helps to sustain the working relationship. Ottenbacher and Hasselkus (1988) emphasized the importance of research as a “social activity” (p. 71). Corcoran and Clark (1984) found that the socialization process of productive, university-based researchers was very different from that experienced by faculty members who were not productive researchers. In agreement with this study, Ottenbacher and Hasselkus indicated that the collaborative social relationship must be professionally enhancing, that is, must include sharing of information and project responsibilities.

Read the literature, analyze practice, think critically. When reading the literature or discussing or observing practice, critically analyze the meaning of recorded information through the lens of occupational therapy theory. Objectively critiquing and questioning one’s experiences strengthens the analytic skills so central to a researcher’s role.

Create a linkage between research and other faculty roles. Linking one’s research program to one’s teaching and improving the congruence of the two roles will not only strengthen both roles, but also increase productivity and effectiveness. When work activities relate to both research and teaching, the faculty member can devote more intense time to those activities and better manage his or her work time. As Mahoney (1997) expressed it, teaching and research are but different emphases of the same process of learning.

Learn the research funding systems (e.g., the politics of foundations and federal agencies). Substantive research that continues over time and makes major contributions to the profession generally requires funding and sponsorship. Knowledge of funding agencies’ priorities, review policies, and review procedures is best achieved through networking with colleagues who are part of the system. Learning the political system and networking with persons who know funding agencies (e.g., agency administrators, foundation bureaucrats) are important in increasing the number of funded occupational therapy research projects.

Learn to accept criticism. All research must be shared, critiqued, and evaluated. Through the review and critique of colleagues, the research is enhanced; methods and reporting of results are often considerably improved with the critique of others.

Prioritize work time. Demands for faculty members to become involved in a myriad of activities do not abate and can only intensify in the current atmosphere of cost cutting and productivity enhancement. Creating a balance of those demands is important. Research time needs to be protected. Making time for research involves creativity in managing work duties and prioritizing research time.

Generate a 10-year research plan, with multiple small steps. Identify the small steps that build on each other. Good research takes a long time to develop. New ideas and concepts evolve over time and continue to need testing and refinement.

Enjoy the process, relish the process. Acknowledge the learning that occurs at each step. The process can be very satisfying and can stimulate thinking and nourish one’s roles as learner and teacher.

Limitations
The sample size of this descriptive study limits generalizability. Face-to-face interviews may have provided a richer source of data and may have generated additional information regarding the participants’ feelings about the topic.

Summary
Through in-depth interviews, nine occupational therapy researchers described how they had developed a research career. Their practical advice to faculty members includes learning about the research funding systems and developing mentor and collegial relationships that will support research activities. Their energy, ability to persevere, respect for truth, and ability to critically analyze and logically reason are important attributes that have contributed to their success as researchers. Young faculty members beginning their own research careers can learn from their wisdom and ultimately share in their enthusiasm.

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Appendix

Interview Questions

1. Describe your research career from its beginning to the present.
2. Describe any barriers you have faced and how you overcame them.
3. What, if anything, continues to pose barriers to success in your research?
4. What resources were instrumental to your success?
5. What are the rewards of research?
6. What advice would you give to new faculty members beginning their own research careers?

References


