

PERSPECTIVE

Enhancing the Research Environment in Puerto Rico with the Facilitator-Mentoring Model

RAFAELA R. ROBLES, Ed D

This paper documents the experience of a researcher who uses her research center as a training site to develop behavioral science researchers. It addresses the importance of students' selection, the flexibility of the research environment and the multiple activities

In this paper, "The Facilitator-Mentoring Model" is discussed in relation to mentoring researchers. I hope that my success with this model serves to engage researchers in helping students and junior faculty in their initiations to obtain the necessary training to enter the scientific community in their respective research interests.

The term mentor originated from Homer's poetic epic, *The Odyssey*. In Homer's story, Odysseus the King of Ithaca, sails off with his army to go to war with the Trojans. Before leaving, he entrusts his faithful friend Mentor with the responsibility of caring for and educating his son Telemachus. The war lasts for ten years, followed by an additional ten-year return journey for Odysseus. During that time, Mentor's efforts are bestowed upon the young Telemachus who ultimately demonstrates worthiness of his father's great legacy (1). Based on this tale, the word mentor has become synonymous with a loyal and trusted friend, advisor, or teacher, one who is ultimately focused on the student's advancement and scholarly success.

The traditional concept of mentoring focuses on the relationship that evolves between two individuals working to promote the development of the less experienced person (2). It is also important to note that this relationship blossoms in an environment that is conducive and supportive to mentoring, thus contributing to the partnership's success (3).

The story of Telemachus and his tutor led me to view mentoring in my professional field as the responsibility of an adult to create an environment in which students/

provided to develop young students into researchers. Comments of some participants of the Facilitator-Mentoring Model are also documented.

Key Words: Mentoring, Protégées, Research, Puerto Rico

trainees/protégés can learn the necessary elements for becoming independent researchers. In this role, I see myself as a facilitator who promotes the mentoring process by nurturing the environment within which successful mentoring can occur. This process begins by selecting those individuals who have shown signs of passion and potential for research in their previous academic programs or employment positions.

This selection strategy will prepare mentors to help mentees understand what kind of career they wish to pursue. According to Johnson (2) and Murray (4), one of the mentor's most important jobs is to help mentees determine the career they want to pursue.

These students/protégées/mentees enter a research environment in order to learn new things in the field, such as how to observe and document findings from community sites to day-to-day interactions in communities, families, schoolyards, churches, drug markets, and shooting galleries. It is the mentor's responsibility to ensure that the environment meets these students' needs particularly the strong engagement needed to understand the relationship such as HIV/AIDS and mental health problems, a complex interaction that is not easily disentangled.

Research and mentoring: Some personal notes

One of the privileges that writing about mentoring provides is the opportunity to share the personal aspects that have influenced or affected our careers. In fact, what I remember most vividly about other mentors' lectures and personal writings is learning how they chose particular career paths, and how they met and worked with various mentors who helped them along the way. As I believe we can learn from each other's experiences, I will share some past aspects that have impacted my career. During my years as student, a group of social scientists from a prominent American university moved to Puerto Rico to study a number of special communities as well as the island's changing social structure. Multiple articles, books,

Institute of Research, Education and Services in Addiction, Universidad Central del Caribe, School of Medicine

Address correspondence to: Rafaela R. Robles, Ed D, Principal Investigator, Institute of Research, Education and Services in Addiction, Universidad Central del Caribe, School of Medicine, P.O. Box 60-327, Bayamón, Puerto Rico 00960-6032. Tel: (787) 785-4211 • Fax: (787) 785-4222 • E-mail: rafaela.robles@uccaribe.edu

and lectures were disseminated based on their findings. This scientific project provided these researchers with an opportunity to publish, lecture, and interact with well-known investigators at conferences and workshops in the social sciences community.

However, although a number of Puerto Rican university students worked in the field alongside the senior staff, none of these students had the opportunity to work directly with investigators as mentees involved in discussing and defining the research problem, constructing the measurement, instruments and the analytical strategies. These well-known investigators reserved the privilege of working on each of these project elements at their own university. At the end of the data collection period, after the investigators had carried the data back for analysis, they continued their work writing books, articles, and offering lectures on their findings. Meanwhile, the island's scientific community continued working without the necessary human resources available to extend their own research capabilities. Impacted by these circumstances, I challenged myself to get involved in projects that contributed to the island's development of young researchers. Therefore, I went back to school in search of caring teachers and mentors. While enrolled there, I had the opportunity to take classes and work as a protégé for Jack Ellinson who at that time was the Director of the Socio-Medical Research Program at the School of Public Health at Columbia University. I also had the privilege to enroll in Robert Merton's classes, the father of American empirical sociology; study with William Goode, the scientist that contributed significantly to understanding the American family; and interact with Amitai Etzioni who helped inspire my passion for the empirical study of complex organizations.

From my experiences with these exceptional academics I realized that a mentor and good professor were invaluable to my career. These experiences instilled the knowledge, strength, and personal security that helped me believe I could take on the leadership role of providing students with an environment conducive to their development as researchers.

When I returned to Puerto Rico, I spent one year at the Department of Sociology at the University of Puerto Rico where I found myself highly unsatisfied as a young teacher without the opportunity to be part of an enthusiastic research environment. I was delighted, therefore, when I was invited to join the faculty of the School of Public Health at the University of Puerto Rico Medical Sciences Campus. At that time, Puerto Rico was in the middle of a drastic structural change including the regionalization of the health care system. Two great leaders in this movement were my mentors at the School of Public Health, Dr. John

Grant and Dr. Guillermo Arbona. These two physicians were highly committed to science-based health care and to training Public Health professionals. They entrusted me to provide the school with a social science curriculum and to answer health care questions with scientific data. With the mentoring support of Dr. Ellinson, who was at that time consultant to Dr. Grant and Arbona, I wrote my first federal funding proposal which introduced social science specialization to the Medical Science Campus and aimed to understand the mental health care needs of Hispanics residing in Puerto Rico. The first proposal provided funds to introduce classes or modules of behavioral sciences in each one of the affluent schools in the Medical Sciences Campus. The second provided the finances to study the mental health care system in Puerto Rico.

These proposals were approved, and I soon had the opportunity not only to help my mentors introduce the social sciences at the Medical Sciences Campus but also to answer some of their research questions. The research proposals provided the occasion to open a laboratory for training young investigators who were highly needed to study the island's changing health care environment. At the same time, with the help of my students-in-training, the Socio-Medical Research Center and the Masters in Evaluation Research programs at the School of Public Health were developed. Both structures still serve Puerto Rican students in their career development and help to enhance the island's scientific community. Below, I present some of the testimonies provided by my mentees at the University of Puerto Rico Medical Science Campus, at Harvard University and at the University of Puerto Rico, School of Public Health. Dr. Margarita Alegría at Harvard University claims that:

"There are three main aspects of Dr. Rafaela Robles's mentoring that provided me an opportunity to thrive. First, her model is structured on embedding self-confidence, reassuring at every instance that if you try, you will succeed. Even though Fafi could assess well our vast limitations in training and knowledge, the message that always came across was that 'you are smart, you can do it.' Instilling self-confidence by taking a junior investigator's opinions seriously is instrumental in a career of research, where expertise changes as new methods and approaches come into play and scientific knowledge evolves. Self-confidence allows one to adopt a perpetual learner approach to research, which Fafi provides so well. Fafi always modeled the need to expand one's boundaries of expertise. The second ingredient was instilling the belief 'that research is always

sexy.’ Given the colossal stresses and challenges entrenched in a research career, developing passion for what you do is paramount. Fafi always made research projects a seductive journey into knowledge, casting problems with an inquisitive eye, grounded in theory and a comprehensive literature review. Grant writing became an intensive education, giving research areas an innovative twist that would make us want to learn more about them. And lastly, Fafi exemplifies a collaborative model of learning, with the view that a multidisciplinary perspective is optimal in capturing the complexity of problems and possible solutions. But collaboration across disciplines brings many challenges, including entrenched views of divergent disciplines. Yet Fafi instilled a dialogue of trust and respect for each others’ opinions that facilitated heated discussions and the ability to approach a problem with different lenses.”

Dr. Mildred Vera at the University of Puerto Rico Medical Science reports that:

“The Facilitator-Mentoring Model highlights that it is important for the mentor to have a clear vision of why s/he is involved in mentoring. Over many years sharing with Fafi, I have seen that she truly values research and takes pride in helping develop new researchers; she clearly envisions her role at work as a developer of young people into successful researchers. In the process of achieving her vision, she promotes a multidisciplinary team, collaborative learning approach, and serves as a role model of the kind of person one should be to become a successful researcher, demonstrating high standards of performance as well as ethical conduct.

The Facilitator-Mentoring Model also provides a partnership-building, power-free learning environment that is characterized by mutual respect, trust, understanding, and empathy. Within this context, Fafi shares her knowledge and experiences, while encouraging us to provide feedback. She is open, frank, and direct, and, at the same time supportive and encouraging. She is a good listener, receptive to other perspectives, allowing the mentoring experience to be a learning and developmental process for all involved. Overall, she has provided me and her other mentees an environment that facilitated our career growth and potential by constantly challenging and motivating us to keep trying for excellence.”

Dr. Margarita Moscoso has been my youngest mentee. She was still in college when she began her research career. Today, Dr. Moscoso is a researcher and professor at the University of Puerto Rico, School of Education in Rio Piedras, Puerto Rico. These are her comments describing her experience as a mentee:

The mentoring model used by Dr. Rafaela Robles (Fafi) is a persuasive one that influences you forever. I remember her first words about me when I was recommended for a research position with her, ‘If she is good, she must demonstrate it.’ With those first words, I started my mentorship. There was always a challenge; when I thought a task was finished, another was waiting for me. Fafi delegated a responsibility in each of us, a project to be continued or to be perpetuated. From Fafi I learned four basic principles of mentoring that I absorbed and internalized. The first principle is ‘nothing is impossible.’ You have to be creative and do a lot of lobbying. This was particularly true when I started in the 70’s, when there was no research infrastructure or culture available, something which is still somewhat true. The second one is: research gives power, it opens opportunities, and is a way of life. I will never forget how Fafi measured her success as a mentor by how many of her mentees finished their doctorate degree. Third, research is a collaborative process. One looks for partners who can contribute effectively to team efforts, and that are willing to teach. Fourth, research is a two-way learning process that is never concluded. This mentoring model would have never succeeded without the understanding that learning is a reciprocal process. We learned from each other. However, ‘no todo es color de rosa’, that is, not everything was smooth sailing. The most difficult aspect of this mentoring model is to recognize the appropriate moment to allow a mentee to fly solo. The mentor must be willing to release the mentee, and the mentee must recognize that he/she is ready to work on his/her own. More than 25 years have passed since that day when I first met my mentor, and I still remember what I learned from Fafi.

The Puerto Rico AIDS epidemic

Since the first AIDS case was detected in 1981, an AIDS epidemic devastating young drug users was revealed on the island, I was asked by colleagues and the National Institute on Drug Abuse (NIDA) to compete for grant funds by writing a proposal for the

NIDA Cooperative Agreement Project. The proposal sought to arrest the HIV/AIDS epidemic nationwide by educating drug users who were not in treatment and providing them with strategies to prevent HIV/AIDS infections. The Puerto Rico study was housed in the Puerto Rico Department of Drug Abuse Services. This first research initiative was followed by others at the Universidad Central del Caribe School of Medicine where the group moved to begin an academic Master's Degree program in Drug Counseling at the Center for Addiction Studies (CAS). The new research initiative provided the opportunity to continue developing the Facilitator-Mentoring Model that began with previous students at the School of Public Health at the University of Puerto Rico from where I had retired that year. The following testimonies are recorded from three members of the second group of mentees at the Universidad Central del Caribe School of Medicine.

“The tremendous professional growth I experienced under Fafi’s mentoring was fueled by three major strategies. Fafi consistently and continuously (and if you know Fafi you know what I mean by consistently AND continuously) 1) challenged my ideas and suggestions, 2) exposed me to difficult tasks, and 3) provided the resources and support with which to grow and succeed under 1 and 2. As senior researcher, Fafi seldom imparted instructions. She asked questions, e.g., ‘how do you think we should do this?’ Mentees were supposed to provide answers and be ready to defend them. In meetings with consultants, mentees did the consulting; Fafi observed and made comments. During sessions of data analyses, one learned to be ready to answer Fafi’s question: ‘And what does all that mean?’ And Fafi has always been intolerant of unfounded answers. Her famous challenge after an unsatisfactory explanation: ‘Is that grounded in the lit or in the opinion of your neighbor?’ In addition to the continuous challenging of one’s ideas, Fafi likes to expose her mentees to difficult tasks. Oral presentations at national conferences and defending one’s work with an outside expert are just part of the things a mentee should expect from Fafi from the beginning. She frequently asked me to do things I believed were a bit beyond my capabilities. With time, though, I realized her challenging and exposing strategies were paired with an abundant supply of support. Emotional support in the form of growing respect to my ideas and interests but also intellectual support

in terms of frequent and gratifying discussions with her and with an abundant number of well-recognized experts she frequently invited to visit with us.” – Dr. Hector Colón, Dr. Juan Carlos Reyes, Mr. Tomás Matos, and Mr. José Calderón.

The Facilitator-Mentoring Model

The Facilitator-Mentoring Model is based on the assumption that mentors do not particularly teach, but rather provide students with the environment and role models from which to learn and develop (5-6).

Specific assumptions of this model are:

1. Contrary to the belief held by many scholars in the field, science and research are endeavoring venues open, in greater or lesser degrees, to any individual whose curiosity is aided by a resourceful and inquiring mind and the right environment (7).
2. Research is an exciting process and students need to be excited by the research environment they are in. An uninterested researcher is unlikely to be effective or develop new ideas (8).
3. Peer interaction and mutual help is a significant element in creating a facilitating environment which will develop new scientists (9).
4. Research is often regarded as the application of scientific methods. However, Estelle Brodman’s definition of research is my favorite: “Research is nothing more than codified common sense”(10). Common sense must, however, learn to be honed in a theoretical research environment (11). Understanding that research is not a tidy process because the unknown cannot be accounted for with great precision is a basic concept in the Facilitator-Mentoring Model.
5. Research methods, strategies, and processes that are usually shared by researchers are not enough to guarantee the means for discovery. Students with intuition, experiences, curiosity, inquiring minds, and good judgment are most likely to benefit from a facilitating research environment.
6. An appropriate theory is vital to forming research questions and raising hypotheses before observations are duly taken.
7. Practicing translation science is critical and depends on how we use our knowledge for the continuous improvement of practice, further research, and how we convey the need to continue exploring the unknown. The processes of discovery, integration, application, and mentoring are crucially interdependent and need to be incorporated into the mentoring model.

The Facilitator-Mentoring Model activities

Mentoring begins within a dynamic research atmosphere comprised of individuals with great excitement for the scientific process. Therefore, the newly selected participants must be able to fit in this environment. They must have a passion for the scientific process and a proven potential for research from their previous work. They must also be able to work with poor disadvantaged addicted individuals, mental health patients, and homeless people living in shelters, shooting galleries, mental health centers, community based organizations, and hospitals where health research is needed. Thus, the first lessons can be learned from visiting these sites and observing their structure and processes as well as the life events and stressors among the population being studied.

The second important element for a prosperous mentoring environment is providing protégés with connections to external resources such as mentors from specialized research fields including sampling, data analysis, qualitative measurement, and the integration of basic clinical and behavioral sciences when addressing health problems in a special population (e.g. homeless, elderly, or mentally ill individuals). Moreover, this Facilitator-Mentoring Model is committed to providing multiple strategies for trainees networking with the local, national, and international health research community. The opportunity to present posters or oral dissertations at national and international conferences and in multiple dissemination activities with the Addiction Technology Transfer Network, which serves all of the United States and its territories, including the US Virgin Islands, is also available to participants in the model. Summer training programs related to the specific research activities (e.g. sampling measurement) are included as well to keep trainees in contact with the latest developments in the field.

From the beginning of the mentorship process, the importance of constant reading is impressed upon trainees based on the assumption that, "Six hours in the library may save six weeks in the laboratory." A few hours spent reading may save many more hours later when designing a particular approach for posing the research problem and developing or choosing the appropriate research design and theoretical model to guide the entire project, including the hypothesis and analysis.

All trainees that enter this Facilitating-Mentorship Model serve not only as students but also as teachers of his/her peers. The students act as peer counselors, helping newcomers to envision doctoral studies and discuss the consequences of not accomplishing this goal. It is known that a trainee's decision not to continue studies and complete a doctoral degree may inhibit them from

having access to certain positions and prevent them from accessing funds that make possible contributions to the scientific community. Experience tells us that incorporating doctoral studies into students' careers is a necessary responsibility, imperative for success in the contemporary research community.

Weekly meetings are important for discussing problems that students will encounter in research projects and for discovering new issues that must be addressed. Local and national consultants are invited to join this process at least four times a year in order to lend their expertise to this critical aspect of the model. Throughout the entire process, it is essential to provide an atmosphere which encourages informal counseling and consultation among participants. The strength of the network ties and the Facilitator-Mentoring Model relies on an open intellectual and professional exchange between protégés and mentors in an atmosphere of multiple opportunities and resources that facilitate the development of successful researchers.

One of the problems that is solved by the Facilitator-Mentoring Model is the possible conflict in the mentor/mentee relationship because it is the environment that provides the mentorship with all the good and bad elements of the systemic process. Therefore, those individuals that cannot deal with the flexible but driving process of the mentoring environment make the decision to terminate their relationship with the group. Credit for the work done (e.g. publications, oral presentations) is sometimes a problem in the mentor/mentee relationships; however, in the Facilitator-Mentoring Model this problem is solved with the agreement that each of the team members that contributes to the work will have his/her name listed as an author in the publications. Moreover, the problem of who is the first author is nonexistent because the first is always the one who had the idea and assumed the leadership role in the production of the publication or research application. The model's flexibility also provides for a joyful goodbye when a member of the mentee team has been able to get an application funded and is ready to become an independent researcher.

Conclusions

This Facilitator-Mentoring Model has successfully served in training mental health and drug abuse researchers. The model can also be applied to groups in schools, churches, community settings, and any other venue where knowledge or support can be imparted (12). The Facilitator-Mentoring Model can help foster relationships between children, families, and adults to promote open communication, sibling support, and help

make every family activity from eating together to driving around the neighborhood have the potential to be an enriching experience in the lives of children as protégés and parents as mentors.

The mentor's intent is to keep the Facilitator-Mentoring Model from being overly time consuming so as to provide for transferring science into practice throughout different strategies. Research contributions are highly enhanced and satisfying when they can use their findings and models to successfully help needed populations and address problems such as mental illness, AIDS incidence, and addictive behavior.

Resumen

Este escrito presenta un modelo de mentoría desarrollado de la experiencia empírica de la autora en conjunto con sus jóvenes estudiantes. Se documenta como se seleccionan los candidatos para participar en el adiestramiento. Se enfatiza la manera que se crea un ambiente científico y las múltiples actividades que componen el modelo de mentoría a jóvenes interesados en ser científicos de la conducta. Se concluye que este modelo puede ser adaptado por maestros, padres y líderes religiosos en sus iniciativas dirigidas a jóvenes.

References

1. Tait J. What is mentoring? *Can Vet J* 2003;44:758-760.
 2. Johnson WB. The intentional mentor: strategies and guidelines for the practice of mentoring. *Prof Psychol Res Pract* 2002;33:88-96.
 3. Ridley CR. The ministry of mentoring: reflection on being a mentor. *J Psychol and Christianity* 2000;19:332-335.
 4. Murray BAM. Unique mentor programs bolster students' careers. *APA Monitor* 1997;50:50.
 5. Davis LL, Little MS, Thornton WL. The art and angst of the mentoring relationship. *Acad Psychiatry* 1997;20:61-71.
 6. Fuller SS. Enabling, empowering, inspiring: research and mentorship through the years. *Bull Med Libr Assoc* 2000;88:1-10.
 7. Hardy CJ. Nurturing our future through effective mentoring: Developing roots as well as wings. *J Applied Sport Psychol* 1994;6:196-204.
 8. King AR. Processes governing the selection of academic clinical training directors. *Prof Psychol Res Pract* 2002;33:418-421.
 9. Hughes HM, Hinson RC, Eardly JL, Farrell SM, Goldberg MA, Hattrich LG, et al. Research vertical team: a model for scientist-practitioner training. *The Clinical Psychologist* 1993;46:14-18.
 10. Allen TD, Eby LT, Poteet ML, Lentz E, Lima L. Career benefits associated with mentoring for protegee: a meta-analysis. *J Appl Psychol* 2004;89:127-136.
 11. Broadman E. Research in health science libraries. In: Darling L, editor. *Handbook of Medical Libraries Practice*. 4 ed. Chicago, IL: Medical Library Association. 1982.
 12. Ragins BR, Cotton JL. Mentor functions and outcomes: a comparison of men and women in formal and informal mentoring relationships. *J Appl Psychol* 1999;84:529-550.
-