Graduate Education and the Social and Administrative Sciences

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INTRODUCTION
Thank you for the opportunity to open a discussion on the future of the broad array of social science disciplines that cluster together under the banner of the Social and Administrative Sciences Section(1-7). I have been asked to look to the future and will do that with all the caution of my conservative nature. To be concrete for a minute I have selected a time frame within which my prognostication will be accurate — until July 19, 1998. My colleagues asked me to estimate through the end of the millenium, but I am not that big a risk taker.

From the perspective of most pharmacy colleges, the Social and Administrative Sciences section represents “everything else” — not pharmaceutics, not medicinal chemistry, not pharmacology, not clinical sciences — but everything else that makes up the practice of pharmacists, the system of pharmacy in society (including education), human behavior, social interaction and the consumption of drugs. Our world view, our scientific paradigms are different. We are truly a large number of disciplines working together for decades. These are our greatest strengths and our greatest weaknesses.

To prepare for this presentation I reviewed the 1997 Janus Report(8), the recent PEW Report(9) and our literature beginning in 1977 with the 29th AACP Teachers Seminar on Graduate Education and Research(10-12). I also sent electronic mail to a number of colleagues in the field and received nearly 50 replies. The explosion of opinions I received was surprising and greatly appreciated. Only in rare instances did those replies indicate a discipline specific concern. The issues to the section membership are universal. However, I take full responsibility for the opinions stated in this manuscript.

THE SCIENCE
John Horgan, in his book The End of Science(13), reported that the opinions of distinguished scientists in many fields, physics for example, tended to lean toward believing the convergence of science will construct “THE ANSWER.” For many, the interesting (and important) questions have been answered. In my field for example quantitative analytical frameworks have united and no longer are these techniques unique to a single discipline. Some areas of science do come to a conclusion.

However, the emergence of new and exciting ideas from the intersection of two scientific fields is how science evolves. The dynamics of new paradigms, a la Thomas Kuhn(14), create new answers and new questions. Here the melange of fields in the Social and Administrative Sciences Section are flourishing. Concurrent with the rapid changes in the social / health care environment, science, and indeed science education, demands interdisciplinary and multidisciplinary approaches for the investigation of new phenomena. Within our departments we are examining new and novel approaches. Outside our departments we provide a unique pharmacy spin to interdisciplinary investigations. To predict, theories must do a good job of accounting for all.

The great changes in our society of science are welcome, positive influences on the future of our disciplines. We welcome the expansive and unknown future. The analyses of outcomes, whether they are humanistic, economic and even clinical, of pharmacist practices and pharmacotherapy, and the establishment and evaluation of the structure and function of a health care system including...
pharmacy are within our domain. There is no question of need for scientists in the Social and Administrative Sciences.

The current issues of graduate education in the Social and Administrative Sciences can be broken into several components(10, 11): (i) programs with focus (and purpose); (ii) a sufficient and quality workforce; (iii) adequate facilities; (iv) the availability of good students; and (v) adequate funding. I will take each in turn.

Programs with Focus and Purpose

Because we are a diverse group of scientists clustered in a graduate department, Social and Administrative Sciences appear to lack focus. Prominent are the unique interests of individual scientists and the general interests of different disciplines. A small graduate program might have individuals with graduate education in anthropology, economics, marketing and public health. Focus is difficult and interdepartmental collaboration is an important factor in the future maintenance of graduate programs. With multiple scientific orientations constituting a graduate program, the question of a critical mass of graduate educators is always a concern. At Iowa we have many graduate programs with more than two dozen faculty. The issue of critical mass is not an unusual question for many health science graduate programs. Collaboration allows us to share in the teaching of the basics (biostatistics from preventive medicine, health survey research from pharmacy). Programs naturally focus through the efforts of individuals. Few are known for a central idea, however, some programs with selected foci (like pharmacoeconomics) are beginning to be recognized. The explosion of pharmacy into pharmaceutical care with a fanaticism like that seen in religious cults, the changing roles of the pharmacist, the interests of individual scientists and the general interests of different disciplines. A small graduate program might have individuals with graduate education in anthropology, economics, marketing and public health. Focus is difficult and interdepartmental collaboration is an important factor in the future maintenance of graduate programs. With multiple scientific orientations constituting a graduate program, the question of a critical mass of graduate educators is always a concern. At Iowa we have many graduate programs with more than two dozen faculty. The issue of critical mass is not an unusual question for many health science graduate programs. Collaboration allows us to share in the teaching of the basics (biostatistics from preventive medicine, health survey research from pharmacy). Programs naturally focus through the efforts of individuals. Few are known for a central idea, however, some programs with selected foci (like pharmacoeconomics) are beginning to be recognized. The explosion of pharmacy into pharmaceutical care with a fanaticism like that seen in religious cults, the changing roles of the pharmacist, the pharmacy faculty and the patient have greatly increased the demand for our fields to focus on pharmacy-related issues.

Sufficient and Quality Workforce

Faculty positions are not easily filled in the Social and Administrative Sciences. Too few scientists, educated in pharmacy colleges or related programs, seek positions. The salaries for our graduates over the last 10 years have been much more attractive outside pharmacy colleges. 

Sufficient time to mentor students yields smaller programs. The intense socialization model of the social sciences (as opposed to an indoctrination model) provides education, not training. Usually, there are fewer students per mentor than in other fields. Again this speaks to the critical mass issue.

Adequate Facilities

Graduate programs in the Social and Administrative Sciences do require space, state of the art equipment like high speed computers and data. The funding needs are often different than those of other pharmaceutical sciences, where the basic need to maintain a chemical or animal laboratory facility or state of the art analytical technology demonstrates a differential need for funding to collect data. However, Social and Administrative Sciences faculty have the same requirements for funding pre-doctoral and post-doctoral students.

Students

Social and Administrative Sciences graduate programs need more student applicants interested in science and research careers. First degree pharmacist salaries are often more than entry level academic ones. The new practice is exciting and there is little interest in delaying that enjoyment with more classroom stuff. So we get students from all over the world and disciplines outside of pharmacy. Many faculty wonder about the all PharmD six-year program and whether it will diminish graduate students forever. We should be looking at this as an opportunity to recruit residents and fellows and professional degree post-doctoral students.

Funding

How does one support a graduate enterprise? Funds come from the educational mission of the college to support faculty for professional and graduate teaching. Funding also comes from the entrepreneurial research activities of the faculty. At times I am forced to see a graduate student as a $75,000 financial obligation. Funding for science, to build the deep theoretical and conceptual structure of pharmacy knowledge, is not easy to find. Money to answer other people’s questions is easier to get than money to answer one’s own. Faculty often hide foundation building science in applied research projects that answer, often again, the funder’s question. Too few dollars are available to construct the theories and instruments required to build a body of pharmacy knowledge. The lack of funds distract scientific programs, derails scientific careers — they become administrators — and interrupt programs of scientific inquiry. Funding changes and that $75,000 obligation is still there. Research to pay the bills is sought.

THE NEED FOR SOCIAL AND ADMINISTRATIVE SCIENCES

Being few in number, why would one consider maintaining Social and Administrative Sciences graduate programs in colleges of pharmacy? Scientists on the frontiers of health and pharmacy bring recognition to their colleges. They help to assure that the professional programs are contemporary in the concepts of health and pharmacist practice by examining a systems view of the individual, their social milieu and the global picture of health care in society. The Social and Administrative Sciences are at the frontier of health care and pharmacy for the 21st century. Scientists, as opposed to researchers, are predisposed to theory and concepts. This leads to education and not training. Scientists add the concepts and theory of their fields to the skills (e.g., decision-making) needed to practice a 40-year career. How many facts have lasted through our careers to date?

Scientists based in pharmacy tend to focus on the issues of pharmacy. Too few scholars were looking at the issues of pharmacist practice in the 70s and 80s. The literature to ground us in such things as evidence-based practice is not strong, yet began in about 1978(15). We still do not have something as basic as good workforce data to work with and it has been an academic generation since we started. This is not to fault those who researched these ideas and naturally segued to other interests. It is to fault a system that does not support new and sustained basic
inquiries into pharmacy and health care. In the 90s we are beginning to create the tools and concepts needed to investigate social and behavioral phenomena in pharmacy. The Social and Administrative Sciences are building the scientific foundations upon which the future practice of pharmacists will stand. For the profession to thrive, so too must they.


References
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