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Recollections on Mentoring

Gary W. Dickson

North Carolina State University, College of Management, gary_dickson@ncsu.edu
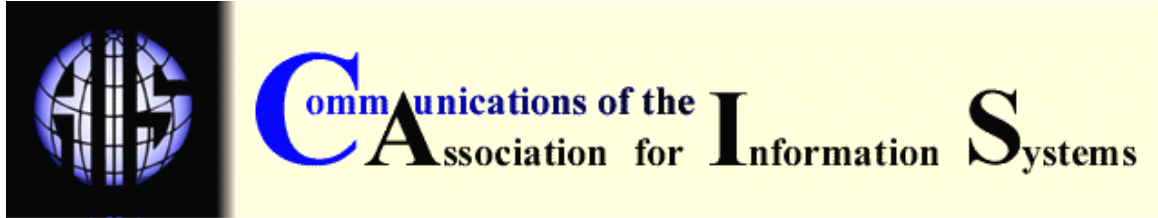
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RECOLLECTIONS ON MENTORING

Gary W. Dickson
Professor Emeritus
University of Minnesota and
North Carolina State University
gwdickson@atmc.net

ABSTRACT

In this article about mentoring I simply try to tell a story about what transpired involving me and our doctoral students at the University of Minnesota from the early 1970s until the early 1990s. I try to offer a few guiding principles on mentoring doctoral students, but I must set forth a disclaimer that my observations are based on a situation that was very environmentally specific and thus any generalizations should be taken in context of the time and place.

Keywords: mentoring, doctoral students, principles

I. PROLOGUE

I have been honored by a special section of the *Communications of the Association for Information System*s focusing on the subject of mentoring. This is, for me, a unique opportunity as this is likely to be the last academic paper I will write at the end of an academic career that has spanned some 40 years. But, at the same time, I have found this task to be extremely daunting as I have so much to say about a subject that is dear to my heart and at the same time the papers in this issue are supposed to be "short." In this article, I would like to say something to the reader that is valuable and interesting and done at some modicum level of quality. In other words, there is no way I can possibly accomplish these multiple objectives so I beg the reader's forbearance. My intended audience for my comments, by the way, I am assuming are my former Ph.D. students, faculty in the MIS area who know me, faculty in the area who I have never met including those who have entered the area since I have gone away, and perhaps Ph.D. students in the area. I ask you all to excuse me if I am a bit verbose and write more than is required, because this outpouring is really my swansong.

One of the accomplishments of which I am most proud about my 40-year academic career is that 26 out of 28 of my Ph.D. thesis advisees completed their degree and most have gone on to very distinguished and satisfying careers, primarily in academics. I like to think that the training and mentoring they received (from me) in their Ph.D. program added value to their later success. But, I honestly think that it was the total set of special circumstances that existed at that time for the MIS Ph.D. students at the University of Minnesota that was fundamental to what the students were able to achieve in their careers after graduation. Such being the case, my thoughts about mentoring should not be taken as a prescription that can necessarily be followed by others in different places and points in time. What follows is restricted to mentoring experiences involving doctoral students in MIS at the University of Minnesota from the beginning of the 1970s until the

early 1990s, at which time I moved on to conclude my academic career at North Carolina State University.

I will have little to say about mentoring junior faculty as, frankly, I really did not do much of this because I was too busy working with more senior colleagues and doctoral students in programs of research to have much concern about mentoring junior faculty. In my opinion new Ph.D.s who have received proper support and training in their doctoral programs should not need to be mentored once they take a faculty position.

Upon taking into consideration what I am writing here, and going on to what is said about me in articles (which at this writing I have not read) by my former students, I would expect the reader to conclude that working as a Ph.D. student with Gary Dickson was no walk in the park. Readers who have not experienced me directly should be warned that you probably would not want to be my child, wife, or Ph.D. student as I am probably best described as the Bobby Knight of IS Ph.D. education.

For those who may not know, Knight is the college basketball coach with the most all time wins. But, in addition to his success Coach Knight is renowned for his, shall we say, intensity illustrated by screaming at a player who was not performing up to expectations or throwing a chair across the basketball court in frustration with the officials. My own students may have heard me tell them that it is when I stop screaming at them, or in my case, criticizing them, that they had better be worried as this is when I have given up on them. I never threw a chair at anyone, but I have recently heard some of my former students claim that I threw a few term papers to show what I thought of their quality. Thrown papers, at least, are less likely to produce bodily harm than thrown chairs. As with Coach Knight, Gary Dickson would not be likely to win the Mr. Congeniality Award or be voted Mr. Nice Guy. But also like Coach Knight who was generally highly regarded by his former players I would hope to receive a similar judgment from my former Ph.D. students who I always wanted to help be the very best they could possibly be but did so in a manner that would never be described as gentle.

II. INTRODUCTION

I really have never thought of myself as a mentor. Rather, I think of myself as having played a role in what might be described as a very special experience. It is not what I did, it is what *we* did that I think was very special. Some have heard me describe the times at the University of Minnesota in creating and carrying out a program in management information systems (indeed, a new academic discipline) as being a lot like the old Mickey Rooney/Judy Garland movies. Since some of you reading this may be too young to have any idea what I am talking about, I will give a brief explanation. In many of these movies Mickey and Judy played the role of kids facing some critical problem in the community that could only be addressed by raising spirits, getting people to work together, and mainly, obtaining funds of some sort. The solution, to paraphrase either Mickey or Judy, usually took the form of, "I know, let's put on a show!" The notion was that somehow, even though they had never done it before, they would pull off what they proposed to do. And, as you would expect, they always did.

What the kids attempted in these old movies is a lot like what we did in those wonderful days at the University of Minnesota. Just to name a few things, we created a new academic area where none had existed before including new graduate curricula, courses, programs of research, an academic journal that evolved to become the flagship for the field, and of course, many Ph.D. graduates. The doctoral level graduates played key roles in the continuing evolution of the field and many have become recognized leaders in the field. So, anything that is said about me or by me about mentoring has to be taken in the context of what I consider to be a very extraordinary time. Extraordinary and special, at any rate, for many of us that were involved even though we might not have always been so positive at the time (what with all the blood, sweat, and tears that were involved). You have heard it said before, but you really "had to be there."

III. MENTORING IN MIS AT THE UNIVERSITY OF MINNESOTA

Beginning in the late 1960s, a few of us at the University of Minnesota set out to create something new and different in a business school context involving the application of information technology in organizational settings which at the time was in its infancy. From the beginning we intended to be first class, indeed, *world class*. From our initial success in producing graduate student output (notably at the Ph.D. level), research results, industry interaction, and acting as a center for the development of the MIS field, we held quality as a guiding principle.

The quality emphasis definitely impacted the Ph.D. students in our program. I can illustrate this fact by an example. All entering Ph.D. students, independent of their background, had to take my graduate course in MIS where they were mixed in with master's-level students who were majoring in MIS. The first day of class they saw the following quote in my course syllabus by a famous and very successful football coach, Bear Bryant of the University of Alabama, directed to his incoming players -- "Be Good, or Be Gone." The intent of the quote was to impress MIS students that the MIS area at Minnesota demanded high quality and a good deal more effort than many other graduate areas of specialization in the business school, and that students in our area had to commit to our work ethic and quality level, or they should opt out early before they put forth a lot of effort on something they were not willing to complete.

The course covered two major areas. One was to bring all entering students up to a threshold level on technology and the other was to introduce what those of us at Minnesota determined was the MIS field. For our Ph.D. students, the latter was critical as we wanted everyone to "be on the same page" regarding what our view of MIS was. For those Ph.D. students coming into the program with superior technical knowledge and skills and thus feeling they might not need the technical section of the course, I simply said that they should watch and learn from my teaching methods and, where appropriate, I would draw on their technical capability in areas where they knew more than I did. I can attest to the fact that the first class of this course certainly seemed to get the attention of our new Ph.D. students (and might just have been a bit intimidating to some). Overall the course was very effective in meeting its objective of starting everyone out with a common view of what MIS at Minnesota was all about and allowed for a shared framework that could be expected in all other MIS courses and research.

Mentoring of our Ph.D. students at the University of Minnesota in reality was done by a system with many parties playing critical roles. The parties included: faculty in the MIS area, faculty from other areas of the business school and from other units of the university, support staff, and more senior MIS students working with and serving as role models for more junior students

First, and foremost (almost always to the consternation of our school's academic administration), the MIS faculty took our Ph.D. program in MIS as our first priority not, for example, the MBA program or the undergraduate programs. Huge amounts of MIS faculty time was devoted to the Ph.D. program and included activities such as admissions (many years we had more than 100 applicants for perhaps eight to ten spots), testing and examinations, research seminars, leading-edge programs of research, conducting mock oral examinations, meetings with students on research and thesis work, managing and instructing teaching assistants who evolved to teach undergraduates (with evaluation and feedback), playing slow-pitch and co-recreational softball, and parties including the MISR-Ski Day. You name it and the MIS faculty and staff spent time doing it. In short, the Minnesota MIS Ph.D. program was planned and operated as a total package aimed at producing Ph.D. graduates that would be provided the knowledge and skills to be academically successful at a high level.

Oh, by the way, there were the formal classes but all Ph.D. programs have these for better or worse. One mentoring-related class that I taught is different enough to deserve some description. This class focused on structuring a research study and writing an academic journal article as a result. Students in the class were provided a fixed set of background materials such as journal articles and conference papers and a real set of research data to work with. Over two terms each student wrote (and rewrote, and re-rewrote) the introductory section of an article, a literature

review section, study design section, and so forth. Each section had to pass my approval before the student could move on to the next section. As I recall, a few did not get past the introduction; one or two may have produced two or three sections. I do not believe anyone in the class finished the entire article or, for that matter, came very close to doing so.

On the subject of coursework in the doctoral program, one important aspect is that the university required part of the student's courses to be taken in an area outside the business school. This requirement resulted in our MIS students coming in close contact with leading-edge faculty from core disciplines in coursework, in oral examinations, and on their thesis committees. Faculty from fields such as psychology, speech communication, computer science, or economics added immense value to the Ph.D. program process, and expanded the mentoring available to our students.

I have two summary observations at this point in my discourse. The first is that it is the quality of a total academic program and its associated activities that are all important to achieving quality student output from the program. While mentoring of individual students by individual faculty may help, such will be far less effective if the mentoring takes place in a vacuum.

My second observation is that the concept of mentoring can be misleading. What is truly important to understand is what factors are critical to the success of the product that is being produced, Ph.D. students in MIS in our case. A package should be in place to provide these critical abilities to those being produced. To connect these two thoughts, one should remember that you, by yourself, may not be able to provide all the abilities that students require and that a system of resources needs to be in place to support the total package. In the next section, I will focus on a few topics related to mentoring that I think are important and may be of interest, particularly to apprentice mentors. I will try to provide enough description and examples from the Minnesota experience in what follows to allow the reader to appreciate my mentoring activities and those provided by others.

IV. MY THOUGHTS ON MENTORING (WITH A FEW ANECDOTES)

Assume that producing a high-quality Ph.D. graduate output is of paramount importance to all who are involved in mentoring, particularly the student's immediate advisor when considering the following points:

1. A mentoring system/structure

The MIS program at the University of Minnesota generally expected the students to finish their degrees in four to five years. During my time there I recall that the minimum time was just under three years and the maximum (for those who finished) was about six years. The faculty put a great deal of pressure on the students to finish on a timely basis. In my later years there, we "banished" students to offices outside the main business school building if they were not finished in four years. Thus, they had to share office space with first-year students. Generally in the Minnesota MIS Ph.D. program, the first two years were spent completing coursework in MIS and supporting fields. Usually written and oral examinations over the course material were completed at the beginning of the third year (delays could occur should remedial action be necessary). The third year was spent developing a thesis proposal and defending the proposal in an oral examination judged by five faculty, three "readers," and two non-readers. Two of the faculty committee members had to be from supporting areas which frequently involved faculty outside the business school. If all went well, year four was spent completing the research, writing the thesis, and defending the research in a final oral examination.

There were several other system-related mentoring activities that may be of interest. To encourage students to finish their Ph.D. degrees, the faculty agreed that we would not write letters of recommendation for jobs until the thesis proposal had been successfully defended. We felt very strongly that we wanted our students to be finished with their degree when they arrived to start an academic career at a new institution. We tried to counsel the students that in having to

teach in a new environment, do research, and publish, the last thing they wanted to do was to have to try to finish their Ph.D. thesis in absentia. In this regard, I recall one of my students who was not completely done with the thesis upon leaving. In the student's first term there was a break over the Thanksgiving holiday so the student returned to Minnesota to work on the thesis. Gordon Davis happened to: (a) be out of town, and (b) have a couch in his office. I have been accused of chaining the student to the couch for four days while we continually worked on the writing of the thesis. I did go home to sleep and I can only assume that the student may have done some napping on the couch. But, my strong-arm tactics did work as much progress was made and the thesis was completed shortly thereafter.

Another thing our system included was a Friday research seminar where outside visitors (often leading MIS faculty from other schools) made presentations and presented role models. This seminar was also used as a mechanism for doctoral students to present preliminary versions of their thesis proposals to their colleagues. Doing this provided thesis examples for the more junior students as well as a forum for constructive criticism for the presenter and could be called a form of mentoring for students at different stages of their program. On many occasions I recall attendance being more than 30 students, faculty and visitors (sometimes university faculty from other disciplines). We worked hard to make these seminars belong to the students and not the faculty. We even had an informal rule that the three first questions to the presenter should come from the students and the faculty should remain quiet in the background (sometimes this even worked).

Even the student examination process was used for mentoring. For example, we invited students to attend oral examinations in order to provide examples of this process and what to expect when their turn came for these experiences. In the case of written examinations over coursework, we had two faculty members responsible for developing and evaluating each question. In cases where there were significant differences in the scoring, there was a process in place for resolving these differences in opinion. Final decisions were made by the entire area faculty. During the process all individual question scoring and overall results on the set of examination questions was anonymous until a final decision had been made. One of the most important aspects of the examination process was that, in the event of less than satisfactory performance, a huge effort was made to give the student some sort of specific remedial activity to enable them to resolve the difficulty. One of the hardest things I had to do was to meet after these examinations with a student who did not pass or did not pass part of the examination and give them the bad news. For many, it was the first academic failure they had ever experienced plus they had put in a huge amount of non-rewarded effort in an area of extreme importance to them. My job was to try to pick up the pieces and give the student some specific advice about what the student could do to rectify the situation and move on to success. One point to make here is that relatively few of the Minnesota MIS Ph.D. graduates, good as they were, went over all the hurdles without tripping at least once.

One can see that this process, in itself, provided for maturation of the students as well as the opportunity for a lot of mentoring. We tried as much as possible to use the more senior students as mentors for their junior colleagues. For example, a student might serve as a teaching assistant his or her first year in the program, a research assistant the second year and third years, and work during year four as a more senior member of a research team supervising the more junior researchers. I can report that many students I worked with in this system were, by their fourth year in the Ph.D. program, true colleagues turned into good friends. It was often difficult to lose these colleagues as they moved on to other institutions upon completing their doctorate.

In summary, the system we used at the University of Minnesota had ample opportunities for mentoring by a student's individual faculty advisor, other faculty in the MIS area, and faculty from other areas in the business school and the university, as well as by other Ph.D. students. The Minnesota approach can be best described, I think, as being a multi-year, planned, total immersion process.

2. Work with high quality input.

It may seem obvious, but one of the most critical things about our success in the Minnesota MIS Ph.D. program is the students we worked with. We took in great people/students, polished them in a formal way, and produced great output as a result. I mentioned previously that we frequently had more than 100 applicants for approximately 10 spots in the program. We spent a large amount of time, probably too much looking back, trying to decide whom to admit and offer a pretty good financial package in order to try to attract from our competition (there is an analogy here with college recruiting of athletes). But, there is one other thing we did that is, I think, pretty unique.

A Ph.D. program is very expensive in terms of limited resources. Nothing can consume faculty time like a Ph.D. program. It is not teaching the courses that takes so much faculty time, but rather the examinations and working one-on-one that is so different from working with other academic program levels. After a few years, we came to realize something that we would teach in classes but ignore in our practice (but, recall that an academic institution is usually immune to what it knows). We found that of all the Ph.D. students admitted to our program (more than 100 in the timeframe about which I am writing) about 20 percent of the students struggled, having difficulty with examinations, structuring the thesis, and in completing their degree. For many years, we did not discover who these students were until they finished the coursework stage of the degree program. By this time, we had committed to these students for two or three years, and realizing all that the students had committed as well, we were very reluctant to give up on these students. So, we sunk in even more time with them. Some eventually finished, but many did not. And, for those who did not finish, we realized we had put in lots of time with zero results. After several years of this frustration, we came to recognize that we had to make some changes in our process. I have to say that I was probably a hardliner on trying to institute changes in our Ph.D. program process. I was instrumental in creating an end-of-first-year exercise that involved both written and oral examinations of a condensed type mirroring the formal examinations that would be taken by the students later. The examination results plus an overall evaluation of the student's performance in courses and as teaching or research assistant was made to counsel students out of the program who we determined would have low probabilities of successful completion of their degree.

3. Understand what is important.

I have alluded previously to the notion of factors that are critical to the success of MIS academics (credit to my good friend Jack Rockart). But, any individual mentor and a mentoring system fundamentally have to know what to mentor. The topics listed in the call for papers associated with this special issue provide one example. The list of factors is long, but a few of the most important for mentoring are to be: competent in what you are doing; able to pick a research area that is both interesting and important; able to design a research study; talented in performing data analysis; able to know how to write up what you have done so that it has a good chance to be published in a high quality academic journal; and good enough a teacher and citizen to survive in the academic political milieu. Needless to say, there are sub-items that are critical in successfully completing a doctoral program and other details that need to be done well to survive as a faculty member. It is difficult to teach all these, and one thing that helps is to be able to show by example.

4. Be a role model.

It sounds trite to say so; perhaps the most important thing to do in mentoring is to lead by example. In other words, the good mentor should have a good track record of doing the previously listed things. In my case, I think I worked in some interesting and important areas (many times doing pioneering work that was drawn upon by many others). I claim that I was very good at designing research programs and individual studies and could transfer this capability to others. An aptitude for which I have been held in high regard by others is the ability to take a project and be able to structure its presentation so as to have a high likelihood of being published

in a quality outlet. Teaching, I would rate me as both good and bad. I would score myself high for doctoral teaching; I did learn to do a pretty good job in case teaching for MBA students at some leading programs, and I was not very good in two areas—undergraduate teaching and executive development. But, overall, I survived and mainly was able to spend my teaching time doing what I was best at.

5. Treat those who you mentor with respect.

I always tried to maintain a professional relationship with my doctoral students while, at the same time, becoming close friends with many of them. We were able to engage in social and sports activities and also have a professor-student relationship. I do not think that any of my doctoral advisees ever hated me. In fact, at the University of Minnesota, I was asked on more than one occasion to assume the advisor position to a student who had a significant problem with a prior advisor. There, I was sort of the "St. Jude" (Patron Saint of Lost Causes) of doctoral students who had put in a significant amount of time and effort with an advisor but finally came to an impasse. One of these cases dominates all the others because, quite frankly, I was technically incompetent to take over the student's doctoral thesis (but this did not stop me from doing so). This was the case of a student working on a thesis involving physical database design. One problem the student had was communicating in a way that was acceptable for a thesis in business (the student wrote more in the mode of computer science).

My solution was to use the conference room in the Management Information Systems Research Center to work with the student and another member of the thesis committee, Sal March, who was technically competent in the area but at the time was an assistant professor and not senior enough to serve as the chair of a doctoral committee . We would approach the writing almost one sentence at a time, particularly in the introductory and concluding chapters. I would read a short bit, interpret what I thought was meant and then ask the student if my interpretation was correct. Then I would turn to Sal and ask if what I was suggesting was technically correct. Assuming a positive response by both, we would revise and move on. If something was wrong, we would work it out. This illustration brings up a key mentoring point. If you are not competent to mentor something, then do not do so. Otherwise, get some help from someone who knows what they are doing.

This example reinforces a previous point. Do not, as a mentor, think you have to do everything yourself. Do not be afraid to use available resources to make up for your deficiencies.

6. Random points--related to topics listed in the call for papers for this special issue

Whereas my colleague Gordon Davis may be global, I was pretty international. In particular, I developed very strong research and teaching relationships in two countries, The Netherlands and Finland. I made a lot of use of these international relationships in my teaching and to encourage my doctoral students at an appropriate time in their careers to seek similar experiences outside North America.

The one thing I have always emphasized is doing programmatic research. I cannot stress enough the importance of programs of research in mentoring. I think the reader can see this from my previous comments on progression of students in playing different roles as they move through their program and the roles they may play in programmatic research. Of course one learns to collaborate in these environments.

One topic listed in the call for papers involves writing the dissertation. Writing the thesis is important, but it is much more important to go on to be able to write publishable papers out of the dissertation. I was, I think, pretty good at both these things, but one last anecdote may be of value to relate.

This was the case of one of today's leading MIS academics with whom I worked closely all the way through the Ph.D. program and served as co-advisor of this student's thesis work. This person, I know, still emphasizes to students the experiences the two of us had during the doctoral

program in trying to achieve quality writing of an academic article. The two of us (both pretty good writers) worked on a non-thesis related project during the student's doctoral work. As I recall the piece went through something like 19 revisions. These included a few requested by the reviewers/editors, but most were motivated by the two authors. I still do not think doctoral students have any idea of the level of self-criticism and effort, including rework and revision that are involved in producing quality work. The important point is that most of the rework and revisions were internally driven by those doing the work to produce an output that we could accept. The rework and revision involved in responding to reviewer and editorial suggestions was only part of the process. And, by the way, the paper did eventually appear in a leading journal in our field.

The bottom line of mentoring may be the following: Judge your success as a mentor by the later success of those you have mentored and whether or not you can count them as your lifelong friends.

V. EPILOGUE

It is very gratifying to look back over a long career and be able to think that you were able to make a difference and, in fact, maybe even left the world a slightly better place than you found it. I like to believe that by helping to found a new academic area and by playing an instrumental role in developing infrastructure in the area through creation of an academic journal (*MIS Quarterly*) and a major international conference (ICIS) my efforts have contributed to the advancement of the careers of others. Likewise, I would hope that some of my research has served as a model for others and opened up new avenues of inquiry. In addition, my work in directing the AACSB (American Assembly of Collegiate Schools of Business) MIS Summer Institutes may have changed and reinvigorated the careers of many academics from areas other than MIS. But, my best feeling is that I contributed in a small way to the careers of those students with whom I worked most closely and who were most important to me—MIS doctoral students.

I want to express my appreciation to these former students who are the primary creators, contributors to, and editors of this special section of the *Communications of the Association for Information Systems*. Thank you so much for your kind thoughts and the time and effort you have put in to make this section possible. Finally, I want to thank any of you who have found this article of enough interest and value to spend your precious time reading it to its conclusion.

ABOUT THE AUTHOR

Gary Dickson is retired from the academic world and lives in Sunset Beach, North Carolina, and Aland, Finland. His work with computing technology began with taking a course in numerical analysis as an undergraduate physics student at the University of Washington in 1957. After finishing his Ph.D. degree in 1965 at that university and working in computing and operations research at the Boeing Company, he spent 40 years teaching and doing research at two major U.S. universities, the University of Minnesota and North Carolina State University. During his academic career, he published several books and monographs, hundreds of journal articles, and conference papers. He served as the chair of 26 doctoral theses in MIS and worked closely with many more Ph.D. students at the University of Minnesota and elsewhere. He was the Founding Senior Editor of the *MIS Quarterly* journal and was the general conference chair of the First International Conference on Information Systems.