■ XENOPHON KOUFTEROS, Feature Editor, Texas A&M University

Being successful in a Ph.D. program requires more than just mental ability. It is a challenging task that demands unequivocal determination and long hours of reading and writing. What does it take to be successful? Below you will find three essays that provide advice to Ph.D. students. The first one is written by Michael Hitt, a Distinguished Professor and Joe B. Forster Chair in Business Leadership at Texas A&M University and well-known author in strategic management. Michael has mentored over 40 doctoral students over his academic career. Two of his former doctoral students are reflecting upon their experience as Ph.D. students. Parthiban David, an associate professor and Rath Chair at the Price College of Business at the Univeristy of Oklahoma, discusses what it takes to be successful in a Ph.D. program from the perspective of somebody that graduated over 10 years ago. Tim Holcomb, an assistant professor in Management at Florida State University, also shares his thoughts about what it takes to be successful in a Ph.D. program with a third essay. He recently received his Ph.D. in strategic management from the Mays Business School at Texas A&M University. [***Xenophon Koufteros, Feature Editor***]

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Being Successful in a Ph.D. Program

by Michael Hitt, Texas A&M University

Because of the careful processes used in screening and selecting new Ph.D. students, there is very little variance in the intellectual capabilities and other skills of those entering Ph.D. programs. And, success in a Ph.D. program requires more than intellectual capabilities. I have several recommendations for people who want to ensure that they are successful in a Ph.D. program.

Mental Preparation

Among those include the mental preparation required for a rigorous experience. To successfully complete such a program requires motivation and commitment. First, to be successful in a Ph.D. program, students need to prepare themselves mentally for a highly challenging and rigorous experience. This means that they should come into the program with the expectation of being challenged both intellectually and in terms of the rigor they should expect from the demands in the programs. Students also must be highly committed to performing well in the program and to gaining as much value from the program as possible. This commitment is based on a desire to succeed, the motivation to perform well and a willingness to make sacrifices and tradeoffs. In particular, the tradeoff that most students have to make in order to be successful is that of time and other activities. The most successful students are unlikely to have much leisure time, for example. Undoubtedly, some time away from the rigors of the program can be helpful, but they are likely to be few in number and short in duration.

Knowledge Absorption Capability

One of the important demands on Ph.D. students is a heavy requirement for reading a significant amount of material. Thus, I recommend that students develop the capability to read and absorb material quickly. Of course, speed reading is only valuable if the student is able to learn and internalize the content. Thus, speed reading is only part of the skill. The ability to absorb (understand and internalize) new knowledge is especially critical in Ph.D. programs. Such skills are necessary to be successful in a Ph.D. program.

Research Capabilities

In addition to the general content knowledge in the field of study, a Ph.D. pro-

gram should help students build their research capabilities. Most Ph.D. programs require students to take a number of courses designed to help build their knowledge of research methodologies and statistical tools. Yet, some aspects of research are difficult to teach. In fact, these aspects of research often involve the application of tacit knowledge. Thus, individuals must actively participate in research projects in order to gain this knowledge. Ph.D. students likely will be motivated to participate in research projects in order to gain publications that help them in obtaining their first job as a faculty member. Such activity also adds to their repertoire of publications that can count toward promotion and tenure. Yet, participation in research projects while in the Ph.D. program also provides an important opportunity to learn and to build tacit knowledge on how to do research. As a result, Ph.D. students should participate in research projects with the intent of learning all aspects of research and publication. If papers are submitted to journals and students receive the opportunity to revise and resubmit, they should pay careful attention to the revision process and how to respond to editors and reviewers to achieve a successful publication decision.

Participating in research projects and working on other research papers provide the opportunity for an early start in developing the research question for the student's dissertation. In addition, the dissertation research process provides an opportunity for the student to learn how to develop and manage a major research project. For example, by working with committee members, the student can learn how to manage others involved in a major research project. So, if one approaches the dissertation process appropriately, much can be learned that can be useful throughout one's career in managing large research projects. Learning how to derive value from those research projects through publication of the findings in major research outlets is exceptionally important for success in one's career. Many of these skills, capabilities, and knowledge can be obtained in a Ph.D. program if the student is motivated.

Conclusions

Overall, a Ph.D. program is demanding and rigorous but can also be personally fulfilling and even enjoyable. Successful students often make some of the best friends through their peer group in Ph.D. programs. Some of the best friends I've had in my life come from people with whom I experienced and worked, and from whom I learned in my own Ph.D. program. I would wish the same positive experience for every Ph.D. student. They can do so if they approach it with the right attitude and commitment to learning.

Distant Reflections …

by Parthiban David, University of Oklahoma

Mike has, as always, provided excellent advice. Let me follow up with a few thoughts on what I think has worked for me.

Learn the Craft

The doctoral program provides plenty of opportunity to learn. Doctoral seminars teach us the tools of the trade, the theories and methodologies that help us ask and answer interesting questions. Think of the doctoral program as the means to build a strong foundation. A professor has to always be learning, and this is easier to do with a strong foundation to build on.

We're Not Alone: Learn from Others

Research does not have to be a solitary activity. In the Ph. D. program, we learn from our professors, especially from our dissertation advisor and committee members, and from fellow doctoral students. Our circle expands over time to include doctoral students and professors at other schools, as we start to submit papers, attend conferences, and find jobs after graduation. These are potential role models, mentors, and friends. We can learn from their experience, and get help and advice on research, teaching, careers, and reviewing. Our conversations can help sharpen our ideas and foster opportunities to work on joint projects. If nothing else, our friends and mentors help us better celebrate our successes and cope with our disappointments. I owe much to mentors and friends who guided and inspired me, worked with me on my research, and helped me make better decisions. I would put having good friends and mentors right at the top of my list of what it takes to succeed.

Be Known for Your Work

It is easier to make a contribution by focusing on a unified stream of research than by dabbling in a variety of unrelated areas. The doctoral program provides a wealth of menu choices that should help you decide what area you would like to emphasize in your research. Start thinking about your research early. The sooner you start on your own research stream, the faster your progress. Be sure to pick a topic area you are truly interested in so that you can sustain your enthusiasm over the long haul.

Find the Right Balance

Success means different things to different people. We should aspire to do our best, but it helps us stay sane if we can be realistic about our abilities and our limitations so that we can "accept that which cannot be changed; the courage to change that which can be changed, and the wisdom to know the difference"

(http://en.wikipedia.org/wiki/Serenity_Prayer).

Recent Reflections …

by Tim R. Holcomb, Texas A&M University

What does it take to succeed in a doctoral program? Each doctoral program is different; each faculty is different; and each student holds unique ambitions and faces distinctive challenges. Thus, each student's experience in a doctoral program is different. Nevertheless, much can be passed on to those who are beginning the journey. Certainly, success in a doctoral program requires competence, determination, and a passion to succeed. However, is there more to it? In reviewing my own experience, I have three suggestions for students to bear in mind when considering what it takes to succeed in a doctoral program: (1) prepare a plan, (2) set a deliberate pace, and (3) seek to persevere.

Prepare a Plan

Someone once said that success happens when preparation meets opportunity. Indeed, determining where you want to go and what steps you should follow are among the most important considerations when preparing for any journey. Pursuing a Ph.D. is no different. Define your goals for the program. Stephen R. Covey, noted consultant and author of the *7 Habits of Highly Effective People*, suggests that all things are created twice and urges readers to begin with an end in mind (Covey, 1989). Covey argues that successful people first visualize an outcome, and then work to bring that outcome into physical existence. By taking control of our own first creation, we can write or re-write our own scripts, thus taking some control and responsibility for the outcomes that we value.

Doctoral students need to realize that they are in charge of their program. A doctoral program can humble the most accomplished student. Be proactive and take responsibility for your next four years in the program. Take stock of your inventory of skills. Understand your strengths and weakness. Prepare a plan and set milestones that shape the journey. Be honest about what you want to accomplish. For instance, if your goal is to land a position at a top research school when you graduate, plan to devote considerable time and effort to develop a project pipeline that can produce at least one "A" publication. Remember the failure rate at most top journals exceeds 90-percent. Even under the most optimistic circumstances for those manuscripts that survive the review process, securing an "A" publication often requires two years from the start of a project to the final acceptance. As a result, students must start work on meaningful projects very early in the program. Your plan should provide a clear vision of your desired goals and destination. Be flexible, but let the goals that you establish for your program guide the choices that you make.

Set a Deliberate Pace

It is important to manage your time wisely. Organize and execute your work around the priorities outlined in your plan. Focus on elements of the program that relate directly to your goals and that you can control. Avoid spending time on issues that are outside of your control. Prioritize your work. Students known for their competence and motivation tend to experience more demands on their time from their cohorts and faculty. Developing a positive reputation can be a great asset to you, especially in building your pipeline, but remember that every opportunity has a cost. Reflect on your goals, and choose wisely. Set a deliberate pace. Find a rhythm that works for you. Dierickx and Cool (1989) introduced the concept of time compression diseconomies: the fundamental mechanism of diminishing returns when—everything else equal—the pace of activities increases. They explain it by providing the example of MBA students in a one-year program, who may not accumulate the same stock of knowledge as students in a two-year program, even if all inputs other than time are doubled. The same mechanism applies to students who pursue a Ph.D. The amount of new knowledge that you can absorb and put to use during the program is constrained in time. An understanding of the literature and the linkage between theoretical domains has to be established, assimilated, and integrated, but students are bounded in terms of their ability to absorb this knowledge quickly. Avoid over-extending yourself. Be purposeful.

Similarly, do not underestimate the time that is required to learn the "tools of the trade." Allocate the necessary time to sharpen the skills that you need to experience a successful career in academics. For instance, one of the biggest challenges a student faces when starting a doctoral program is learning how to write well. Begin writing early in your program and write often. In addition, invest time to build a community around your research topic. Identify relevant faculty at your school and in other programs that share research interests. Take time to socialize at conferences and build a professional identity. Build your network. Establish strong working relationships with scholars that share your research interests. Leverage those relationships to secure feedback on your work and help guide your time in the program. The most successful students look for different avenues to work with faculty and other colleagues and welcome the opportunity to expose their work to other scholars at conferences and research forums. These investments can produce important benefits to you as your career develops.

Seek to Persevere

The Ph.D. journey is long, demanding, and pressure-packed. You are sure to experience highs and lows in your doctoral program. Embrace each challenge as a learning experience. Aim high. Strive to see your research projects published

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This system has many advantages. The PM's preferences are inputed to the model and are used to determine the best amounts of each attribute to accomplish given the resources available. The PM can easily understand how the quantitative scheduling algorithm determines the schedule. In addition, *what if* questions can be answered. Suppose city council asked the Parks Department what it could accomplish if the labor hours were increased from 2074 to 2438. Using linear interpolation, Table 2 shows that 2438 labor hours would increase the trim mowing from 8.8 to 9.6, increase tractor mowing from 15.6 to 17.2, increase litter removal from 6.2 to 7.4, and increase ballfield dragging from 8 to 16.

PMMS also collected data on how much of each job was accomplished in the preceding two-week period. Although this actual job performance data was compared to what the computer schedule predicted could be done, it was not used in a punitive fashion but rather as a starting point for discussion of what changes would enable the parks department to do a better job of serving the public. The objective was to instill pride in the parks maintenance personnel and to motivate them into making continual improvements.

By design and by enlightened management, PMMS avoided many of the obstacles listed above. PMMS avoided the job control obstacle as parks maintenance management viewed the computer schedule as simply a starting point and was free to change it as conditions warranted. In addition, the computer schedule only gave the amounts of each job that could be accomplished and did not tell a manager what personnel should be assigned to which crew or like priority class scheduling when the jobs should be done within the period. The managers were free to devise their own work schedule within the computer schedule framework so they were hopefully motivated to design an efficient schedule and could not blame any inefficiencies on the computer schedule. The managers were also free to respond to both short-term physical changes and priority changes as they saw fit. The preference and knowledge input obstacle and the tradeoffs obstacle were for the most part avoided by using the maximin value function supplied by the parks maintenance management to drive the determination of the computer schedule. For the obstacle of using the computer schedule as a tool, every effort was made to enable parks management to use the computer schedule as a tool, but this was limited by the fact that the computer schedule was only produced once every two weeks and the parks maintenance managers could not use it to ask *what if* questions. In addition, although there was some minimal training on how the quantitative scheduling algorithm worked, hindsight says that more effort should have been directed into training. Finally, as with all applications of quantitative scheduling techniques, the incomplete information obstacle was present.

Overcoming Obstacles

Using the discussion above, some strategies and ideas on how to overcome obstacles to the application of quantitative scheduling techniques can now be stated. Probably the most important idea is to make the quantitative scheduling technique accessible to the managers as a integral tool in their day-to-day work. This requires three important changes in the way quantitative scheduling techniques are designed and implemented.

1. Managers must understand how the scheduling algorithm works so they know not only its strengths but its weaknesses. Much more time must be spent in educating the managers so they view the scheduling algorithm as an important tool that they can use.

2. Managers must have constant access to the scheduling algorithm so they can run what if analyses. This access was not possible in 1972 tire production system because only mainframe computers were available. However, today the power of laptop computers and the Internet make this access possible, but the designers and programmers of the scheduling system must make this access the top priority in the design and implementation of the computerized quantitative scheduling system.

3. Ways to measure a manager's value function and integrate that value function into his model must be invented. If this is done, the manager will feel ownership of the model and will not be afraid to use its results.

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in top academic journals. Recognize that failures will come, but do not let them discourage you. Michael Jordan, one of the most accomplished professional basketball players of all-time, once observed, "I've missed more than 9,000 shots in my career. I've lost more than 300 games. Twenty-six times, I've been trusted to take the game-winning shot and missed. I've failed over and over and over again in my life … And that is why I succeed." Indeed, strength and growth comes only through continuous effort and struggle, so do not be discouraged if you struggle and fail a few times. In most doctoral programs, students are surrounded by experienced faculty. Seek their help. Rely on them for advice. Remember they were once students, too. While there is no substitute for perseverance, in many cases, guidance can prove invaluable, saving time and unnecessary effort.

Good luck!

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