Personal-Professional Development: A Formula for Success on the Tenure Track

Manoj S. Patankar
San Jose State University

Abstract

Most universities in the United States measure the performance of their tenure-track faculty in three areas: teaching, research, and service. This paper presents a "formula," based on personal experience, which would enable new faculty to better prepare themselves for success on the tenure-track. The central construct of this formula is an understanding of the various factors that can positively as well as negatively affect one's productivity. The positive factors are (a) 5-year plan, (b) mentor(s), (c) external grants, and (d) graduate assistants. The negative factors are (a) organizational instability and (b) fluctuating teaching assignment.

Introduction

This paper is a personal opinion piece, based on my experience, aimed at helping new faculty in engineering and technology sectors better prepare themselves to succeed on the tenure track. My experience is primarily at an aviation program within a comprehensive public university. Aviation programs are typically administered under one of three colleges: engineering, business, or applied sciences & arts. In my case, the program was originally administered by engineering, then moved to applied sciences & arts, and then returned to engineering.

In many ways, I have had a unique experience while pursuing my tenure. The brief history is as follows: I accepted a tenure-track appointment under the condition that I would obtain a doctoral degree (not unusual in aviation since there were no doctoral degree programs in aviation at that time); four senior faculty members retired within a six-year period (three years before my arrival and three years after); nobody had received tenure in the department for the preceding fourteen years (three candidates were denied tenure and two resigned while on the tenure track); and in nine years, I have served ten department chairs, two deans, and two colleges.

I present some positive as well as negative factors that have influenced my productivity. I will draw upon the relevant body of research in this area and direct the readers to some sources for additional information. The goal of this paper is to provide new faculty with an introduction to the tenure track by identifying the factors that are likely to influence their degree of success.

Background

The Rationale for Tenure and Promotion
The concept of "tenure" was instituted in American universities in 1915 in order to allow faculty members the freedom to research and publish without fear of retribution [1,2]. Consequently, there were very few, specific reasons under which a tenured faculty could be terminated. For example, ethical misconduct and termination of the department are two of the typical reasons for terminating tenured faculty; however, such incidents are very rare. Furthermore, since January 1, 1994, the Age Discrimination in Employment Act has prevented colleges and universities from imposing mandatory retirement based on age [3]. Therefore, award of tenure represents a life-time commitment for employment on the part of the university.

Promotion through the ranks of Assistant, Associate, and Professor is a matter of peer recognition of one's professional accomplishments. Typically, faculty members are hired in the rank of Assistant Professor and are expected to achieve tenure and promotion to the rank of Associate Professor simultaneously. In order to achieve the next promotion, they are expected to continue with their track record of productivity while assuming leadership roles in the university and in their profession.

Ultimately, the tenured faculty members are considered to be the foundation of American universities: they are the brick and mortar that collectively define their university. Through a system of shared governance, these tenured faculty members have an outstanding ability to influence the culture, standards, and practices at their university.

The Implications of Tenure and Promotion
Tenure is more than a status or a privilege because it means different things to different groups. The implications of whether a person achieves tenure or not are felt at four levels: candidate, department, college/university, and the labor union. The following paragraphs discuss these implications.

Candidate's Perspective: From the day a new faculty member is hired at the rank of Assistant Professor till he/she achieves tenure, there is a six-year long effort to meet the expectations of the department, college, and university. Sometimes, these expectations change over the six-year period and the candidate has to adapt to these changes. Therefore, when the university finally grants tenure, it is mainly a big sigh of relief for the candidate. Tenure allows the candidate greater freedom in experimenting with different pedagogical techniques, developing new areas of research, and focusing on certain areas of professional development which may not have been valuable in the tenure evaluation. If a candidate does not achieve tenure, he/she may get a terminal year appointment and will have to leave the university thereafter.

Department/Program's Perspective: Arguably, success or failure in the tenure process may be even more critical to the department than the candidate. A department's stability and strength within the university are measured, at least in part, by the number of tenured faculty members. If a department is not able to tenure faculty, especially a small department, its status weakens and its survivability is jeopardized. From a strategic perspective, it is important to recognize that the faculty search committee; the retention, tenure, and promotion committee; and several other

campus committees are likely to be composed of tenured faculty members only. Therefore, in the worst-case scenario that a department does not have anyone tenured, that department will have to rely on other departments to hire new faculty as well as evaluate them for tenure and promotion. This is a very weak position for any department.

Substantial departmental resources are expended in developing a tenure-track faculty member. Besides the regular salary and benefits, typical start-up costs include equipment support, graduate assistants, release time to prepare for new courses and pursue funded research, etc. Based on my experience at a comprehensive public university, I would estimate the start-up cost to be around $100,000: conference attendances ($18,000 for 12 conferences in six years), release time ($60,000 in 20 % release time for the first three years), and computer and/or other research equipment ($10,000). At top-tier universities, the start-up cost can be as much as $250,000[4]. Needless to say that there are several other non-tangible resources such as mentoring and grooming of the new faculty member that are also lost if the candidate is not successful in the tenure process.

College/University's Perspective: The college/university also stands to gain/lose from the candidate's performance on the tenure track. In the California State University system, there were an average of 27 applications per position during the Fall 2000 hiring cycle, and 75.1 percent of the appointments were successful. This means that about 25 percent of the positions will have to be re-advertised[5]. At CSU-Fresno, the total recruitment expenses were budgeted to be $11,225 per position during the FY2001-02 recruitment cycle[6]. Note: the startup costs listed in Table 1 include equipment support only; whereas, in my estimation in the previous paragraph, I included other costs incurred during the probationary period.

Table 1: CSU-Fresno Budget for faculty recruitment during the FY 2001-02 cycle[6]

Expense Category	Amount Per Position	Total for Campus
Recruitment	$3,425	$215,763
Start-up costs	$6,000	$378,000
Moving expenses	$1,800	$113,400
Total	$11,225	$707,063
Loss Due to Unsuccessful Appointments (25%)	$2,806	$176,778

Additionally, most colleges/universities run workshops and seminars to help the new faculty. Assuming that a candidate attends one workshop per year, the university will have spent approximately $3000 per candidate over the six-year period. Many tenure-track faculty also receive internal seed grants to encourage funded research. If a candidate gets two such grants, the estimated university expenses amount to $10,000. The total of all investments during a typical six-year probationary period at a comprehensive public university would amount to about $124,000 per candidate (about $21,000 per year). It is reasonable to assume that top-tier universities spend significantly more in recruiting and grooming their tenure-track faculty. In either case, such investment is only recovered if the candidate achieves tenure. If he/she is able to get external funding to the university, there is an added return on the university's investment.

Labor Union's Perspective: The labor unions offer yet another perspective on the significance of tenure. Since tenured faculty members form the backbone of American academic institutions, the greater the proportion of tenured-to-temporary faculty, greater is the stability of that institution. In recent years, the percentage of temporary faculty has increased. This increase in the temporary faculty members tends to overload the tenured/tenure-track faculty because the temporary faculty are not expected to provide student services such as academic advising and committee work which tend to be distributed among the smaller number of tenured/tenure-track faculty. According to a report by the California Faculty Association, there has been a 67 percent increase in temporary faculty appointments from 1994-95 to 2000-01 compared to only a 1 percent increase in tenure-track appointments in the same period.[7]

The Criteria for Tenure and Promotion
In a study of the tenure system at Ohio State University, Lederman and Mooney[1] discovered that "inadequate research" was the most common reason for denial of tenure. Different universities will have different priorities; however, research is considered to be valuable because it brings external funding and reputation to the university. Also, many teacher-scholars believe that one's teaching ability/currency is enhanced by success in research. Therefore, even in institutions where teaching is the primary responsibility, research is considered a vehicle to enhance teaching.

As a guide to the research expectations, I refer you to a study by the National Education Association.[8] Table 2 below presents excerpts from that study to illustrate the workload distribution for faculty in a public comprehensive university.

Table 2: Faculty workload at a public comprehensive university[8]

Public Comprehensive	Tenured	On Track	Not on Track
Number of Career Publications	25.0	12.6	7.2
Number of Recent Publications	6.9	6.0	2.8
Number of Committees	2.8	2.3	1.1
Number of Graduate Committees	2.1	1.4	0.7
Number of Undergraduate Committees	0.7	0.9	0.4
Number of Classes	3.4	3.4	3.6
Weekly Scheduled Office Hours	6.4	6.4	6.4
Number of Administrative Committees	3.8	3.4	2.6

The above table also indicates that the overall workload increases after tenure!

Evaluator Bias
The standards for tenure and promotion are often non-quantifiable. Nobody will specify the exact number of refereed articles that are required for tenure (table 2 gives a reasonable estimate). The precise interpretation of one's dossier depends on the bias of the evaluating committee. One committee may be more interested in teaching effectiveness, whereas another committee may be more interested in service to the university—specifically through campus committees and academic senate. It is impossible to guess the precise bias of a particular committee; however, it is essential for the candidate to be able to respond to each committee's recommendations. When one committee identifies a weakness, the subsequent committees are likely to focus on that

weakness. Therefore, it is essential that the candidate adequately addresses that weakness in the subsequent dossier. Sometimes, it may seem that one is chasing a moving target, but the key is to recognize that it is a moving target and to keep moving with the target.

Institutional Support to Tenure-track Faculty

The six years on a tenure-track provide an outstanding opportunity for the department, college, and the university to mold the candidate into the kind of faculty they wish to develop. Considering that it costs the university about $21,000 per year for a candidate to be successful on the tenure track, it is in the best interest of the university to establish specific measurable support system for the candidate right from the recruitment process itself. Prior to hiring a person, the university must be able to determine whether that person is likely to succeed in its tenure process. This means that the university needs to do a preliminary evaluation of the candidate's teaching capability, research potential/record, and service potential/record. Ideally, a university should not hire anyone who is not likely to achieve tenure.

Institutional workshops and periodic reminders of a candidate's weaknesses are not sufficient to ensure success on the tenure track. The candidate needs to be guided along a set of measurable criteria so that he/she is absolutely certain about his/her performance, and so that the university's expectations are met. A senior faculty member who is intimately familiar with the tenure process and the department's needs must be assigned as a mentor to the candidate immediately after his/her appointment. The mentor and the candidate should then develop a plan that should be approved by the department and the dean. Once such a plan is developed and approved, the candidate is in a much better position to understand his/her role and responsibilities in the department.

The "Formula" for Success

The Personal-Professional Development concept presented in this paper is not a mathematical formula, but a strategic formula for success on the tenure track. Most universities evaluate probationary candidates in three areas: teaching, research, and service. Since it is extremely difficult, if not impossible, to make outstanding contributions in all three areas in a period of six years, a clear strategy must be developed to meet the threshold requirements in all three areas and excel in at least one. Since the terms such as "threshold" and "excellence" are qualitative, their interpretation depends on the evaluators' bias.

The Personal-Professional Development Formula

The final tenure evaluation starts at the beginning of the sixth year. Therefore, in reality, the candidate has five years to meet all the expectations and the last year can be used to provide additional documentation to meet the various evaluators' expectations. In my experience, having a 5-year plan, a good mentor, some external funding, and a couple of graduate assistants are all positive factors whose presence will certainly be helpful and whose absence is likely to lower productivity. On the other hand, organizational instability and fluctuation in teaching assignments are negative factors, whose presence is likely to have a serious negative impact on the tenure decision and whose absence will enable the candidate to focus on his/her productivity

A 5-year plan: The concept of a 5-year plan has been used quite effectively in industry, academia, as well as military to improve the employee retention rate and develop a sense of organizational attachment [9, 10, 11]. A well-developed 5-year plan will seek to achieve organizational success through individual success. Therefore, the goals, objectives, and time-lines for each individual in the 5-year plan must be linked with the corresponding goals, objectives, and time-lines in the organizational 5-year plan.

So, in reality, I am suggesting two sets of 5-year plans: one for the department/college and the other for the individual. Assuming that the organizational plan is prepared before the individual is hired, the individual's plan needs to satisfy specific organizational goals. Ideally, department's mission, goals, and objectives will be connected with the individual faculty member's mission, goals, and objectives. The individual goals will then be classified as either short-term or long-term. Ultimately, daily/weekly tasks planned by the individual will satisfy specific individual short-term goals as well as departmental short-term goals, and these short-term goals will culminate into satisfaction of the corresponding long-term goals. A well-articulated set of 5-year plans will provide means for the department as well as the individual to continuously improve themselves with a definite sense of purpose.

In the 5-year plan, I recommend delineation, in as much detail as possible, the specific expectations in the areas of teaching, research, and service. For example, how many courses is one expected to teach each semester? Will the course assignments remain the same throughout the probationary period? How is effectiveness in teaching assignment measured and how are those measurements interpreted? What type of research is expected in the department, college, and university? Is there a list of scholarly journals that might be publishing articles in the candidate's field of expertise? Who are the successful grant writers and publishers in the department? What are the service expectations—specify whether committee work at all three levels, department, college, and university, is required.

In teaching, expertise in teaching must be developed early on. Table 2 above indicates that faculty members at a public comprehensive university teach 3-4 courses. I would recommend that new faculty members plan to develop proficiency in six different courses, use four of them as primary teaching areas and use the remaining two as the secondary or back-up teaching areas. With a repertoire of six courses, when the research funding is favorable, the faculty has the option to "buy-out" time and teach a reduced load; when the research funding is not favorable, the faculty can return to a familiar set of courses rather than prepare for completely new ones. Of course, in research institutions, a reduced demand on teaching is likely to be more than compensated by the increased expectation in research. Nonetheless, if the department as well as the faculty members are clear about the mutual expectations, it will be easier for both parties to maintain the quality of teaching. Department chairs should make a good faith effort to provide a reasonable blend of lower-division, upper-division, and graduate courses that way tenure evaluation committees can determine the effectiveness of the candidate at all levels of courses.

In research, one should have a clear research agenda or work with someone who has such agenda. This research agenda should then be connected with appropriate funding agencies and publication outlets. Considering the fact that most people are denied tenure due to insufficient research, this area needs special attention. Faculty coming from industry may find it more

challenging to develop such an agenda. In such situations, early mentoring is highly recommended.

Limited service to the university is more likely to affect a promotion decision rather than the tenure decision. Some faculty members believe that one should not be promoted, at least to the rank of Professor, without specific service to the university. The plan for service should include committee work at the following levels: department, college, university, and professional organization. Strategically, it is prudent to have worked with some of the tenure review committee members through other campus committees.

Mentor(s): Mentoring is an activity that takes place whether or not we plan for it. As humans, we learn from both positive as well as negative experiences and formal as well as informal teachers. Literature on mentoring indicates that it is an essential activity if academia has to build motivated, productive, and successful teacher-scholars [12, 13, 14]. Every tenure-track candidate, until he/she achieves tenure and promotion to Professor should have at least one mentor. Much of the frustration and dissatisfaction experienced by the tenure-track faculty can be avoided by proper mentoring of the candidate. A mentor can coach the candidate in improving his/her teaching, developing a strong research program, and selecting appropriate levels of service.

In teaching, the mentor can ensure that academic rigor is maintained by the new faculty and advise him/her on how to handle student issues. Often times, new faculty are left to discover these matters on their own, wasting valuable time and energy. Even issues like course content, selection of texts, office hours, outside help to students, etc. are crucial aspects that define the culture of that department. If the new faculty is not explicitly aware of these issues, he/she stands to discover them over a longer period of time and perhaps via an unpleasant encounter.

In research, especially for a person who has never published in a refereed journal, it is extremely beneficial to have a mentor. This mentor can guide the candidate in terms of expectations of certain journals and even co-publish with the candidate. If the mentor has a well-established research program, the mentor should find the contributions of an eager tenure-track faculty member refreshingly helpful. It can be a mutually beneficial relationship.

Service is a more nebulous area than teaching or research. The key in service is to identify specific assignments that will give the candidate proper exposure to the university system; for example, curriculum committee, academic senate, student fairness committee, faculty union, etc. Service assignments should have two goals: (a) develop an awareness of the university governance and (b) develop the leadership potential through key high-visibility projects.

External Support: External support is central to productivity on the tenure-track. External support is important because it brings financial security to the institution, establishes the value of one's research, attracts graduate students to pursue advanced degrees because they can now receive research assistantships, and multiplies the rate of publications. Politically, the department's strength within the college is enhanced and the college's strength within the university is enhanced. Also, accreditation agencies and program ranking agencies are impressed by the level of external support to the department.

Graduate Assistants: Graduate Assistants can be the workhorses of a research program. Faculty members can enlist such assistants to help them in their research work and co-publish with them. Guiding a student through the completion of his/her master's thesis or doctoral dissertation is a very important and time-consuming task. If the research interests of graduate assistants are aligned with those of the tenure-track faculty, they could co-publish and multiply their productivity. Also, by allowing such collaborative work, the value of the students' graduate education is enhanced; they will have opportunities to present at professional conferences, publish papers in refereed journals, and even seek new grants for further research at doctoral or post-doctoral levels.

Organizational Instability: Typically, one would expect that the academic program within which new tenure-track faculty are hired, has at least a few senior faculty members who could mentor the new faculty and that the department is not being considered for elimination. However, it is possible that the situation is contrary and the department is at risk. Under such conditions, departmental leadership is likely to change every couple of years and the faculty may be distracted by the need to save the program. This is a survival mode, and development is extremely difficult in such a mode. Organizational instability is one of the key factors that have a negative effect on one's productivity because it affects the individual's job security, the fundamental need on Maslow's[15] hierarchy of needs.

The best way to deal with organizational instability is to avoid getting into such a situation by determining the level of support to the program/department from the college/university. If the program/department is not being supported by the higher administration, organizational instability is likely. Some key indicators of organizational instability are as follows: high turnover among faculty or department chairs, declining enrollment, lack of well-known or well-established faculty members, and incompatibility between the department's and the college's missions. If, however, if organizational instability is discovered after a few years into the tenure process, the faculty member must consider the possibility of isolating him/herself from the organizational problems until attaining tenure or consider moving to another university. Fighting for both tenure as well as sustenance of the program is extremely stressful.

Fluctuating Teaching Assignment: An unprecedented turnover in senior faculty can force the junior faculty to take on new courses every semester/year. Class preparation and development of appropriate comfort level takes time. If the teaching assignments fluctuate every semester/year, the faculty is never able to focus on other responsibilities like research and service. Also, it is more likely that the person's teaching effectiveness is marginal. Consequently, when this person is reviewed for tenure, he/she may have taught 10-12 different courses with marginal effectiveness and limited research/service record. Obviously, the tenure evaluation is likely to be unfavorable.

The best way to avoid fluctuations in teaching assignments is to work closely with the department chair and identify the specific courses that the candidate may be asked to teach. Once these courses have been identified, one can only hope that the chair and the rest of the faculty members will understand the importance of maintaining a steady teaching load for the tenure-track faculty. If the teaching assignments continue to fluctuate erratically, the candidate can either (a) refuse to teach new courses at short notice because it is unethical to accept teaching

responsibilities in areas in which the candidate does not have appropriate level of expertise or (b) "buy-out" time with external funds and focus on research activities.

Conclusions

There are four key factors that can have a positive influence on one's productivity on the tenure track. Of these factors, mentoring and external funding are central to the overall success because they can positively influence the other factors. Also, there are two key factors that can have a negative influence on one's productivity. Both these factors seem to be manageable, yet when presence of these factors is coupled with the absence of some of the positive factors, the results are likely to be unfavorable.

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Biographical Information

Dr. Manoj S. Patankar is an Associate Professor of Aviation at San Jose State University. He holds a Ph.D. in Computing Technology in Education from Nova Southeastern University, an M.S. in Aviation Safety from Central Missouri State University, and a B.S. in Aeronautics from Saint Louis University. He conducts FAA- and NASA-sponsored research in aviation maintenance human factors and teaches aircraft systems courses.