The Art and Science of Academic Advising: A Case Study

MAJOR ELAINE S. BUSTAMANTE, *Chief of the Academic Counseling Branch, Office of the Dean,*

COLONEL DAVID J. PHILLIPS, *Associate Dean, United States Military Academy, West Point*

This article offers comfort to persons worried that academic advising has become a science. Lest, however, that concern would exclude you, then let the article be for anyone in advising who thought that he or she might be getting the hang of it.

At the United States Military Academy, we believe we have developed a mature, effective advising system. We have capitalized on several institutional advantages that derive from our unique mission: to educate, train, and inspire cadets so that each graduate will possess the character, leadership, and intellectual foundation essential to continuing development throughout a career of service to the nation as an officer in the Regular Army.

INSTITUTIONAL ADVANTAGES

Let us describe some of these advantages. Since all cadets live in barracks (dorms) and must remain on post (campus) during the week, they remain accessible to advisors. Since the Corps of Cadets organizes as a military organization of regiments and companies, cadets do as told; that is, they will appear at the appointed place at the appointed hour. The same holds for faculty since it, too, is military. Further, the faculty is young, 85 percent non-tenure, and all volunteers. The rotating faculty feels no pressure to publish, although resarch is encouraged. Only undergraduate courses are taught.

THE ADVISING PROGRAM

The Dean administers a decentralized, faculty-based advising system with two distinct components. Volunteer faculty members are organized on the basis of seven or eight for each cadet company and accept responsibility for advising 60 or so cadets in the Fourth and Third (freshman and sophomore) classes of that company. This advising team includes representation from at least one of the humanities-social sciences departments and one of the math-science-engineering departments.

The team's primary duties regarding freshmen consist of familiarizing cadets with the Academy's academic program, facilities, and key administrative procedures; administering the Strong-Campbell Interest Inventory; and helping cadets reach their first major curricular decision, viz., a choice of curricular "track:" humanities-social sciences or math-science-engineering. The team assists sophomores in the second major curricular decision: choice of field of study or major. The company advising team also monitors academic performances of cadets in the company and assists in course enrollment and scheduling.

Computerized Report

One major source of information for company advisors is a computerized report for each cadet that compares his or her individual interests to those of successful graduates in each of the elective concentrations offered by the Academy. The report, known as the Interest Similarity Score (ISS) report, is based on the cadet's responses to the Strong-Campbell Interest Inventory. The reference group consists of two graduating classes that also completed the Strong Inventory Theme scores, general occupational scores, and individual item responses distinguishing between cadets graduating in the top half of their discipline vs. those in the lower half, according to grades in only those courses peculiar to the discipline. These cadets were identified and equations developed to indicate the degree to which an individual cadet's responses suggest a general pattern of interests similar to successful graduates in each of these concentrations.

The Curriculum

The curriculum itself contains about 75 percent core or required courses. In general, freshmen all follow the same program, with exceptions for validations and advanced placement. The first elective is normally available no earlier than the spring term of sophomore year. Beginning then, or in junior year, each cadet will complete a package of from two to four track courses that pertain to his or her track and field of study or major. This discussion focuses on two of these courses in the math-science-engineering (MSE) track.

MSE cadets must complete, among their package of four track courses, a second semester of electrical engineering (all cadets complete at least one semester) and a third semester of physics (modern physics) (all cadets complete at least two semesters of physics). These courses frequently constitute the MSE student's first exposure to advanced, rigorous material designed specifically for only those cadets whose interests, abilities, and aptitudes have led them to opt for the MSE track.

THE PROBLEM: MSE TRACK FAILURES

Thus it was that we, as impartial observers in the Dean's Office, were surprised to see that many cadets failed one or both of these so-called track courses in the first term of their junior year. Why, we asked. These cadets take courses pertinent to their chosen disciplines. These courses represent really the first semi-elective study offered them by the largely core curriculum. Supposedly, they are interested in this material, possess aptitude for it, have achieved in subject matter related to it during their first two years at West Point. There must be an explanation, probably a simple one, we thought, for, after all, we do have a proven and effective advising system supported by printed materials, an automated data base to provide any information an advisor would ever want to know about a student, and, of course, the ISS. We should start there, we thought, for surely a cadet whose interest pattern

matches that of successful MSE graduates would have enough motivation to pass these tracking courses.

THE PROBLEMS: CASE STUDIES

The following case studies reveal intangibles that the most scientific advising system would find difficult to handle.

Cadet A

Cadet A gave us hope that our suspicions were correct. She was slightly better than a "C" student overall, with combined SAT scores of 1025, including a 580 SAT-math, who had selected computer science as her elective concentration. She then proceeded to fail the modern physics course. A glance at her ISS was revealing. All of her MSE scores were extremely low (except operations research, for some reason, which was high), including her computer science score. Her similarity score in the physics discipline was off the scale in the negative direction! On the other hand, many scores on the humanities-social science scales identified her interests as more compatible with those disciplines, particularly economics and management, where she was scaled as "high" to "very high." Using her admissions composite as a predictor, she was definitely underachieving. She's in the wrong track, we thought, and must have received bad advice. So we talked to her. She said she chose computer science because she's interested in that field and because she is definitely not a "words" person (humanities and social sciences). She reported she was under considerable pressure the previous semester and worked only two hours a night on her studies, attributing this to a "motivational problem." Then, the wife of her faculty sponsor (not her advisor) died two days before the final exam. She had quit her position as manager of the swimming team early in the term but couldn't catch up.

Comment

Well, we thought, maybe the ISS does not predict women well, since there were none in the reference group. After all, she did say she was interested in computer science, and there were other complications.

Cadet B

Turning to Cadet B, we found a cadet well-suited for his chosen field of study: basic sciences. He was better than a "C+" student, had combined SATs of 1220, including a 690 math, and scaled out as "average," "high," or "very high" in comparison to successful graduates in all MSE fields. All of his humanities-social sciences scores were "low" or "very low." This cadet was in the "right" elective concentration, but failed modern physics nonetheless. Like Cadet A, he, too, was underachieving, according to his admissions composite score. He had one previous failure, in freshman chemistry. Why did he fail a course in which he was both interested and competent? We asked him. He said he chose basic sciences because he was interested in biology, that he used additional instruction and found it helpful (a feature of the USMA academic program: cadets may ask for and will receive extra help on past course material at any time), but that he had not decided during the term whether he wanted to remain at West Point. He also felt that his schedule of four courses one day and two the next was not ideal.

Comment

Well, none of this sounded persuasive to us. We thought interests, aptitudes, and abilities would easily prevail over the one motivational issue he presented and the somewhat minor scheduling imbalance.

But our search began to interest us.

Cadet C

Cadet C did clarify things. Male. SATs of 720 math and 540 verbal. Not living up to his very high admissions scores, but muddling along between a "C+" and a "B−." His interest pattern was even more pronounced in the MSE direction than was Cadet B's, and all of his scores in the humanities-social sciences scales were "very low" or lower. He had selected electrical engineering as his elective concentration, apparently a good match from the standpoint of his ISS report and his math aptitude. But Cadet C received "D's" in both the electrical engineering (his chosen field) and modern physics tracking courses, and failed two elective courses closely related to his field as well! What explanation could there be? We asked him. He, too, described motivational problems. He failed to finish a project in one course. He suffered from academic "burnout." He was not sure he even wanted to be at West Point, much less study. He came close to resigning the previous semester; he didn't want to serve in the Army but had made many friends here and felt parental pressure to stay. He often used the expression "right now" as he spoke.

Comment

It looked like a case where we could throw out all the computer printouts because of other overriding factors.

Cadet D

Cadet D was not quite a "C" student, but was doing about as well as his admissions scores would predict. He had combined SAT scores of 1020 and a SAT-math score of 540. His ISS report was not well defined; his highest scale scores occurred in certain applied science fields, economics, management, and mathematics. His lowest scores occurred in the humanities, physics, and chemistry. He selected computer science as his field, a choice not inconsistent with his ISS, and proceeded to fail the electrical engineering course. Now, computer science and electrical engineering are disciplinary bedfellows; successful computer science students at West Point must be strong in EE. Cadet D said he chose computer science because he liked it and because he did well in high school with computers. He said he was doing much better now, liked his new instructor, focused on homework more, and claimed to be much better organized. He had been in the habit of not studying until "taps" (11:00 p.m.) each night, because there "are too many disturbances" before then. He would normally go to bed at two or three a.m. He did not like to ask for additional instruction because instructors were too conscious of not "teaching the exams."

Comment

This one seemed more a case of study habits and self discipline than interests and abilities, we thought.

Cadet E

Cadet E was clearly an academic underachiever. He had a SAT-math score of 640 and SAT-verbal of 550. Yet, he had earned only a "C" average. His ISS report identified a proclivity for applied sciences and engineering, less so for basic sciences, and little for humanities and social sciences. He chose engineering mechanics, one of his highest ISS scale scores. He then failed the electrical engineering course. Cadet E explained that apparently he simply struggled with electrical engineering as a subject from the first day. He had received good advice before selecting his field. He sought help, but from other students rather than his instructor. He felt the environment for studying in the barracks was not quiet enough. In the end, he decided to concentrate on his other courses and ignore EE.

Comment

We began to believe that aptitudes and interests were not the definitive factors in disciplinary choice and performance we had thought.

Cadet F

Cadet F was well-known to us. He had been the outstanding offensive player on the previous season's Army football team, perhaps the only outstanding player. He had stunned everybody by announcing that he would not play spring ball in order to raise his grades; he stood in danger of not reaching the "C" average required for graduation. He had 960 combined SATs, 540 in math. His admission score suggested he should do much better, but football tremendously consumes time, and exerts a big impact at West Point, where true student-athletes play football. His ISS scores skewed to applied sciences, engineering, and math — less to other basic sciences and away from humanities and social sciences. Cadet F had chosen the interdisciplinary field of management and had failed the EE course and another required course in thermodynamics, as well.

Comment

After talking to Cadet F, we were convinced that his failures resulted from shortage of time available to football players to study. He did obtain additional instruction and seemed content with his choice of management as a field of study. Dropping football has now made all the difference; whereas he used to cram to survive, now he studies properly and methodically, one subject in the afternoon, when he would formerly be at practice, and two at night, when he would have often been too exhausted to concentrate on coursework.

Our only misgivings about this interview were what the Army football team would do without him the following season.

Cadet G

Cadet G, the final cadet we studied, presented an enigma. His SAT scores were 670 math, 580 verbal. He was barely maintaining a "C" average — however, underachieving badly according to his admission scores. His interest profile was flat as a pancake. On only two scales did his scores suggest that his interests were similar to those of successful graduates: basic sciences, interdisciplinary and nuclear engineering. The latter he chose, yet he failed the modern physics course and an elective course in differential equations, as well.

Cadet G told us he had not received the necessary advice at the end of freshman year when selecting a track. He believed he would be better off in the humanities-social sciences track, considering interests (as mentioned above, his ISS report did not discriminate between the two tracks in his case). Cadet G told us he remained in debt the previous semester and worried about it. He had brought poor study habits to West Point from high school and always felt pressed for time. His roommate also had poor study habits, but he now had a better roommate and they both studied from 7:30-11 p.m. daily. Cadet G stood eighth in his class in physical education (no small accomplishment; the PE program at USMA is continuous and rigorous) and was always on an athletic team.

Comment

To Cadet G, one's roommate makes all the difference, and he had not wanted to make an sue out of study habits with his previous roommate.

CONCLUSIONS

These interviews would jolt any advisor out of complacency. These seven cadets (and common sense tells us there are dozens of others) simply refused to behave as predicted by our slick advising instruments. We came away from the project with a heightened appreciation for the complexity of the advising challenge. Specifically, we think we learned that:

1. An advising system may deserve its claim as effective and mature, but exceptional cases will continue to occur and, if not recognized, become advising failures. Regarding which, if any, of these seven represent advising failures, we leave it to the reader to judge.

2. Advisors cannot let themselves be lulled by a long series of advisees whose ISS reports, transcripts, SAT scores, and interviews lead them to happy and satisfying choices of fields or majors. In individual cases, other factors may govern, factors students themselves may not bring up in their interviews. Some students' interests are not captured by psychometric testing. At West Point, women's interests may not, and probably are not, folded accurately into the ISS, since women entered the Academy after the ISS was scaled. At West Point nyway, and ideally elsewhere as well, the advisor cannot close the file on the student after a "correct" curricular decision is made. The advisors must stay with the student and monitor his or her subsequent academic performance. The advisor's interest in the student must extend far beyond simply approving course selections for subsequent semesters.

3. The environment for learning at any institution plays a powerful role in educational outcomes. At West Point, the cadet undertakes an academic load of about 19 credit hours per term, participates in intense physical education and athletic programs, and performs duties as a member of a military organization. The best of the cadets manage to excel in more than one of these components; most strive to find a balance among competing programs with which they are comfortable. The environment at the Military Academy for undergraduate scholarship cannot be said to be better or worse than the environment elsewhere; it is simply different and profoundly influences whether a cadet does well or poorly academically.

Three of our seven cadets have now departed the Academy. Cadet C failed two more courses during the semester we conducted interviews, as did Cadet D. (Ironically, one of

Cadet C's failures was in the second semester EE course, his own discipline.) Cadet B resigned from the Academy.

The other four cadets, at this writing, are now in their final semester. Cadet A recently completed her best term as a cadet, obtaining all "B's" and "C's" in her computer science field of study. Cadet E still struggles, managing to pull only "D's" in courses in his field. Cadet F, the former football player, recently enjoyed his best term as a cadet also, raising his GPA over 2.0 and earning all "B's" and "C's." Cadet G, in the term just completed, failed Electrical Engineering I and appears headed for a late graduation.

Oh, we think academic advising is still an art.