Nature of College Advisor in the Twenty-first Century

James M. Gregory, Raymond Desrosiers, Lloyd Heinze, Don Bagert, John Rivera

Texas Tech University

Abstract

Advising is an important task for success of college students, especially students with professional majors, such as engineering. In addition to meeting the breadth of a college education, students in a professional major must also complete depth of study in math and science and the application of this knowledge in professional development. The requirements are strict and the sequencing of courses is critical for both academic success and efficiency in graduating by the desired date.

Advisors are more than schedulers of classes. The selection and scheduling of classes should be efficient so both the student and the advisor can focus on issues critical to the academic success of the student. In a global sense, advisors provide the service of career development ranging in process from selection of major to professional development and management of a system of life-long learning.

This paper identifies the duties of a modern advisor and discusses the advising process with the aid of web-based tools to increase both the efficiency and quality of advisement. Applications of this technology in the College of Engineering at Texas Tech University have been very successful. Students appreciate the quickness of the process and the ability to consider and plan all activities--not just the courses. Advisors are also happy with the shift away from scheduling and toward professional and personal issues that promote long-term academic and professional success.

College Advisers: Opportunity and Need for Change

Good college advisors are typically overworked, under appreciated, and under rewarded. Yet, accrediting agencies for professional programs often demands quality advisement. Accreditation agencies sometimes even deny or limit accreditation if the student to advisor ratio becomes too high. Thus, quality advisement opportunities must be provided to college students.

With old technology, the student to advisor ratio is probably a good measure of advisement opportunity and quality. Certainly, the time needed with each student is high;

therefore, quality in advisement goes down and the stress for the advisor goes up as the student to advisor ratio goes up. On the other hand, poor and inefficient advisement can occur with low student to advisor ratios when the advisors are new to the system and the advisement is done in the absence of electronic, high-speed advising tools. With new technology, it is possible to provide better and more complete advisement in less time and with fewer advisors.

The objective of this paper is to define the role of the college advisor in the twenty-first century and explain how this service can be greatly enhanced with web-based tools and information. This process empowers students. It provides focus on the real issues without overwhelming the student or the advisor in the details of working out a schedule. This empowerment does not mean the student will absorb all of the work! In fact, the student will reduce his or her advisement and scheduling time by at least 15 to 30 minutes per semester and result in a schedule that optimizes academic performance and good time management.

Mission of Advisor

The mission of an advisor is to give advice of a professional nature
- about the degree plan and related career opportunities,
- about the selection of courses for each semester,
- about the process or system rules for registering for classes, adding classes and dropping classes,
- about pre-requisites and co-requisites for classes,
- about avoiding bottlenecks that might delay graduation or interfere with success,
- about how to optimize academic success, and
- about how to deal with life problems that develop along the way.

An experienced, seasoned academic advisor will be knowledgeable about all of these items, will know their own limitations, and will refer special needs to other professionals in the system.

To complicate the advising problem, course availability changes as course sections fill, new sections are opened, and students drop courses in which they were previously registered. Thus, the system is dynamic and often complicated by many choices that interact. Fortunately, most of the system dynamics can be analyzed electronically making the process more efficient for both the student and the advisor.

Advising Process

An advising process with currently available tools at Texas Tech University is outlined in Table 1. This process is followed by the Dean's Office in the College of Engineering in advising undecided students and students returning from suspension. Most advisors in the College of Engineering are concerned with more than just the scheduling of classes and are dedicated to helping students achieve academic success. Most advisors in the College of Engineering either use the tools described in Table 1 or refer students with

special advisement needs to the Dean's Office to obtain the more in-depth advisement analysis. Incoming freshmen are required to complete a **BRIDGE** (Basic Relationships for Individual Development and Group Enhancement) program and are required to develop an academic plan using the **GREG** (Grade Requirements Evaluation Game) program. A Peer Mentor is provided to help with this process.

The tools are briefly described below. Many of the tools have been developed in the College of Engineering but are now being used in other colleges.

GREG is a computer program that integrates learning how to learn with financial and time, study and sleep management. The program predicts grade point average, GPA, as a function of several variables that affect academic performance, such as sleep management, time management, teaching style, student attitude, etc. While a detailed input of information generally results in predictions of GPA within plus or minus one-half letter grade of measured values, the real intent of **GREG** is to help students to discover how the learning process works and to learn the principles of life-long learning.

Ed Doctor is a web site that provides educational information including a career-mapping function to help students select or evaluate career types in terms of their personal interest. Students can quickly confirm their career selection or explore new careers that might better match their interest. Users can also analyze their personal learning styles. From this information, they determine both their strong and weak methods for learning information. High-low extreme patterns are also associated with learning disabilities. Advisors can, thus, encourage students to seek counseling and professional help when an extreme pattern is detected. The career-mapping tool and learning style tool can be used as early as seventh grade to provide a long-term and seamless process of career development through the various levels of education.

QUICK (Querying University Instructional Courses Key) is both a smart and quick scheduler of classes, sleep, study time, work and other activities. Students enter their desired classes, bedtime, sleep duration, work times, and times for other activities. The program selects class sections and returns a weekly plan for all activities. **QUICK** only reads the open class list; therefore, students and advisors do not waste time trying to schedule classes that are full. The current online version of **QUICK** does not check co-requisites because of the time (about 30 seconds) required to complete the process. The **Web-Registering** process does check both co-requisites and pre-requisites. Therefore, there is checking in the system to help the advisor not to overlook pre- and co-requisites. For **QUICK** to have the ability to check pre-requisites, the program would have to have access to personal student records to know if a student had completed the pre-requisites or was in the process of completing the pre-requisites by taking courses.

Security has been an issue in the development of **QUICK**. Many advisors and students would like to register for classes directly from **QUICK** by accepting the schedule that is returned. In addition to security, the question of having the approval of the advisor is also an issue. It appears that an intermediate step is needed at the end of step 4 to hold available courses for a temporary period of time until steps 5 and 6 are completed.

Table 1. Advising process of modern advisor.

Step	Action	Tool
1	Decide if student should be in school and in the current major the following semester (counseling and mentoring task)	**GREG** for financial analysis and **Ed Doctor** for career mapping and learning styles analysis
2	Determine the number or range in number of class hours that is acceptable the following semester based on financial condition and commitment to other activities, such as sports, cheerleading, co-op, etc. (counseling and mentoring task)	**GREG** for financial and time analysis
3	Determine what classes should be taken (advising task) • Determine what classes are critical for academic progress • Determine what classes are acceptable but not critical for the following semester	**Degree Audit** or **Undergraduate Catalog**
4	Schedule classes (advising and counseling task) • Get desired courses • Check pre-requisites and co-requisites • Optimize probability of academic success • Quick and easy process • Encourage time management with visual weekly plan for all activities	**QUICK Scheduler**
5	Approval of schedule by advisor and removal of advising hold (advising task)—approval of schedule by secondary advisor and removal of advising holds or course restrictions by athletics or Honors College may be required for some students	**Student Information System**
6	Register for scheduled classes (administration task)	**Web-Registration System**
7	Encourage student to review the process of learning how to learn and develop the principles of life-long learning (counseling and mentoring task)	**GREG** for analyzing learning strategies and developing learning plan

The other tools mentioned in Table 1 are available with the **Student Information System** at Texas Tech University. Even the **Undergraduate Catalog** is available on the web. Thus, the computer is a key aid in providing process-based advising and counseling to Texas Tech University students.

Many university advisors deal only with steps 3, 4, and 5.   Most of their time is spent on steps 3 and 4. Some advisors insist that students do step 4. Others interact with students to select classes and develop a schedule at the same time. The scheduling process is usually a time consuming process for the student and often the advisor. With the **QUICK Scheduler** program, the time is reduced to only a few seconds. With this time

reduction and with all the tools listed, it is possible to accomplish all seven steps in less time than that previously used just for scheduling. Thus, both the quality and efficiency are improved. Furthermore, many of these tools, such as **GREG**, **Ed Doctor**, and **QUICK** are simple enough to use that upper class students can assist the advisor in the routine cases of advising. With the use of efficient tools for advising, advisors can expand their role of advising to include all seven steps listed in Table 1. The bottom line is that the advising process is improving, the quality of life for the advisor is improving, and the response of the administrative system to student needs is improving.

Administration Environment for High-Quality Advisement

As was stated in the beginning of this paper, advisors are often under appreciated. In addition, advisors are often not supported with tools to improve the process or to even make the process convenient. The opposite is true at Texas Tech University, especially in recent years.

Much of the effort to provide advising tools has occurred in the College of Engineering. It has been a slow process—nevertheless a significant process. As tools are developed or even envisioned, political roadblocks can be encountered. Sometimes, these roadblocks have significance, such as the security of personal information. On the other hand, some of the roadblocks encountered are political in nature or even mechanical in nature, such as different operating systems on computers. The key in the success at Texas Tech University has been a general interest in serving students and cooperation across departments and colleges.

The result of having modern tools for advisement is that advisors feel confident in providing their service. The advisor has also been freed from mundane reoccurring work of scheduling. Both students and advisors have benefited from the new tools and the environment established by the administration to promote excellence in advising. With the current environment, it is anticipated that even better tools and a better advising process will be developed in the future.

Experience and Benefits of Using Web-based Advising Tools

Texas Tech University's College of Engineering has evolved its advising methodology for several years. The existing tools have benefited the individual departments, the College of Engineering, and most if not all colleges at Texas Tech University. Comments from each perspective are provided below.

Departmental Level

Advising has two major components:
- Course registration for the upcoming semester (mostly a clerical function) and
- Career counseling (overall degree plan management and student progress monitoring).

In order to have time to do an adequate job on the counseling component, an advisor needs to use technology that makes accomplishing the first component as efficient as possible. To this end, departments have established a web site for advising that brings together on a single page links to every resource a student needs to get registered:

- A graphical curriculum flow sheet to select critical path (CH E, CHEM, PHYS, MATH) courses
- Lists of courses that satisfy core curriculum requirements in the Humanities and associated areas
- Links to the online university catalog to deal with any pre- or co-requisite questions
- Links to the **QUICK** Scheduler to select course sections from open class listings
- A frequently asked questions page to deal with issues specific to a particular semester
- An email link to the advisor
- And finally, a link to the university web registration system

The average student can select courses, class sections, and be registered in twenty minutes or less and never have to leave the keyboard to access printed materials. Rapid response via email handles the vast majority of questions that arise. Even students away from campus on co-op assignments can register themselves for the semester they return. The advisor has then only to deal with students with special problems such as transfers from other universities or students with personal or financial problems.

College Level—Orientation Process

Over the last four years the orientation process has gone progressively smoother and has taken less faculty and staff time. The process allows students and parents to feel that they have control of their education. The University appears to be modern by using current high technology to register and schedule students. Students get a better service than before. Parents see a system designed to help students succeed. Furthermore, faculty can now spend more quality time with students, provide a better schedule, and experience less stress. Everyone wins with the new advising tools and process.

University Level – Positives

The College of Engineering has been able to find better, faster, and more efficient methods to facilitate the student advising process. The University has quickly adapted the new technology across campus after the initial pioneering by the College of Engineering. The University administration has on occasion identified grant-writing opportunities for the College of Engineering because of the previous success in engineering education, including advising. By redefining the nature of the college advisor in the twenty-first century, the College of Engineering has sparked a spirit of cooperation and a desire for more and better tools across campus. It appears that the nature of the college advisor has improved at Texas Tech University.

JAMES M. GREGORY is the Associate Dean for Undergraduate Studies in the College of Engineering. He is a Professor of Civil Engineering.

RAYMOND DESROSIERS is an Associate Professor of Chemical Engineering and undergraduate advisor for the Chemical Engineering Department.

LLOYD HEINZE is the Orientation Coordinator in the college of engineering. He is the Watford Associate Professor of Petroleum Engineering.

DON BAGERT is the Associate Chair of Computer Science. He is a Professor of Computer Science and the first licensed Software Engineer in the United States.

JOHN RIVERA is the Assistance Academic Dean in the College of Engineering. He is co-developer and manager of the College of Engineering BRIDGE program, which servers 500+ students each fall.