

The Next Generation of Computer-Assisted Advising and Beyond

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In a recent NACADA Journal "Advisor's Toolbox" article, Tukey (1994) explained ways in which personal computer software could be used to automate the process of calculating grade-point averages. Building on this particular example of computer-assisted advising, the present article introduces the next generation of computer-based grade-point average calculation programs and expands the definition of computer-assisted advising by examining additional examples of interactive, student-centered, computer-based advising programs.

David Tukey (1994) described the use of PC-based spreadsheet and Macintosh hypertext software to automate the calculation of semester and cumulative grade-point averages. In that article, Tukey suggested that the next generation of grade calculation software would automatically retrieve a student's course schedule, credits, and cumulative grade points from existing central databases and use that information in the calculation of the student's predicted averages, thus obviating the need to enter this information manually into stand-alone PC programs. At the Pennsylvania State University, the next generation of computer-assisted advising has arrived.

On-Line Grade-Point Average Predictions

In an ongoing project, Pennsylvania State University has been developing a series of computer modules, collectively known as OASIS¹ (Open Access to Student Information Systems), that gives students access via computer terminals to various academic records. OASIS modules currently permit students to view their own course schedules, grade reports, academic transcripts, and other academic records retrieved from university databases. These modules also allow students to update local and home address records, a function that directly modifies the student records database without clerical intervention. Other records-oriented OASIS modules being planned or nearing completion include on-demand degree audit (matching a student's academic transcript to the graduation requirements for a specific academic major) and point-and-click course registration (building a schedule by choosing courses from on-screen lists of open course sections).

The first interactive, advising-oriented OASIS project was initiated in spring 1995 by the Division of Undergraduate Studies at Pennsylvania State University. The primary goal of the project was to create an OASIS module that would capitalize on existing database records to calculate semester and cumulative grade-point averages based on a student's predicted grades for the current enrollment period. An additional (and perhaps more important) goal was to utilize the module to teach students the method used to calculate grade-point averages and to provide individualized information and academic advice concerning the outcomes of those calculations.

The opening screen of the Grade-Point Average (GPA) Prediction module displays the student's current schedule of courses alongside a list of valid grades (A, A-, B+, etc.). Directions instruct the student to click first on a grade from the list and then on the course(s) in which the student expects to earn that grade. An optional "No" grade allows the student to earmark courses in which the student expects not to earn a letter grade (e.g., the student is contemplating dropping a course).

The GPA module displays a table summarizing the calculations generated by the program based on the grades predicted by the student and on the student's previous academic record (credits attempted and grades earned). This table shows the *current* (actual), *projected semester*, and *projected cumulative* grade-point averages, credits, grade points, grade-point deficiencies (the difference between a current cumulative average and a higher C average), and semester standing. This screen explains the meaning of each row and column in the table, provides a cautionary message regarding the unofficial and predictive nature of the calculations, and refers students to academic advisors and official university publications for further information and interpretation. From this screen, students can take advantage of four additional options:

1. The *Important Messages* option displays a list of 10 messages related to academic progress (e.g., Dean's List average, D grades, grade-point deficiencies, academic drop). The messages that apply to this particular set of predicted grades are highlighted. The student is cautioned that different predicted grades might have resulted in other highlighted messages. For additional clarification, each message also refers students to specific sections of

response to common advising questions such as: *How will these predicted grades affect my educational plans? Should I drop this course?* and *How do I choose a major?* These modules, which will use artificial intelligence to generate advice based on individual student responses and academic records, university policies, and the consensus of human advisors, will be the most challenging and time-consuming to develop. Students will be referred, when appropriate, to academic advisors and other university resources for further discussion and clarification of complex academic issues.

4. The *Advisor Services* modules will allow advisors to view on-line rosters of assigned advisees, review extensive academic records of these advisees, correspond directly with advisees via E-mail, read and record summary notes from advising contacts, and access the three student-oriented advising modules. These modules will also serve as training tools for new advisors and will provide information and expert assistance to veteran advisors.

Concluding Notes

One of the goals of these computer-assisted advising modules is *to enhance the advisor-advisee relationship* by emphasizing the importance of advising in the educational planning process, by anticipating and managing some of the routine activities that now occur in traditional advising situations (e.g., providing basic information and referrals), and by better preparing the student for advisor

contact and subsequently elevating the advising interview from a mundane to a more meaningful and substantial interaction. Computer-assisted advising provides distinct advantages over traditional advising including convenience (no need for an appointment or to wait until office hours), availability (24 hours a day), accessibility (from anywhere in the world), accuracy (instantaneous updates of system-wide information), anonymity (in cases where a student feels uncomfortable working with an advisor in a one-on-one relationship), consistency (policies and rules are interpreted in a uniform way to all students), and expert consensus (the collective opinions, knowledge, and experience of many advisors comprise the advice provided to the student).

As technology (hardware and software) continues to improve, users (students and advisors) will begin to expect more from it. As the complexity of higher-learning institutions increases, these same users will need computers to help them access, understand, and interpret the maze of institutional rules, regulations, requirements, exceptions, and idiosyncracies.

Will computers replace advisors? I think not. Many students will want or need the personal interaction that best takes place in the traditional one-on-one advising relationship. A computer screen may have a face, a voice, and even a personality, but its "brain" will not (in the foreseeable future) be able to anticipate and accurately respond to all of the possible questions and scenarios that a student might present in an advising situation, nor will it be able to provide the warmth and empathy of a human inter-

Table 1 Comprehensive Academic Advising and Information System (CAAIS)

CAAIS Components	Example Modules
• University Publications	• University Undergraduate Advising Handbook • Baccalaureate Degree Programs Bulletin • Student Guide to University Policies and Rules
• Student Access to Academic Records	• Transcripts • Degree audits • Course registration
• Interactive Advising	• What if I get these predicted grades? • Should I drop this course? • How do I choose a major?
• Advisor Services	• Roster of advisees • Comprehensive academic data on advisees • Access to all other modules above

Book Reviews

Houle, Cyril O. (1992). *The Literature of Adult Education: A Bibliographic Essay*. San Francisco: Jossey-Bass. 439 pp., \$39.95

As more nontraditional adult students enroll in colleges and universities, academic advisors need to better understand the unique needs of this adult population. In this book, Cyril Houle presents a broad examination of the adult education field and offers references for understanding adults and their educational needs. Houle's work makes use of 1,241 books which contribute to the adult education field, giving the reader a better understanding of this diverse field.

Houle's book is divided into three parts. Part 1 presents the history and the general description of the field. It includes an explanation on who adults are, what their needs are, where they are located, and why they desire to learn. Part 2 describes the providers of adult education and the goals of the education they can provide. This includes a description of institutions such as universities, community colleges, public libraries, museums, and the Cooperative Extension Service which can provide lifelong learning for adults. Part 3 examines the practice of adult education. One of the two chapters in this section, "Theory and Program Design," discusses how to teach adults and how to increase the learning skills of adults. The second chapter, "Formats and Settings for Adult Learning," examines the responses of adults to classroom teaching, interactive processes, residential adult education, self-directed learning, distance education, mass media, and fairs and expositions.

Houle is careful to explain the limitations of this literary review and acknowledges that this book does not fully represent the adult education literature. Only books were cited, and journal articles, pamphlets, symposia chapters and other similar sources were excluded. Houle does recognize the contribution of such sources but chose to exclude them to limit the size of his review. A second limitation is that the review only includes authors who intended to make a contribution to the adult education field. A third limitation is that only works written in English were examined. Finally, Houle also recognized that some books could not be located or "escaped notice because their real nature was hidden behind unfamiliar terms or formats" (p. xv).

Houle's literature review is a valuable source for understanding the adult education field and for better understanding the needs of adults. Academic

advisors should take advantage of the book to better understand this field, to discover valuable references for further studies, and to help them prepare for meeting the needs of adult learners within their institutions.

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Notes & Comments on Leadership II. (1993). Madison, WI: Magna Publications. 23 pp., \$13.46

This book, edited by the Academic Leader, prepares experienced and prospective deans and chairs for the duties they are expected to perform at universities throughout the United States. It provides comprehensive, up-to-date instructions and contains both theoretical background and practical applications necessary for successful leadership. *Notes and Comments on Leadership II* contains 20 short articles that cover various topics on leadership for administrators. The articles were taken from books, professional journals, and popular institutional reports including *On Becoming a Leader*, *The Art of the Leader*, *Why Leaders Can't Lead*, *Educational Record*, *The ASHE-ERIC Report*, *Management Review*, *The Levinson Letter*, *The National Center for Post-Secondary Governance*, *Executive Strategies*, *Finance's Center-Piece*, and *Personal Report for the Executive*.

Human problems usually take place before operational or functional problems. New chairs should learn management skills, such as team-building or delegation; should face the order of a day; and should refocus quickly on an endless variety of issues caused by student, staff, college, and community needs.

Indeed, all articles are very practical and action-oriented. Many provide certain steps and procedures for managing departments and colleges, and some of the information seems to be valid and useful for leaders in business and voluntary institutions, as well. In addition, a few articles concluded with practical quotations which captured the main points therein. This technique helps readers to remember the information.

All deans and chairs, as well as university administrators interested in enhancing their leadership skills, will find this book useful and informative. It is a masterful presentation of research and practice