ABSTRACT
        At the University of North Carolina at Chapel Hill, a
seminar on planning and policy analysis is offered for doctoral
students who wish to conduct planning and forecasting studies for
their doctoral dissertations or who simply wish to learn such
techniques. One of the major projects of the seminar is the
development of an environmental scanning database. Each student is
assigned specific journals and newspapers to scan for environmental
data that will augment the data gathered by students from the
previous years and keep the material current. Scanners are
responsible for the initial classification of the articles they
submit to the database and for appending a brief statement on the
implications for higher education. The Instructional Materials Center
houses the hard copy of the articles and a microcomputer to manage
the electronic database. Each student is also assigned professional
journals to read for pertinent literature on alternative futures, the
delphi technique, environmental scanning, forecasting, policy
analysis, and other topics within the scope of the seminar. The two
resulting databases work in conjunction with Hypercard on a Macintosh
computer. The major advantage of the program is ease of searching,
sorting, and downloading. The databases are used in conjunction with
a planning model that employs a variety of research techniques to
develop and describe the most likely future environments and
alternatives. These descriptions are then used to develop
organizational plans and policies. The seminar demonstrates the
possibility of organizing and developing an environmental
scanning/forecasting capability with relatively meager resources.
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The Continuing Seminar on Organizational Planning and Policy Analysis: Implications for Community College Planning Offices

James L. Morrison
Professor of Education
CB 3500 Peabody Hall
Chapel Hill, NC 27599
919   966-1354

The Continuing Seminar on Organizational Planning and Policy Analysis:
Implications for Community College Planning Offices[1]

There is increasing interest by college and university planners in developing an environmental scanning/forecasting capability to support their planning activities in an uncertain and turbulent world (Norris and Poulton, 1987). At this time, however, only a few institutions have developed even rudimentary scanning/forecasting systems (Morrison, 1987). One reason for this state of affairs is a lack of experience in developing and operating such systems in higher education. Environmental scanning and forecasting techniques are used much more extensively in the corporate world, but the proprietary nature of this world has inhibited the cross-cultural knowledge dissemination of not only how these techniques are used, but also how they are developing. Boucher (1988) estimates that the development and use of these techniques in the proprietary sector is some 15 years ahead of their knowledge and use in the public sector.

Another factor inhibiting the use of these techniques in community colleges is the prospect of imposing a new system on an already burdened planning office. How can such a system be organized? What information sources are best? How can we categorize, handle and evaluate the plethora of information which such a system would produce? How can we efficiently use this information to aid our planning activities, both for the institution as well as for academic programs within the institution? What additional resources would be required?

The purpose of this paper is to respond to such questions by describing a continuing seminar on planning and policy analysis which I direct at UNC-Chapel Hill. This seminar is for doctoral students who wish to conduct planning and forecasting studies for their doctoral dissertations, or who wish to learn such techniques as part of their general program of studies. The seminar is offered formally in the spring, but continues year-round on a biweekly basis. Participants review manuscripts written by seminar members, discuss methodological and theoretical issues, maintain a scanning and a research literature database, and discuss any problems/high points in the environmental scanning and literature review activities. Except for the spring semester, the seminar carries no credit (for professor or student), but independent

study credit or internship (research apprenticeship) credit is possibl' on a student-by-student case. This summer seven students are attending the seminar on a regular basis; three students who live out of the area are sent all seminar communications and are given seminar assignments. The seminar represents a low cost activity that a college or university planning office could replicate to develop their environmental scanning/forecasting system for planning activities.

Environmental Scanning Activity

One of the major projects of the seminar is the development of an environmental scanning database. We use a taxonomy in which the dissertation area of each student is included along with typical scanning domains. This taxonomy is displayed in Figure 1. It is relatively simple because the microcomputer data base program we use (see below) allows every word to be a key word identifier; therefore, the more elaborate taxonomies used by other organizations (e.g., the United Way of America Environmental Scanning Data Base) are not necessary. All that is required to file the "hard copy" is a sequential number within each category. In essence, each student can receive the benefit of the general scanning efforts of all participants for his or her particular project.

Each student is assigned specific journals and newspapers to scan in order to augment the data gathered by students from the previous three years and to keep the material current (See Figure 2). Scanners are responsible for the initial classification of the articles they submit to the data base and for appending a brief statement of the implications for higher education.

The "base of operations" for the seminar is in the School's Instructional Materials Center. The director of this center has provided file cabinets for our hard copy and a Macintosh Plus computer to manage the electronic data base. In the file cabinets, the front of each category contains an empty folder for "scanners" to insert their material. In addition, each student is assigned an environmental scanning domain with the responsibility of maintaining the indicated files, abstracting articles in these files, assigning a taxonomy identification number to each article, and entering the abstracts on the electronic data base. This procedure (a) encourages submissions (scanners are much more likely to submit information if they do not have the responsibility for

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FIGURE 1: ENVIRONMENTAL SCANNING TAXONOMY

Demographic	Social
Technological	Economic
Political, Legal, Regulatory	Environmental
Military	U.S. Army
U.S Air Force	Dental
Hospitals	Church Related Colleges
Business Schools	Departments of Physical Science
Senior Colleges	Public Education
Nursing	

FIGURE 2: SEMINAR INFORMATION RESOURCES

Major Newspapers

The New York Times	The Miami Herald
The Wall Street Journal	The Chicago Tribune
The Los Angeles Times	The Christian Science Monitor
USA Today	The Chronicle of Higher
Education Week	Education
The Times Higher Education Supplement	

Major Journals

Social/demographic   **Technological**

American Demographics	Byte
Public Opinion Quarterly	High Technology
Technological Forecasting	Datamation
and Social Change	Computer World
	Information World
Economic	Discover

Business Week	**Political**
The Economist	
Fortune	Mother Jones
Forbes	New Republic
Money	The National Journal
Inc.	The National Review
Monthly Labor Review	

All Sectors

Vital Speeches of the Day	Kiplinger Washington Letter
Across the Board	Time
Naisbitt Trend Letter	Newsweek
U.S. News and World Report	Future Survey
The Futurist	

abstracting it); (b) ensures that information is reviewed by two persons; and (c) ensures that the information in the filing cabinets is current and not redundant. (See Figure 3 for their instructions for how to abstract.)

The Futures Research Literature Data Base

Each seminar participant is also assigned one or more professional journal(s) (see Figure 4) to search for pertinent literature dealing with a number of categories describing the methodological and substantive scope of the seminar (see Figure 5). During the spring 1988 semester we used a CD ROM program to search triangle area libraries and the ERIC system for materials that fit these categories. These materials supplemented the manuscripts that we have been gathering for the past eight years, on the methods and theory of futures research and their use in higher education. This data base is used to increase our knowledge, understanding, and ability to use forecasting concepts and methodologies in planning activities.

The Electronic Filing System

The electronic literature data base and the electronic scanning data base are beta programs that work in conjunction with Hypercard on a Macintosh computer. When the program is activated, a "home card" appears on the screen. There are several entry locations on the card. The first is a field for insertion of the taxonomy number. The second is a three line field for a bibliographic notation, which for consistency, is to be entered in APA format. The third field is a three line "scroll field" for abstracts. Although only three lines at a time are shown on the screen, this field takes up to three pages of notes. The fourth field is another three line "scroll field" for implications of the article for education. Again, although only three lines are shown on the screen, up to three pages of information can be entered in this field. At the bottom of the "card," the viewer sees three "buttons" labeled "trends," "events," and "policies." If the "trend" button is "clicked," a card labelled "trends" replaces the home card on the screen. The first field on this card is for restating all trends reported in the article as Delphi statements. On the left border is a chart icon. If this icon is "clicked," MicroSoft Chart becomes operative so that the user can input trend data, including forecasted data from the article. The resulting graph is pasted on the card. The "event" and "policy" cards have the same format. Therefore, we are able to develop a rich set of trends and events

from which each student can select those particularly pertinent to his or her research project.

FIGURE 3:   CRITERIA FOR ABSTRACTING

Identifying A Source Document

• Does the item represent events, trends, developments, or ideas that you have never before encountered?

• Does the item contradict previous assumptions or your own beliefs about what seems to be happening?

• Is the article from a surprising source, such as a liberal or conservative journal?

• Can you link the item to other abstracts you have previously written or seen?

• Do the implications of the item have explicit or implicit bearing on the long-range program or management of the institution?

Writing the Abstract

An abstract is an easy-to-read digest of original material. The goal is to write a concise, accurate presentation of the material that is fully understandable without reference to the original source.

To begin the summary section, ask yourself, "If I had only a few minutes to describe this article to a colleague, what would I say?" "What is the most important idea or event that indicates change?" Your response to these questions should be the lead sentence of the abstract. Follow this sentence with development and explanation. Use quotation marks to make it clear when you are making direct citations from the text. Whenever possible, include statistical data.

The implications section of the abstract is where you respond to the question, "How will the information in this article affect higher education?" You might also include a list of those emerging issues suggested by the article, a description of future events you see occurring as a result of the trend identified by the article, and/or an identification of issue stakeholders if they are not listed by the article.

Speculation about implications is a part of the scanning and abstracting process. Here you try to determine an item's potential for affecting other facets of the social environment and/or higher education.   There are no "right" answers; just write a couple of sentences that indicate your reasons for selecting the article for inclusion into the data base.

Source: modified from Trend Analysis Program, American Council of Life Insurance, as reported in Morrison (1987)

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FIGURE 4:  JOURNALS SCANNED FOR FUTURES RESEARCH DATA BASE

Administrative Science Quarterly        Long-Range Planning
Academy of Management Science           Management Planning Journal
Business Horizons                       Organizational Dynamics
California Management Review            Planning for Higher Education
Future Survey                           Strategic Management
Futures                                 Sloan Management Review
Human Relations Journal                 Technological Forecasting and
Harvard Business Review                   Social Change
International Journal of Education
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FIGURE 5:  LITERATURE DATA BASE CATEGORIES

        Alternative futures              Change
        Delphi                           Environmental uncertainty
        Environmental scanning           External analysis
        Forecasting                      Futures Research
        Futuring                         Information and adaptation
        Internal analysis                Long range planning
        Misc (bibs, proposals, etc)      Strategic change
        Organizational adaptation        Organizational uncertainty
        Policy analysis                  Policy-impact analysis
        Perceptual analysis              Strategies
        Strategic decisions              Strategic management
        Strategic planning               Trend-impact analysis
        Use of futures methods in education
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The major advantage of this program for the seminar is that every word on any card is a "key word identifier." That is, there is a search feature that enables the user to type in a word or series of words (e.g., Hispanic) to produce a smaller "stack" of all cards containing this word. Words further delimiting the data base may be used. If there is not sufficient information on the card for the user, the taxonomy code number enables him or her to find the complete information resource in the hard copy files. Another advantage of this program, particularly when used to abstract the futures research literature data base, is that the bibliographic information can be sorted by last name of the author for each "stack" and printed. Thus, bibliographic data need never be reentered when writing papers using this information. Finally, it is relatively simple to move information out of the Hypercard environment to a word processing file. For students using IBM compatible microcomputers, this file can be converted to an MS DOS text file in the University's microcomputer support center. Each student is encouraged to use the same word processing program; for example, using Microsoft Word for the Mac and for the IBM allows transfer of format as well as text.

Software Support Systems

Two other software programs will shortly be available to the seminar. SYSTAT Corporation is coming out with SYSGRAPH this summer, which, in combination with SYSTAT, will enable us to input forecasted trend and event data and have as our output graphs of medians, upper quartile and lower quartile scores for each trend or event. In addition, Bravo Corporation is under contract with Arizona State University to produce a state-of-the-art cross-impact model with greater power than current mainframe models that can run on an IBM AT. This program should be operational by September 1st, 1988 (it is promised for October 1st).

Four students in the seminar will gain experience in this software via a research apprenticeship on a project with Arizona State University to evaluate their program for the recruitment and retention of minority faculty, staff, and students. The contract calls for tying evaluation to planning, via a study of the "most likely" and alternative futures for this program. The other students in the seminar who were apprentices on an Army alternative recruiting futures project will also be able to use the software in their dissertation projects.

Use of the Scanning/Forecasting System

The purpose of establishing an electronic scanning/forecasting data base is, of course, to facilitiate planning. In our case, we are using a planning model based on QUEST (Nanus, 1979) that employs a variety of research techniques (environmental scans, judgmental forecasts, cross-impact analysis, and scenarios) to develop and describe "most likely" and alternative future environments that are then used to develop organizational plans and policies We have named this model ED QUEST (Morrison and Mecca, 1988). This model forms the basis for a number of case study dissertations that should be completed and ready for presentation at SCUP 23. For example, this fall, Thomas V. Mecca should complete his study of the application of ED QUEST in the strategic planning process used by an institutional planning team of a two-year college. This coming spring, James Ptaszynski should complete his study of implementing the model as an organizational development technique. Other dissertations that could be completed this coming spring include Maria Clay's application of the model to a department charged with training and development at a university teaching hospital,

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David Raney's application of the model to planning for a learning resources center in a school of dentistry, and Lynn Baunach's application of the model to a department of physical sciences in a liberal arts college. Dissertations that may be in final stages of completion include Lee May's project on planning the future of a consortium of church-related colleges, Elizabeth Markham's application of the model to a study of the future of the nursing profession, and Carol Binzer's project on the future of university offices of student affairs. We anticipate that Roger McClean's project on alternative futures for the U.S. Air Force Education Centers will be completed during the 1989-90 academic year.

Two students in the seminar are just beginning their doctoral programs. William Held is a colonel in the regular Army who will be assigned as a permanent professor at the U.S. Military Academy at West Point upon completion of his graduate program. His tentative dissertation is to apply the ED QUEST model to the Department of Foreign Languages at the USMA. Gay Davis is using the seminar this summer for independent study credit to explore her interest of planning in higher education.

Future Prospects

A project in the preliminary stages, which may give sustenance to the seminar and enable us to recruit students with graduate assistantships, is one establishing an environmental scanning program for a state-wide consortium of two-year colleges. A draft proposal has been submitted to the North Carolina Department of Community Colleges. This draft was discussed with the Executive Vice President and the Director for Planning this past spring semester. The Department is interested in contracting with the University to develop and maintain an environmental scanning data base and to provide training in planning and forecasting for decision-makers in participating institutions.

Summary

The point of this paper is that it is possible to organize and develop an environmental scanning/forecasting capability with relatively meager resources. Of course, a planning office would have to use salaried staff members to do the work that unsalaried graduate students perform in the seminar. This would probably mean adding staff members (or

in research universities, employing graduate students), or reassigning some job tasks of current staff members. Another alternative is to engage colleagues in the institution in the scanning/forecasting enterprise. For example, several of the students in the seminar are full-time professionals in various institutions where they are applying a planning model requiring scanning/forecasting activities involving their colleagues. The payoff, of course, is the enhancement of the capability of the institution to be more anticipatory and proactive in positioning itself in a climate of uncertainty.

Notes

[1]The author would like to express appreciation to Blanche Arens, Carol Binzer, Wayne Boucher, Maria Clay, Gay Davis, William Held, Lee May, Sherry Morrison, and David Raney for their helpful comments on earlier versions of the manuscript. Of course, the views expressed here, and any errors, are solely the responsibility of the author.

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