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ABOUT THE UNDERGRADUATE ACADEMIC ADVISEMENT
PROGRAM IN THE COLLEGE OF ENGINEERING AT
MICHIGAN STATE UNIVERSITY.

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A STUDY OF STUDENT AND FACULTY PERCEPTIONS ABOUT
THE UNDERGRADUATE ACADEMIC ADVISEMENT PROGRAM
IN THE COLLEGE OF ENGINEERING AT
MICHIGAN STATE UNIVERSITY

By

Alan Gordon Hoffman

A THESIS

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ABSTRACT

A STUDY OF STUDENT AND FACULTY PERCEPTIONS ABOUT THE UNDERGRADUATE ACADEMIC ADVISEMENT PROGRAM IN THE COLLEGE OF ENGINEERING AT MICHIGAN STATE UNIVERSITY

By

Alan Gordon Hoffman

This study compared the perceptions of 423 undergraduates and 60 faculty concerning academic advisement in the College of Engineering at Michigan State University. The College's program is staffed by 20 faculty who function in a traditional advising capacity and by 6 full-time student personnel specialists.

A stratified sample of 693 students and 70 faculty were surveyed with a four-part, non-standardized questionnaire especially designed for this study. Opinions were solicited by means of a mailed questionnaire for 170 of the respondents, and by direct distribution to 593 students. Out of a combined total of 763 students and faculty, 64.0 per cent participated in the study by returning a partially or completely answered questionnaire. The survey instrument consisted of four parts: (1) Part I consisted of 30 questions which rated the relative necessity of various services being provided by advising personnel in the College of Engineering; (2) in Part II, respondents

rated their personal preferences about 17 alternatives to the current system of advisement; (3) in Part III, respondents provided pertinent demographic data; and (4) Part IV consisted of seven structured questions which permitted discussion of the following dimensions of academic advisement: Most Helpful Service, Most Disappointing Service, Major Strength, Major Weakness, Do to Improve, Not Do to Improve, and Do Differently to Improve. In analyzing and reporting the data, Chi Square values significant at the .05 and .01 level were noted.

Three major hypotheses were tested:

- I. There are no significant differences between engineering undergraduates and engineering faculty about the relative necessity of various advisement services being provided by advising personnel in the College of Engineering.
- II. There are no significant differences among any of the five engineering departmental groups about the relative necessity for the College of Engineering to provide various advisement services.
- III. There are no significant differences between engineering undergraduates and engineering faculty about preferred alternatives among the proposed academic advisement models.

Results. In rating the necessity of providing various advisement services, three items were rated by more than 85.0 per cent of all the respondents as a service which "Must Be Provided" or "Should Be Provided" by personnel in the College of Engineering: (1) explaining program requirements and options to students in engineering departmental majors; (2) identifying necessary prerequisites and required skills for courses within an engineering department; and (3) providing information about admission to graduate schools.

The three classes of undergraduates held similar opinions about all but five items in Parts I and II of the survey instrument.

In each of these five exceptions, the sophomores differed from upper-classmen; three of the differences hinged on career concerns.

A total of 65.4 per cent of the students and 90.0 per cent of the faculty thought that the present advisement program in the College was either "Satisfactory" or "Very Satisfactory."

Out of 47 items in Parts I and II of the survey instrument, students were in substantial disagreement with the faculty on 18 items. In 10 out of 11 items in Part I, the students voted a particular service to be more necessary than did the faculty. In 4 out of 7 cases in Part II, the students described a proposed alternative model of advisement as having stronger potential than did the faculty.

Both students and faculty, when compared by their departmental affiliation, held similar opinions about the necessity of providing various advisement services, except in six instances. Four of these exceptions showed that members in Computer Science differed substantively from those in Mechanical Engineering.

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CHAPTER I

THE PROBLEM

Introduction

In a 1958 study [75], which included the College of Engineering at Michigan State University, Robertson concluded that the general quality of academic advisement needed major improvement for several reasons: (1) a growing need to tailor programs to fit divergent student needs; (2) the need to encourage independent study; (3) the increased need for self-appraisal skill by each student to facilitate his sense of self-direction and self-understanding; and (4) the growing need to orient the student to the mushrooming complexity and competition in the world of work.

In 1959, the Committee on the Future of Michigan State University [23] gave serious attention to the matter of academic advising. The committee recommended: (1) a complete restatement of the University's system of academic advising; (2) the abandonment of the archaic concept of the advisor as an enrollment officer whose sole function was to assign courses and class sections to students; (3) the adoption of a highly expanded program of essentials facilitating advising effectiveness.

The committee concluded:

The academic advisor should be interested and effective in his individual relationships with students. He should know his role as defined by institutional policy. . . . preparation should include familiarity with: (1) the educational goals of the university; (2) appropriate use of information about the student; (3) approaches to interviewing to help the student learn to make decisions and deal with daily problems; (4) the relationship of motivational, social, and emotional factors or conflicts to educational goals and progress, the resources available to students who need special assistance and effective ways of referring when indicated; and (5) special programs for various categories of students.

Meanwhile, the College of Engineering had been deliberating over some crucial concerns: (1) the decrease in engineering enrollments; (2) the continuation of high attrition rates; (3) increasing needs in a rapidly changing society for people who are technologically competent; and (4) the general need in our society for more broadly educated people.

These factors led the College of Engineering to establish a centralized Office of Student Affairs in July of 1962. The responsibility of this new office was to serve as a coordinating agent for academic advisement, and as a centralized depot for admissions and academic action taken by the college.

The pilot program in advisement for freshman students made use of doctoral candidates in the College of Education who also had professional experience in guidance/counseling or student personnel work at the high school or college level.

In helping the weaker academic freshmen students, problems centered mainly on ineffective study habits, the improper use of study time, a lack of tutorial assistance, and general adjustments to college life.

Despite an awareness of these factors approximately 30 per cent of the advised freshman students transferred to majors outside the College of Engineering.

The major contributing causes were thought to be threefold: (1) the difficulty of attempting to present an accurate and representative image of the contemporary engineer; (2) an inadequate orientation procedure for incoming students; and (3) working within the confines of a non-comprehensive advisement system which did not include academic guidance for sophomores, juniors, and seniors.

Dr. John Ryder, the Dean of the Engineering College during this pilot phase of the advisement program, reported [80:288]:

The results of our freshmen (advisement) program, after two years, were sufficiently impressive that four engineering departments also place their upper level counseling under full-time professional people. . . . For students, the counselors forestall the complaint: "I can never find my advisor. He is always in his laboratory." (Our full-time counselors are absent only to attend a limited number of classes in their own graduate program.) For faculty, the counselors provide a bonus of advising time which can be devoted to research--with clear conscience. For deans, the counselors add a new dimension, making new data available. Thus, we retain in engineering those students who will become good engineers . . . Our losses of good students to competing fields have been drastically reduced. . . . Ninety per cent of them ultimately graduate (in another major). . . . Deans of these other colleges now comment favorably on our program. They know we give them some of our better students. . . . Any one of these results is of major value to our profession.

Although the two functions of instruction and advising have been traditionally associated, the necessity for such an arrangement was called into question by DeLisle [27:111 and 40]:

Some teachers neither have the ability nor the interest in advising. Paradoxically, however, some faculty advisors who resent the assignment of advising, do not believe that anyone else is competent to perform this function in their discipline with any authoritativeness. . . . The possibility of making

the meeting between the advisor and the student a humane and fruitful experience--centering upon a shared effort to improve the student's total understanding of his major field of study--is realized only rarely in the university today.

In the Fall of 1965, leaders in the College of Engineering expanded their academic advisement program by increasing the size of the full-time staff personnel from three men to six, and by increasing the breadth of activities and services they rendered.

The following recommendations suggested that the advisement program should help the student in:

- (1) learning more about his abilities, interests, and aspirations;
- (2) acquiring accurate information about courses, curricula, regulations, and procedures with their supporting rationale;
- (3) understanding the nature and goals of undergraduate education, both liberal and professional;
- (4) integrating the student's educational experiences;
- (5) developing a long-range program involving both course work and other relevant experiences, in such a way as to reflect unity, coherence, and relatedness to life plans, as well as with sensitivity to the modern world and its significant issues;
- (6) providing the student with a sense of direction about his career;
- (7) utilizing other university resources which can help the student attain his goals;
- (8) providing the student with materials to facilitate this process.

General goals formulated by the Office of Student Affairs provided the following guidelines for the advisement program:

1. To provide a comprehensive, high-quality set of academic advisement services for all engineering undergraduates.
2. To study, interpret, and communicate information about the nature of the engineering student population.

3. To institute appropriate programs to help each student in the further development of mature attitudes and the expansion of his personality, and provide a keener awareness of vocational opportunities.
4. To consult with faculty, administrators, parents, and others concerned about individual students.
5. To integrate the efforts of various offices of the University in order to more effectively serve engineering students.
6. To conduct necessary research in the student affairs area in support of the above responsibilities.

In order to implement the first goal of comprehensive advisement services, it was stressed that special attention should be given to the individual needs of all students, both in academic and non-academic areas. It was also thought that when planning a student's academic program, there should be a consideration of past educational and work experiences of the student, as well as his professional and personal goals.

The production of normative studies was listed as the implementational tool for the second goal of characterizing the engineering student population.

The third goal was seen as a joint responsibility shared by the faculty and full-time advisement staff. Many activities and opportunities were identified to support this goal.

Goals four and six were considered self-explanatory.

In order to actualize goal five, which dealt with coordination and consultation efforts, two things were emphasized:

1. Full recognition of the important role played by various offices and agencies of the University in the life of each student.

2. The engineering advisor must have a working knowledge of the Counseling Center, Placement Bureau, the Financial Aids Office, Office of Admissions and Scholarships, the activities of the residence halls, etc.

In order to more effectively deal with the national problem of decreasing numbers of applicants to engineering programs, and to publicize accurate information about technological career opportunities and challenges, the Student Affairs Office and full-time advisory personnel initiated the following projects:

1. A special summer engineering institute offered to high school students who have completed the tenth grade. The offerings of the institute were designed to encourage and challenge students in the basic sciences which serve as the foundation for engineering.
2. Now in its twenty-second year, the Junior Engineering Technical Society (JETS) was promoted as a cooperative effort through which industry, engineering, technical societies, and educational institutions could collaborate to enhance science and engineering-oriented programs in high schools.
3. To improve communications with all high school personnel, the Office of Student Affairs: (a) sent letters to guidance counselors explaining curriculum changes and program alterations; (b) wrote personal letters to high school counselors of incoming college freshmen asking for additional information which might facilitate the student's transition to college life; (c) provided a comprehensive review and evaluation of current career literature in the field of engineering; (d) actively participated in career guidance programs; and (e) engaged in continuous recruitment activities in a vigorous effort to attract outstanding students as identified by the National Merit Scholarship Program, the Westinghouse Talent Search, and the National Engineering Aptitude Search Program.

In addition to the full-time advisement staff, approximately twenty-five faculty were appointed in an academic advisory capacity within their departments. These faculty members prepared for this extra responsibility through consultation with their department chairman and staff in the Student Affairs Office.

Approximately two years after the expanded, experimental advisement program in the College of Engineering had been in full operation, Michigan State University President, John A. Hannah, commented indirectly on the special importance of academic advisement in his broad outline to the Committee on Undergraduate Education. This document appeared on February 8, 1967 [24:1]:

Nor can we ignore the mood of those of our college students who are questioning the values of American society and who may be justifiably critical of what colleges are offering them at the undergraduate level. These students say they find too little in their courses of relevance to their lives; they complain of faculty who have too little interest in them or their problems; and they seek opportunities to have a voice in matters of policy which vitally concern them.

Hannah concluded his mandate by indicating "the Committee cannot help being concerned with curriculum, teaching, advising, and the academic climate."

This committee responded by writing a special section in the final report about academic advisement [24:105]:

That academic advising is not uniformly well-provided for in all of the colleges and departments of the University is abundantly clear. . . . there are serious deficiencies in our present advising methods.

As a result of their investigation, the committee suggested the establishment of a College Advisement Center. This recommendation was already a reality in the College of Engineering.

In the spring of 1969, the six members of the full-time advisory staff composed a set of communal perceptions about the College's advisement program. These perceptions were based mainly on the staff's professional experiences of advising students each day. These observations were:

1. The success of academic advisement depends primarily on:
 - a) the advisor being available for consultation at a time convenient for most students;
 - b) the advisor being truly concerned about the student's total academic welfare and personal development; and
 - c) the advisor being able to provide pertinent, correct information.
2. Critical tasks for each new advisor are:
 - a) self-education about Engineering curricular programs, individual courses, the physical environment of the College and its resources, and Engineering as a professional career;
 - b) learning about multiple advisement roles and when it is necessary to obtain information and approvals;
 - c) developing effective relationships with all types of engineering students as quickly as possible;
 - d) developing discretion about those areas where faculty are most competent to make judgments, especially in curriculum matters of a technical nature.
3. Personal characteristics and attributes deemed desirable for advisors:
 - a) Maturity--in age and experience
 - b) Personal--sincere, trustworthy, admits limitations
 - c) Commitment--to the University, College, and students

- d) Role versatility
- e) Other--approachable, organized, dependable, enthused about working with students, able to plan ahead, and able to make prudential judgments when only partial information is available.

4. The merits of effective advisement program execution:

- a) Reduce the involvement of faculty in advisement for which some express dislike and some are ill-prepared. At the same time, this new "release" time of non-advisement would increase the opportunity for teaching faculty to interact with students about concerns of engineering specialization and finer points of course work in class.
- b) An advisor who is readily available--the primary concern of students identified by campus study of undergraduate advising programs.
- c) Ability to help students make progress in meeting all curriculum and graduation requirements.
- d) Exert influence on faculty opinion about the importance of and responsibilities of academic advisement.
- e) Improve communications between students and faculty.
- f) Provide relevant data and suggestions about curriculum revision, and other aspects of the student's continuing development and changing needs (e.g., scheduling, finances, etc.)

- g) Providing a student personnel point of view for faculty and student considerations.

5. Increasing the effectiveness of a new advisor:

- a) New advisor should spend at lease one full week working with the man he will replace.
- b) Provide the newcomer with a brief outline of major expectations, responsibilities, and guidelines.
- c) Periodically update the advisor policy manual to reflect changes within the College and University as they affect engineering students.
- d) Arrange a mini-orientation program to acquaint the new advisor with relevant segments of the campus in the shortest possible time. For example, to arrange a series of personal conferences with each of the department chairman in the College; to familiarize the new advisor with the Learning Resource Center in 205 Bessey Hall; and to meet with admission personnel for briefing.
- e) Encourage frequent communication among all advisors to exchange helpful information, and to provide the opportunity for developing personalized styles of advisement which are effective. Experienced advisors should take the initiative in working with the new advisor to give him a sense of belonging.

6. Important factors for optimal advisement:

- a) Keep clerical duties and paper-shuffling to a minimum.
- b) Non-advisement responsibilities and interferences should be relatively few.

7. Future of similar advising programs: Full-time advisement provides enough administrative decentralization to guarantee the regular availability of the advisor for both students and faculty. Ideally, an effective advising program which permits and encourages educational decisions (tentative and long range) at the level which directly involves the student, seems to be appropriate for optimal student development. If implemented properly, full-time advisors may be able to actualize those student personnel objectives deemed desirable by some leading educators. The advising program in the College of Engineering seems to be one model which can begin to accomplish such a task. Improvements in the mechanics of the model are necessary. But the supportive reactions of faculty and students suggest continued efforts.

The Present Advisement Program

A brief overview of the major components of the present academic advisement program in the College of Engineering at Michigan State University includes:

- 1. Engineering No-Preference Advisement: This encompasses all engineering Freshmen who are advised by full-time staff members trained in guidance/counseling or student personnel work.

2. Engineering Honors Advisement: This includes all students who qualify; they are advised by teaching members of the faculty in respective departments.
3. Upperclass Engineering Advisement: This includes the appointed faculty members in Agricultural and Civil Engineering who advise all sophomores, juniors, and seniors in those respective majors.
4. Upperclass Professional Advisement: This includes the full-time advisory personnel who work with all remaining sophomores, juniors, and seniors in all other engineering majors, excluding honors students. These other engineering majors include computer science, chemical engineering, electrical engineering and systems, mechanics, metallurgy, material science, and mechanical engineering.

The College's total advisement program combines centralized and decentralized services and administration. It is a comprehensive program rooted in the following assumptions:

1. Academic advisement is basically voluntary for the student.
2. The student is ordinarily free to determine the frequency and intensity of the advising relationship as it appeals to him.
3. A heavy emphasis is placed on advisor availability; students are encouraged to use appropriate referral agencies on campus to help meet their various needs.
4. Maintain a comprehensive undergraduate academic advisement program directed from the freshman level through the seniors.
5. The advisement program should include selected, qualified faculty who indicate a personal interest in interacting with students outside the classroom.

6. Suitable recognition of advisement excellence should be promoted to enhance its status.
7. Planned experimentation must be encouraged for a sufficient period of time to demonstrate any marked superiority of one method over another.
8. Implementation necessitates an investment of manpower and money at a supervisory and coordinating level.
9. The advisement services should be positively supported by the faculty.
10. Review and appraisal are necessary for program effectiveness and efficiency.

All academic advising in the College of Engineering is coordinated by its Office of Student Affairs, where a centralized record system is maintained for all undergraduate and graduate students.

Members of the full-time advising staff have all received training in guidance/counseling or student personnel work. Each staff member also has some special assigned responsibility in addition to their advising assignment.

One of the noteworthy features about the full-time advisement program is the phenomenal success which the staff members have demonstrated in completing their own doctoral programs. To date, the College of Engineering has employed fourteen full-time staff members since the pilot program began in 1962. Nine men have already completed programs and earned their doctorate; six of these nine men have generated dissertations pertinent to engineering concerns. This study represents the seventh doctoral thesis which is intended to benefit the College. Two additional dissertations now in the planning stage may also directly benefit the College.

It is significant that only one full-time staff member withdrew from his own graduate studies and the engineering advisement program for personal reasons.

A change in academic advisors from the Student Affairs Office to a departmental advisor (either full-time or appointed faculty advisor) occurs when a student has: (1) completed 40 credits of quarter-based class work; (2) declared a specific engineering major; and (3) enrolled in appropriate engineering courses leading toward a B.S. degree in a specific major.

In general, this relationship and advisor-continuity persists until the student graduates.

The full-time advisor to student ratio approximates a 300:1 ratio. For most faculty advisors, appointed on a part-time basis, the ratio is approximately 25:1. The one major exception is found in Civil Engineering where an approximate 40:1 ratio exists.

The current academic advisement program in the College of Engineering includes:

1. Limited group advisement, mostly at the freshman level and among minority students, but expanded and strengthened in the direction of the suggestions made by the group leaders and the student participants.
2. The organization of informal educational seminars which attempt to exchange viewpoints with instructional faculty.
3. Conducting exploratory surveys with alumni.

4. Cooperating with the members of Triangle Fraternity in providing supportive tutorial services to needy academic students.
5. Expanding the projects of black engineering students and appointing a black doctoral candidate in Education to supervise their activities.
6. To sponsor an annual Open House in early November so the general public and new students can better acquaint themselves with the College. Naturally, this project is a shared effort with the engineering faculty who actually provide the manpower and know-how at the exhibits. This annual event usually attracts about 400 visitors. It seems that much of the attendance results from the excellent publicity and planning by the Student Affairs Office. Letters of advance publicity are sent to all engineering freshmen, to all new engineering transfer students, and to promising community college students in the state.
7. Generating proposals that might benefit the College of Engineering and its students.
8. Attempting to retrieve and codify evaluation about elective courses.
9. Attempting some follow-up study among those who leave engineering to identify contributing factors which might be correctable.

10. Actively participating each summer in the Orientation Program, and codifying personal data about incoming students to facilitate regular school year advisement.
11. Improving the articulation with community college educators by appointing a faculty member to personally visit each community college in the state each year.
12. Continuing the supervision of the Spartan Engineer four times each year in order to promote communication skills and journalistic opportunities among Michigan State University engineering undergraduates.
13. Attending workshops, seminars, conferences, etc. as resources and work schedules permit in order to improve the quality and nature of the advisement program.
14. Expanded research activity directed especially toward:
 - a) an analysis of activities and programs of Student Affairs Offices at other engineering schools;
 - b) continued concern over attrition trends;
 - c) examining the effects of curriculum revisions; and
 - d) some projective studies for long-range planning purposes.

Importance of the Problem

The need for this type of exploratory study was indirectly suggested by University President, Clifton Wharton, in his plea for Continuity and Change [91:7-8 and 16].

. . . other members of the university community must also recognize the importance of self-analysis and setting coherent long-term goals. And in setting these plans, we all must also recognize the need to say "no" to those suggestions and proposals which do not fit our plans and priorities. As a single institution with limited resources, we simply cannot be all things to all people. . . . We must together establish our priorities and then we must stand together in our agreed common decisions. . . . We cannot sit here and agonize over our "relevance" in fatuous intellectual exercises and still expect to be supported. . . . We must face the realities squarely and set about the hard task of reordering our priorities, of demonstrating our capacity to conduct our own affairs, of providing honest measure in return for the public's support . . .

In another time and in another place, David D. Henry clearly identified the need for an effective advisement program.

Academic achievement and good human relations require an effective, well-organized, and widely supported program of student counseling. Such a program is both an institutional obligation and a professional expectation. If present academic standards are to be maintained and improved, counseling must have continuing appraisal and wide faculty response [46:8].

Although Henry spoke of "counseling students," the fuller context of his remarks suggests a more precise phrase would have been "academic advisement." What is most noteworthy, however, is the educator's emphasis on the need for "continuing appraisal" of the advisory function.

On the subject of continuing appraisal, Dr. Paul Dressel states that a fundamental principle is that there must be widespread involvement in planning and in accumulating evidence for the meaningful evaluation of a program [29:183]:

Students should be involved in evaluation, partly because they have distinctive points of view and concerns, and partly because their cooperation in responding to questionnaires, interviews, and other evaluation instruments will indicate their understanding of and commitment to the endeavor. Evaluation should consider the effects of the new program on faculty and their attitudes toward it. It should include evidence of changes in students both as a group and as individuals . . .

In a certain sense, Dressel confirmed a similar observation made by John Gardner [35:72]:

We do not expect organizations or societies to be above criticism nor do we trust the men who run them to be adequately self-critical.

Evaluation is a dangerous game because it can be prompted by such a spectrum of motives. Although motives can be disguised, it was never the intent of this study to be "a ravenous wolf in sheep's clothing:"

Twentieth century institutions are caught in a savage cross-fire between uncritical lovers and unloving critics. On the one side, those who love their institutions tend to smother them in the embrace of death, loving their rigidities more than their promise, shielding them from life-giving criticism. On the other side, there is a creed of critics without love, skilled in demolition but untutored in the arts by which human institutions are nurtured and strengthened and made to flourish [34].

This seems to be the inner spirit behind Dressel's pointed remarks [29:184]:

Evaluation . . . must be oriented toward the future rather than the past. It should emphasize suggestions for improvement or further investigation, rather than dwell on weaknesses and errors.

A review of academic advisement literature shows a paucity of empirical studies which specifically deal with engineering students (cf. Bibliography and Appendix L).

Two local studies [27 and 21], conducted in 1965 and 1970 respectively, did include undergraduates from the College of Engineering as part of their total population. Both studies, however, had a wider concern and did not attempt to fully represent undergraduate and faculty perceptions about academic advising in the College of Engineering. The emphasis in each of these earlier studies was to

compare the College of Engineering with other advisement programs on the Michigan State University campus. Such a concern determined the nature and scope of their respective questionnaires.

For the specific purposes of this exploratory study, neither of these more general questionnaires were judged appropriate or adequate.

DeLisle's 1965 study did not have a randomly selected student population of engineering undergraduates; included only a handful of engineering faculty; did not control for some major nuisance variables; and was not concerned about identifying why unanswered questionnaires were not accounted for with some brief explanation.

Chathaparampil's 1970 study did not concern itself with the role of instructional faculty in academic advisement, nor did it attempt to measure the perceptions of engineering faculty about the total advisement program in that College.

More importantly, Chathaparampil's questionnaire contained sections and specific items which seem unanswerable or of dubious practical merit. Working within the framework of a five-step satisfaction scale, note the following examples:

- the convenience of the location of my advisor's office is.
- his informal nature of advising is.
- the similarity of his life style to that of mine is.
- his help in improving my grade point average is.
- his professional reputation is.
- his wider outlook on education is.

Another cardinal difference between Chathaparampil's 1970 study and this 1972 survey is that the former was not concerned about exploring possible modifications of or alternatives to the present advisement program in the College of Engineering.

What was discovered in a campus-wide study by DeLisle was recently accented by the Commission on Admissions and Student Body Composition in their 1971 Report to the President of Michigan State University.

DeLisle noted the need for a clear and definite philosophy regarding the meaning and purpose of academic advising, and the imperative need to change the image of the advising function as mainly a clerical task which neither interested nor challenged the professional faculty member. Very succinctly, DeLisle stated [27:180]:

A whole complex of interrelated factors, including strengths and weaknesses, need to come under the purview of those having responsibility in this area (academic advisement).

In the 1971 Committee Report on Admissions and Student Body Composition a special section was devoted to academic advising [1:47-49]:

The quality and quantity of academic advising have become perhaps the most serious and least-remarked casualties of the past decade's growth. . . . As in the area of instruction, innovation and experimentation with wider varieties of advising models are called for. Here again the need for strict control and rigorous evaluation cannot be overemphasized.

This cursory examination of pertinent Michigan State University documents and recommendations makes it clear that the importance and need for academic advisement merits serious attention and critical appraisal. The sincere belief held by the administrators of the

College of Engineering that academic advising should be a key function in an undergraduate program is substantially rooted in the educational philosophy, purposes, and programs of Michigan State University.

Statement of the Problem

There is sufficient evidence to document the need for critically evaluating the relative necessity of providing various advisement services in the College of Engineering at Michigan State University, as the services are perceived by undergraduate students and instructional faculty.

There is an additional need to investigate for significant perceptual differences between undergraduate students and instructional faculty in the College of Engineering about various models of academic advisement. This exploration of preferences is concerned with minor and major modifications of the present advisement system in the College of Engineering.

The five engineering departments included in the study are: chemical, civil, computer science, electrical/systems, and mechanical engineering.

It is anticipated that a codification of perceived priorities and preferences will give a helpful sense of direction to the College of Engineering in its allocation of manpower and resources, and that such a codification will stimulate the development of other programs of academic advisement.

In summary, it is important for the College of Engineering to know: (1) what academic advisement services are genuinely supportive of perceived faculty priorities; (2) what academic advisement

services are considered of major and minor importance by various sectors of a divergent undergraduate population of sophomore, junior, and senior engineering students; and (3) what modifications of the present academic advisement system might be suggested by engineering undergraduates and instructional faculty in order to make the advisement program in the College of Engineering more effective.

Purposes of Study

The first purpose of this study is to compare the perceptions of engineering undergraduates against those of instructional faculty about the relative necessity of providing various services in the College's advisement program.

The second purpose is to determine if the common variable of departmental affiliation for undergraduates and faculty is related to major perceptual differences about the College's advisement program.

The third purpose is to compare the preferences of engineering undergraduates and faculty about the relative merit of alternative academic advisement models.

The final purpose is to develop a survey instrument which will meet the above purposes.

It is intended that the nature of this non-standardized questionnaire will be sufficiently fundamental and flexible about advisement concerns that it will be helpful to other educational institutions as they try to evaluate their own particular advisement programs.

The following objectives are a restatement of these four purposes:

Objective I:

To compare the perceptions of engineering undergraduates against those of instructional faculty about the relative necessity of providing various advisement services.

Objective II:

To determine if the variable of departmental affiliation for undergraduate students and instructional faculty is related to any major perceptual differences about the advisement program in the College of Engineering.

Objective III:

To compare the preferences of undergraduate students against those of instructional faculty about the relative merit of alternative academic advisement models.

Objective IV:

To construct an appropriate questionnaire for the above-stated objectives, and one which will serve as a possible evaluative tool for other higher educational institutions.

Limitations of Study

Due to the nature of this exploratory study, certain limitations should be identified which may have a direct bearing on the implications which are derived from the findings of this investigation. Any conclusions that may be made from this study should be interpreted in the light of these self-imposed limitations:

1. The findings will be relevant only to those departments and advisement situations in the College of Engineering at Michigan State University which were specifically identified and factually examined in this study; the findings may not validly be generalized to other engineering programs or advisement settings. Since the results of this study are of special interest to the College of Engineering at Michigan State University, the practical implications of this study must be decided by those who wish to relate these findings to their own particular educational setting and circumstances. The appropriateness of this study for other populations must be interpreted by the person who can estimate if the new population of interest is similar to or unlike the population of this study.
2. This study is limited by the factors inherent in the use of any questionnaire. Among other things, these include the complexities of tabulating, validating, and securing the cooperation of respondents.
3. This study is intent on exploring the perceptions of a specific engineering population. Accordingly, it is not concerned about general population characteristics of engineering faculty and students other than those identified in the design and execution of this study.

Despite these limitations, the results of this investigation should provide information to those responsible for the administration of academic advisement in the College of Engineering.

Definition of Terms

The following terms were defined by the Engineer's Council for Professional Development and are used in this study:

Engineering: Engineering is the profession in which knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind.

Engineering Technology: Engineering technology is that part of the technological field which requires the application of scientific skills in support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer at the end of the spectrum closest to the engineer.

The following terms were defined in the Policy Handbook for MSU Faculty 1970, and were used in this study:

Academic Advisement: Academic advisement is a continuing process in which a student and a faculty member discuss possible options; first, in the student's total educational program; second, in specific curricular fields; and third, in potential careers, in order that the student may make more intelligent choices.

Enrollment: Enrollment is a student responsibility in selecting courses for a term schedule from a student's academic plan previously developed, but continually reviewed with the advisor.

Registration: Registration is a mechanical process directed by the Office of the Registrar to admit students to courses, to allot

students to specific class sections, assess fees, and to prepare records for staff use.

Counseling: Counseling is a service available from the Counseling Center to help students adjust to social and personal problems encountered while in the University, and to identify potential occupational choices.

The following terms are operationally defined:

Phenomenological Perception: The study of perceptual awareness and response to those experiences judged meaningful and important to the perceiving person. In the special context of this study, the perception will be an internalized judgment about what to expect from an academic advisor in the fulfillment of his perceived educational role. Thus the perceiver's expectation will probably differ if it has a full-time professional advisor as its object, or a part-time faculty advisor as its object.

Advisor's Role: The behavioral responsibilities of anyone appointed by the Dean of the College of Engineering as an academic advisor.

Full-Time Professional Advisor: Anyone appointed by the Dean of the College of Engineering on a twelve month basis with the exclusive function of being available forty hours per week for the academic advisement of undergraduates in the College, and for supportive services to and consultation with the engineering faculty.

Growth: If we conceive of the personality as a system, we may regard growth as the expansion of the personality--the addition of parts (e.g., habits, needs, or beliefs) and the subsequent enlargement of existing parts (e.g., increasing the intensity or changing the priority of a particular need).

Development: Essentially, development is the organization of accelerating complexities in our lives; it is the integration of sub-systems into larger units.

Organization of Study

Chapter I has served as an introduction to the problem by identifying the purposes of this study, defining the need for such an exploratory investigation, defining important terms, and specifying the limitations of the study.

In Chapter II, literature related to the problem will be reviewed. Special emphasis will be placed on an examination of various academic advisement models.

The methodology and procedures used in this study will be reported in Chapter III. Emphasis will be placed on the population studied, the development of the survey instrument, and the method of analyzing the data.

In Chapter IV the results of the study will be reported and analyzed.

Chapter V will include a summary of the findings, conclusions drawn from the findings, and appropriate recommendations for further study.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This chapter is devoted to a review of experimental studies concerned with the evaluation of advisement programs, and to a description of divergent advisement models.

An extensive review of the literature was conducted for the purpose of:

1. Establishing a theoretical framework for this study.
2. Examining the controversy between centralized and decentralized advising services.
3. Examining appropriate studies concerned with the evaluation of academic advising programs.
4. Presenting a discussion of divergent advisement models.

The chapter is divided into four major parts to reflect the above purposes. First, a documented explanation of supportive theory is presented to serve as the foundation for the "superstructure" of advisement dynamics. The reason for this section was suggested by Melvane Hardee [40:21] in her discussion of advisement philosophy and roles:

The advisor is more than an information and traffic-control officer. He conveys to the student a philosophy of contemporary education, a rational base for the consideration of problems, and suggests plans of action on which he may move. . . . Discussion will be penetrating and pervasive between the advisor and student on the latter's fitting into the multi-variety of the campus.

The second part of the chapter consists of a brief examination of some of the major advantages/disadvantages of centralized and decentralized advisement. The purpose of this section is related to the use of both organizational methods in the College of Engineering. All records are centralized, while most services are decentralized for the sophomore through seniors in the College. Accordingly, no attempt is made to settle the educational controversy over which organizational method is superior or more effective.

Four experimental studies are reviewed in the third part of the chapter. DeLisle's study [27] attempted to examine whether the academic advising programs, both established and experimental, of various colleges on the Michigan State University campus were supported by an appropriate rationale, and to examine whether the implementation of that rationale was consistent with its theoretical intent. Student residency was the main variable built into the design of the study.

Chathaparampil's study [21] examined the unique characteristics of five selected advisement programs at Michigan State University, and compared student perceptions about each program.

Baxter's study [12] attempted to identify the key factors responsible for the emergence of centralized academic advising agencies at certain major universities, and to determine the nature and scope of such agencies' operations.

Friedenberg's study [33] examined academic advisement at the University of Chicago from a case-study questionnaire.

Each of the above studies contributed to the content of the questionnaire used in this study.

The fourth part of the chapter discusses some advisement models being used today in various higher educational institutions. These include faculty advising, student-to-student advising, self-advisement, computer-assisted advisement, and management-by-objective advisement. Such models proved helpful in the construction of part II of the questionnaire used in this study.

Throughout this chapter the intent is to report on general findings and recommendations as they relate to engineering education at Michigan State University. In summary, this review illustrates the kind of investigations and experimentations in academic advisement which serve as a base for this study.

Supportive Theoretical Framework

This study was concerned with the perceptions of faculty and undergraduate students in the College of Engineering about the relative necessity of providing various advisement services. Since the study was exploratory in nature, it was also deemed appropriate to examine alternative academic advisement models.

Blocher [14] asserts that phenomenology is the most suitable supportive theory for those educators who see their major functions best exemplified in a student-centered, developmental context. This view is also strongly supported in the writings of Arbuckle [5], Katz [50], and Sanford [81].

Such a phenomenological-developmental axis forms the operational baseline of the experimental advisement program philosophy in the College of Engineering.

Schetlin [82], upon reviewing thirty-seven years of scholarly writing by Esther Lloyd-Jones, made this observation:

Two years before the American Council on Education published The Student Personnel Point of View, and thirty years before phenomenology became a widely discussed concept, (Lloyd-Jones) described "the student personnel point of view" in terms now identified as phenomenological, as a point of view used to see the student more clearly in his uniqueness.

From such statements it is obvious that phenomenology and developmentalism interface. That is, a person's experience derives its meaningfulness from its relationship to some specific developmental task perceived as a goal or a good by the perceiving person.

In an educational context, Bruner [19] speaks of this phenomenological-developmental axis in terms of perceptual readiness. Havighurst [45] describes it as a series of developmental tasks for social maturation.

Sanford [81:52] argues that people develop when stress is great enough to challenge their prior modes of adaptation, but not so great as to induce defensive reactions.

Among the conceptual stages of psychological development that have been offered, the most influential have been those of Freud [32] and Erickson [30].

Freud differentiated stages of psychosexual development according to the order in which the several erogenous zones of the body became focal in the production and release of tension.

Erickson proposed eight stages of ego development, each of which is defined mainly in terms of the kind of attainment which makes it possible for a person to move ahead to higher levels of development: basic trust, autonomy, initiative, industry, identity, intimacy, generativity, and ego integrity.

Somewhat reflective of this philosophy, although derived independently, is Maslow's general-dynamic theory of human motivation which ranks the needs of man in a hierarchy of prepotency. At the base of this hierarchy are man's physiological needs. At the next level of ascent we find safety needs, primarily intent on avoiding danger and deprivation. At the third level we note man's need for affection and sense of belonging. The esteem needs of achievement and respect are on the fourth level. On the highest level of this hierarchy we find the needs for self-actualization, whereby people are intent on actualizing their potentialities, of making maximal use of their abilities and skills. Although Maslow presents this hierarchy in a fixed order, he states that this hierarchy is not nearly as rigid as may have been presented. He cites seven categories of exceptions he has personally met [60:259-60].

According to Sanford [81:53] two basic concepts are necessary to explain sequential changes in the human personality. One is the notion of "readiness," the idea that certain kinds of responses can be made only after certain states or conditions have been built up within the person. And two, the idea that personality change is induced largely by stimuli arising either from the person's bodily functioning or from his social and cultural environment. The order of events in

the personality is largely determined by the order in which these stimuli are brought to bear.

For a developmental change to occur, there must be a certain readiness, but the change requires not only the existence of that readiness by itself but also some kind of intervention from outside [81:161].

Grant summarized the educational implications quite well:

Human development occurs for a lifetime. Behaviors that occur at any one stage are as important as behaviors that occur at any other stage. . . . So one of the elements of the continuing renewal in educational reform is that education is for a lifetime. . . . Education should be the process by which society helps to structure activities so that this behavioral development occurs in a more efficient way than it would if we left it alone [36].

Boulding posits the interesting idea that person's perceptual image of himself and of his relationship to others in a specific organizational setting underscore the basis for his behavior [16]. Despite the accuracy of his perceived self-image, his overt action or inaction does affect the behavior of other organizational members. In this study, such organizational members would include student peer groups, advisory personnel, faculty, and accessible administrators.

MacLeod [59] argues that for the phenomenologist "meaning" is central and inescapable. As stated above, this "meaningfulness" is to be understood in a developmental context. Thus, "the organism has one central tendency--to maintain and enhance itself [76]."

This "meaningfulness-development" axis is at the heart of the psychological writings of Rogers [76], Patterson [71], Blocher [14], and Syngg and Combs [25]. It is also a key concept in the student personnel writings of Sanford [81], Katz [50], Lloyd-Jones [58], Tyler [89], and Barclay and his colleagues [10]. It is in lesser but

substantial agreement with the works of Angyal [4]. In a more indirect manner this concept is reflected in the organizational writings of Argyris [8], Herzberg [47], Likert [57], and Smith [84].

Rogers [76] asserts that behavior is basically the goal-directed attempt of the organism to satisfy its needs as experienced, in the phenomenal field as perceived. This perceptual field constitutes functional reality for the perceiving person:

. . . it is this subjective reality which determines how he behaves. Consequently, a knowledge of the stimulus does not suffice for predicting behavior; one must know how the person is perceiving the stimulus.

In their phenomenological approach to human behavior, Syngg and Combs assume:

. . . although a real world may exist, its existence cannot be known or experienced directly. Its existence is inferred on the basis of perceptions of the world. These perceptions constitute the phenomenal world . . . Man can know only his phenomenal world, never any real world. Therefore, he can only behave in terms of how he perceives things, or how they appear to him [25].

Are we, then, faced with an epistemological impasse? What enables us to separate fact from fiction if we concede Syngg and Combs' subjective world of reality?

In a functional sense, Rogers [76] resolved this paradox. Stepping outside the "skin" of philosophy, he postulated that meaningful experiences result in our making tentative hypotheses about "objective" reality. We suspend judgment until we put our perception to a test of correction. That is, we examine whether or not our perceptions correspond to those of others.

Boulding [16] believes that organizational affiliation and self-perception can be codified along ten dimensions, each of which

reflects a different aspect of the self: (1) the time image, (2) the space image, (3) the relational image, (4) the personal image, (5) the value image, (6) the emotional image, (7) the conscious-to-unconscious image, (8) the certainty or uncertainty image, (9) the reality or unreality image, and (10) the public or private image.

It is this last image, which measures whether an individual's perceptions are unique to himself or shared by others, that prompts this study.

In a behavioral context, phenomenology postulates that each person has the capacity to regulate, control, and guide himself, provided only that certain conditions exist. These are: empathic understanding, unconditional positive regard, genuineness, the frequency and meaningfulness of personal interaction, and specificity. According to some scholars, such as Allport [2], Maslow [61], McGregor [66] and Rogers [76], a person can develop his potential, as a seed blossoms and becomes its potential.

Perceptual-developmental readiness favors an internalized frame of reference. Such a relationship is possible in vis-a-vis advisement if the advisor is skilled and the advisee chooses to cooperate, or sees any need to.

It is, indeed, a formidable task to activate the wisdom described by Atticus Finch, the fictional lawyer in To Kill a Mockingbird [56:34]:

You never really understand a person until you consider things from his point of view--until you climb into his skin and walk around in it.

Unfortunately, a comprehensive internalized frame of reference for this study would present a host of logistical problems of retrieval, continuity, codification, interpretation, and recording. A case method approach would provide internalization, but would be representatively unreliable.

An operational compromise was decided upon. Namely, to ask at least four open-ended questions in the study questionnaire in order to reflect a manageable, albeit meager, amount of internalization from the population participants.

Implicit in the writings of Syngg and Combs is the assumption of determinism and the rejection of human freedom. Patterson [72] and Rollo May [63] adamantly reject this position. They insist that human freedom is as "factual" as fate.

The easiest way to summarize the relationship between this supportive theory and this study is to list the following set of assumptions:

1. Students are not per se passive or resistant to organizational goals or needs. They may have become so as a result of perceived experiences in the organization (College of Engineering).
2. The motivation for development must partially come from within each person and partially from external prompting.
3. Man is both a determiner of and determined by his perceived environment.
4. Man has the existential responsibility of radical freedom of choice and decision-making in his own life. The expression of this freedom is limited by hereditary and environmental factors, and perceived social constraints.
5. The inherent worth and dignity of each person is an obvious correlary.

6. Man naturally strives for self-actualization.
7. The highly developed person is one who accepts life as a process of on-going change.
8. What a person believes is not an empirical fact, but it is an empirical fact that people do believe. Our beliefs determine much of our perception of the behavior and values of others.
9. The perceived goals of the individual student are not incompatible, per se, with the stated goals of the College.
10. Academic advisement's primary goal is to facilitate the optimal development of each advisee in a manner consistent with shared perceptions of student potential, and not in basic conflict with the organizational goals of the College.
11. Responsible advisement must utilize all available personnel and resources which can facilitate the student's total development.
12. The advisor must honor divergent values as perceived and practiced by individuals from all social classes and cultures.

The preceding philosophical framework is predicated on the assumption that college students seek advisement from many people and places in their quest for developing a new identity. Each institution is faced with the dilemma of either allowing students to fend for themselves or of providing more advisement service. As Lewis Mayhew suggests [64:6] "no institution, however, no matter how affluent, can afford enough of these services to meet the full needs of college students." This study attempts to identify what advisement services are deemed the responsibility of the College of Engineering.

Centralized and Decentralized Advisement

Any comparison of academic advisement models shows overlapping areas of communality and organizational diversity.

Communality exists because of fundamental services that must be provided. Diversity exists for many reasons. For example, (1) historical antecedents, (2) differences in leadership styles, (3) differences in resources and financial feasibility, and (4) differences in educational philosophy and priorities.

While adaptation to change is characteristic of most schools, Peters and Shertzer [73:58] note a growing tendency for educational institutions to shift to centralized programs in guidance and counseling work. These co-authors suggest serious consideration be given to the following factors:

Some Advantages of Centralized Advisement Programs

1. More economically and efficiently coordinated.
2. Less chance for unnecessary duplication of efforts.
3. Tends to attract more qualified personnel.
4. Advisory staff tend to deal with students from a student personnel perspective rather than from an institutional point of view.
5. There is an opportunity for more frequent communication among advisory personnel.
6. Advisors become more visible and more accessible to students.

Some Disadvantages of Centralized Advisement Programs

1. Specialists are usually more expensive to employ.
2. There may be a tendency to de-emphasize the importance of teachers and the classroom.

3. There may be a tendency to dissect and compartmentalize students.
4. The more comprehensive services might be better provided through some other available resources.

Some Advantages of a Decentralized Advisement Program

1. A marked tendency to be more supportive of teaching efforts within a particular segment of the College.
2. A tendency of greater concern for the total learning context.
3. Probably less expensive in the long-run.
4. Tends to promote more diversified group associations.
5. Tends to favor a smaller advisor-advisee ratio.
6. Tends to distribute more power to more people.
7. Tends to foster more intensive communication within a department.
8. Tends to meet more particularized needs of a delimited group of students.

Some Disadvantages of a Decentralized Advisement Program

1. There seems to be a higher risk of using personnel who are inadequately prepared, educationally or psychologically, for meeting a variety of advising functions.
2. There is a tendency to de-emphasize educational/vocational guidance because it is seen as "everyone's business," but no one's specific responsibility.

3. Teachers acting as advisors tend to see student problems predominantly within a classroom context.
4. Incidental or episodic advisement tends to dominate the advisor-advisee relationship.
5. There may be a tendency to favor group advisement over individual contacts for the sake of business efficiency.

The purpose of Baxter's study [12] was to determine the factors responsible for the emergence of centralized academic advising agencies within academic units of certain major universities, and to determine the nature and scope of such agencies' operations. Fifty-one directors responded to the lengthy survey.

Centralized advising programs were indicated to solve two of the major problems in advising students during the first two years of academic study. Specifically, these were: (1) a lack of continuity of assignments to faculty advisors; and (2) the non-availability of so many advisors who also gave out too much inaccurate information. Conversely, the most successful programs and the most professional people made themselves available at any time for consultation, and they were accurately informed about departmental programs as well as other regulations and opportunities within the total institution.

Emphasis on the personalization of education through centralized advisement permitted the early positive identification of the student with his college and its respective discipline. This was indicated in the programs of the professional schools of home economics, engineering, nursing, pharmacy, architecture, education, and business.

In nearly all cases, the centralized student advising centers had developed programs which complemented and supplemented their instructional programs.

The centralized advising programs included in Baxter's study were broad and well-coordinated. Their comprehensiveness included the academic and personal development of students.

It should be noted that Peters' and Shertzer's lists of advantages/disadvantages for centralized/decentralized advisement are indicative, not exhaustive. They are generalizations, not definitive resolvers of an educational controversy.

What is happening within the administrative structure of the College of Engineering at Michigan State University? Both decentralization and centralization is the qualified answer. There are pressures, internal and external, which push it in both directions at the same time.

Forces pressing the College toward greater centralization include the current financial stringency, trends in federal funding to institutions and state agencies rather than to individuals, a new era of accountability to the taxpaying public, and discussion about the desirability of faculty unionization.

Pressures to decentralize are generally related to logistical factors of numbers and size, coupled with a growing philosophy which stresses participation in governance at all levels, and a dislike for the dehumanizing social system which centralized power can represent.

It is not the intent of this review to develop a case for one form versus the other, but to suggest some of the relative merits and demerits of both models.

Studies of Academic Advisement

The DeLisle Study

DeLisle administered questionnaires to 5411 students residing in a variety of living arrangements at Michigan State University during the late Fall of 1964. An attempt was made to secure one unit from each type of housing accommodation. The assumption was that this method of selection would yield a sample representation of the total undergraduate student population.

However, no special arrangements were made for follow-up or returns except for the plans devised within the individual living units for the two-week period between the distribution and collection of questionnaires.

The results of the questionnaire were reported in the form of the percentages of individuals who selected each of the options for all items, numbered 19 through 79. In addition, Chi-Square values and their level of significance were reported for items whenever the differences in response patterns were significant for class, college affiliation, coeducational living-learning residence, Honors College membership, grade point average, and sex.

DeLisle found statistically significant differences in the responses of the student sample according to college affiliation.

The questionnaire was locally developed especially for DeLisle's study. Concepts and definitions outlined by the Committee

on the Future of Michigan State University, two additional committees, and by a variety of other reputable sources provided the framework for the content. In its preliminary form, the questionnaire was pre-tested with a sample of randomly selected students. The final form was composed of eighty items which were arranged as follows:

1. Part I consisted of twelve descriptive questions designed to identify salient population characteristics.
2. Part II contained ten statements describing possible characteristics of the advising process and relationship. The purpose was to determine whether students came to the University with any fixed expectations of advisement.
3. Part III consisted of twelve characteristics which could be considered functions of advisement. The purpose was to discover major areas of satisfaction/dissatisfaction, and the extent to which expectations had been fulfilled.
4. Part IV was composed of twelve possible functions of advising. The purpose was to identify preferred priorities.
5. Part V consisted of nine categories of services or persons representing possible resources. The purpose was to determine the most commonly used adjuncts to the officially designated academic advisor.
6. Part VI presented ten statements representing a variety of alternative ways of handling academic advising.

7. Part VII briefly described eight categories of personal, social, and emotional problems.
8. Part VIII provided an open-ended question which asked for suggestions and recommendations about the improvement of academic advising. The results of these unstructured responses were to be analyzed separately and presented in a later report.

For the purposes of this study it is worthwhile to note the responses to Part IV of DeLisle's study [27:139-40] where the students indicated the relative importance of various advising services. A rank order of the results shows:

1. Academic advising should be considered an important educational service.
2. Academic advising should help with immediate and long-range program and career-planning.
3. Academic advising should help to encourage and motivate students.
4. Academic advising should be performed by faculty with special interest in and ability for advising.
5. The relationship should assist the student in greater understanding of his interests and abilities.
6. The relationship should contribute to individualizing and personalizing the educational experience in a complex university environment.

7. Academic advising should teach the student how to assemble information relative to courses, requirements, and procedures.
8. Academic advising should contribute toward clarification of values and goals.
9. Academic advising should contribute to the student's knowledge of available resources at the University.
10. Academic advising should strengthen the understanding of the student about the goals of undergraduate education, both liberal and professional goals.
11. Academic advising provides a relationship with someone who can be a friend and confidant.
12. Academic advising should help the student grow in judgmental and decision-making abilities.

DeLisle concluded that the total concept of academic advising should be divided into "families of functions," which could be assigned to the most appropriate personnel as their specific responsibility. Faculty members could speak most authoritatively about the disciplines they represented. Professional advisors and counselors were most qualified to help the student in evaluating his interests and abilities, and to help the student resolve problems which are interfering with educational progress and personal development.

It was also DeLisle's observation that academic advising functioned most effectively and satisfactorily for the high-achieving, upperclass student; especially for those who had enough initiative and ingenuity to use additional university resources.

Some students expressed different degrees of satisfaction with certain functions and characteristics of advising, particularly in the following areas:

- (1) the lack of continuity of advisor assignment;
- (2) the non-availability of advisors when most needed;
- (3) the fact that so many advisors knew so little about other curricula and resources within the university;
- (4) frustration over the feeling that advising is often carried out in a perfunctory manner, and that there is a lack of personal interest in the student as a person;
- (5) resentment because there seems to be too little time to discuss the alternatives of program planning and career exploration.
- (6) the tendency to characterize advising as providing little opportunity or incentive for interaction with faculty members;
- (7) the feeling that the students are intruding on more important concerns and responsibilities of their advisor;
- (8) confusion over the rationale supporting their academic programs.

Although students were frequently told that they should assume more responsibility for their own academic planning, they wondered where they were supposed to learn how to do this, except from the advice offered by peers.

DeLisle also identified certain groups whose needs called for a major investment in expanded advisement services. These were:

1. Freshmen students who came to the university largely unprepared for the demands to be made of them.
2. New students who faced major adjustments. This was especially true of foreign students who had just entered our country.
3. No-Preference students who seemed very confused and very susceptible to developmental stresses and environmental pressures.
4. Students in non-professionally oriented colleges had great difficulty finding an area of identification within the university.
5. Female students who wondered most about real career opportunities and utilization of their learned skills.
6. Students in scholastic difficulty.
7. Exceptionally bright students who need special guidance in order to fully develop their rich potential.
8. Program-interrupted students who are often in need of special help because of age, study adjustments, etc.

In May of 1965, DeLisle issued a sub-report about the reactions of a sample of student personnel workers to academic advising. From a group of approximately 130, there were 79 responses to the questionnaire directed to student personnel workers in the residence halls, office of the Dean of Students, and the Counseling Center.

Most of the non-respondents were from the residence hall system, since many of them were new to the university and did not feel qualified to evaluate academic advisement at Michigan State University.

Those who did answer the questionnaire responded in terms of problems brought to their attention by students.

Functions of Academic Advising: All student personnel workers thought that the functions of academic advising should include:

- (1) encouraging and motivating students to realize their potential;
- (2) program planning with students each term;
- (3) pre-enrollment consultation each term in preparation for registration;
- (4) revision of programs after registration through drops and adds;
- (5) making program adjustments through the use of waiver examinations, course substitutions, and re-evaluation of transfer credits;
- (6) long-range program planning with students;
- (7) helping superior students find the means of enriching and accelerating their educational needs and goals;
- (8) referring students to various supportive agencies on the campus;
- (9) expecting students to become increasingly independent and self-directive.

Only moderate enthusiasm was voiced about:

- (1) helping students grow in self-understanding and the various options available to them;
- (2) assisting students in the development of their abilities of making sound judgments and decisions, and of solving problems;
- (3) developing career plans with students;
- (4) helping students with poor academic achievement identify contributing causes and devise a strategy for improvement;
- (5) helping students learn the total resources of the university and how to make profitable use of them.

Professional counselors at the Counseling Center supported items (1), (3), and (4) to a lesser degree than other student personnel workers; and, (2) and (5) to a slightly stronger degree.

Satisfactions: In the judgment of the total group of student personnel workers, the functions carried out most satisfactorily by academic advisement included:

- (1) pre-enrollment consultation each term;
- (2) program planning each term;
- (3) helping superior students find the means of enriching and accelerating their educational needs and goals.

Services judged to be the least satisfactory were:

- (1) helping students with poor academic achievement identify contributing causes and devise a strategy for improvement;

- (2) long-range program planning;
- (3) development of career plans;
- (4) helping students learn how to assemble data about their interests, abilities, and goals;
- (5) encouraging and motivating students to do their best;
- (6) helping students grow in self-understanding;
- (7) assisting students in the development of their abilities of making sound judgments and decisions, and of solving problems;
- (8) helping students learn the total resources of the university and how to make profitable use of them.

In the combined judgment of the student personnel workers, the functions performed most adequately were those which most closely resembled the functions of the Office of the Registrar. Paradoxically, these were also the functions which faculty advisors said they most disliked because they made no demands on their professional competencies, although they were time-consuming.

Complaints and Criticisms: As these matters were referred to student personnel workers, the majority of them thought that the following items should be of major concern to all those who have responsibility for advisement programs:

- (1) disinterest for students among advisors;
- (2) non-availability of advisors;

- (3) a belief that academic advisement does not occupy a respected position as reflected in promotions and salary increases;
- (4) the uneven quality of advising;
- (5) the unrealistic combinations of teaching assignments, advising loads, and an assortment of other activities.

All of these factors were seen as inhibiting the development and execution of a high quality advisement program.

The Chathaparampil Study

In June of 1970, Chathaparampil conducted a study [21] which attempted to examine the unique characteristics of five selected advising programs at Michigan State University. The most important concern was the identification of student satisfaction.

This was accomplished by means of interviews with administrators and/or academic advisors from each college. The result of this tentative identification was formulated into five testable hypotheses. A questionnaire containing twenty-seven items was constructed to measure the satisfaction of a sample of students from the five programs with various aspects of their academic advising programs.

A representative sample was selected from each of the five selected advisement groups. The instrument was then administered to the entire sample. Four hundred and one (80.2%) of the 500 questionnaires mailed to the sample were returned in usable form.

The statistical tool used to analyze the data was an analysis of variance employing the method of profile analysis [37]. To test

the significance of difference on each variable, a one-way analysis of variance was performed. The Dunnett's method of post-hoc comparison was used to test the significance of difference between a particular program and the remaining four program on a particular variable which was hypothesized as unique to each college.

The students from the University College expressed significantly higher satisfaction on the variable of "service to students" than the students from the College of Arts and Letters, Justin Morrill College, the Engineering College, or the students advised by a random sample of the university teaching faculty.

The students from the College of Arts and Letters expressed significantly higher satisfaction on the variable of "rapport" than the students advised by the sample of teaching faculty.

The students from Justin Morrill College expressed significantly higher satisfaction on the variable of "technical help in curriculum planning" than the students from the College of Arts and Letters or the students advised by the teaching faculty sample.

The students from the College of Engineering expressed significantly higher satisfaction on the variable of "personal help" than the students from the College of Arts and Letters, the students from Justin Morrill College or the students advised by the sample of teaching faculty.

The students advised by teaching faculty expressed significantly higher satisfaction on the variable of "advisor's competence in the academic field" than the students from the University College, the College of Arts and Letters, or Justin Morrill College.

Of the 354 students from the College of Engineering sample, 41 per cent completed the open-ended question. The most frequent comment was that the advisors should be more informed about the structure and content of courses, especially of those required for graduation. Some students also preferred that their advisor be more informed about engineering job opportunities and careers after their graduation. Very few students commented about the difficulty of getting immediate appointments or the convenience of office location.

Later in his report, Chathaparampil noted:

The Engineering College academic advising program seems to be rendering a very needed service to the students in engineering. The clear cut demands of the engineering field with a "sink or swim" philosophy has been remedied by the presence of student personnel people who are presumably able to counsel the students personally [20:86].

The Baxter Study

Baxter's 1970 study [12] wanted to determine the factors responsible for the emergence of centralized academic advisement with certain major universities, and to determine the nature and scope of operations within these units. His study was conducted among established centralized advising centers that were identified by a prior survey conducted for Commission XIV, "Academic Affairs Administrators," of American College Personnel Association.

Academic units within the two largest universities in each of the fifty states and the District of Columbia were contacted for Baxter's survey. Size of the institution was based on total full-time enrollment. The third largest institution in each state was included if its enrollment exceeded 15,000 full-time students.

The directors of the advisement centers served as the respondents for Baxter's survey. Among seventy-one identified centralized academic advisement centers, fifty-one (72%) of the directors responded to the mailed survey, which was conducted in late December of 1969 through March of 1970.

A questionnaire of sixty-two items were developed and identified five basic areas of interest regarding centralized student advising centers. They were:

- (1) the historical roots of advising centers at the participating institutions;
- (2) the present organizational structure of the participating institutions;
- (3) the breadth and limits of authority and responsibility;
- (4) an outline of advising procedures and functions;
- (5) special or miscellaneous topics not otherwise classified.

Since the fourth basic area, which dealt with the details of advising procedures and functions, was used in the construction of the questionnaire in this study, it seems appropriate to summarize Baxter's general findings [12:92-93]:

1. The functions performed by academic advisors encompassed far more than the general clerical tasks of registering students and adjusting their course-work schedules.
2. There was a concern for offering a wide range of appropriate student services. This was evidenced by the range of hours the advisement offices were open to students, the coordination

and referral services to other campus agencies, the orientation program developed for new students, and the many innovative services offered by some schools.

3. In-service training programs for academic advisors were strongly relied upon to inform and train the professional staff about new information and procedures within the campus.
4. Academic advisors were expected to be able to recognize deeper psychological problems within students. This placed certain expectations on their academic training, background, and in-service training.
5. Many innovative techniques were used in the advisement programs, which may indicate the adaptive flexibility deemed necessary in working with faculty, students, and administrators.
6. Under a system of centralized advisement, a definite organization and administration of tasks was possible.
7. Most directors felt that their professional advising staffs should be increased in order to properly expand the type and quality of services to students.
8. In most instances advising centers had some organized means for evaluating the policies and procedures of the program.
9. Most directors were not aware of the professional organizations and literature which dealt with academic advising and academic administration. The directors lacked research and literature references for further study and development of their own

programs. As a contribution in this direction, the author of this study has compiled a partial listing of recommended periodicals in Appendix K to help advisors.

10. In many cases, special materials were developed and used in a uniform manner throughout the advisement program.
11. Specialized advisement for certain groups of students was possible and could be coordinated under centralized programs.
12. The interrelatedness of many specialized professional student services on the campuses was generally integrated by the advising centers in order to serve students. Few misunderstandings resulted between campus agencies and centralized advisement centers.
13. Much more needed to be done to integrate the student services offered in advisement programs with the instructional curricula of colleges.
14. While costs of operating advisement programs varied, findings were emphatic that definite financial commitments were necessary if the program was to be comprehensive and offer competent professional services.

The Friedenbergl Study

With the increasing influence of psychology on professional education has come greater insight into the unity of the educable personality. But this awareness has not satisfactorily answered the fundamental question of the degree of responsibility which an

educational institution has for the total welfare and development of its students. And there is the nagging administrative question as to how to discharge such a responsibility, if accepted.

This state of affairs prompted Friedenbergr to conduct a study [33] about student perceptions of the advisement program at the University of Chicago.

Friedenberg constructed a bulky questionnaire to measure:

- (1) student opinion about the range of activities deemed desirable in advisement;
- (2) student information about the system as it was operating;
- (3) student evaluation of the effectiveness of the advisory system in solving certain problems;
- (4) student perceptions about the roles expected of an advisor.

Unfortunately, the questionnaire required about two hours for completion, and was therefore inappropriate for this study. It is a wonder that 160 students answered the full questionnaire.

In the section permitting open-ended composition, the student was asked to relate areas of change to: (1) professional qualifications of advisors; (2) caseloads of advisors deemed desirable; (3) scope of the advisory program; (4) intercommunication among faculty, administrators, and advisors; and (5) means of establishing the working relationship between student and advisor.

Friedenberg was surprised to learn the special importance which students attached to the advisory service of interpreting the purposes and values of the University to them.

For instance, nine students wanted help in the synthesis and interpretation of their learning experiences. Six students expressed the need for help in orienting themselves to the larger University complex. An additional six students responded that they had a problem in relating to the advisory rationale.

Advisement Model Variations

Faculty Advising

In his introductory chapter [64:6] Mayhew concluded:

No institution, however, no matter how affluent, can afford enough of these services to meet the full needs of college students. Each institution is faced with the dilemma of either allowing students to fend for themselves or providing more helping and advising manpower through faculty assistance. It is the general thesis of this monograph that faculty members can play an important role in advising, not only in matters designated as academic, but also in other wide-ranging concerns of students. While such role assumption may not be congenial with the methods by which faculty members have been trained, there is strong reason to believe that faculty members can be oriented to the fundamentals of an advising relationship, and can thereafter develop their own advising procedures and style.

In the same monograph [41:14-16] Hardee discussed at length what specific guarantees must exist if the advising objectives are to be achieved, and if the faculty advisors are to be productive. They are listed here in abbreviated form:

1. The program of advisement must be prestigious in the sense that it possesses academic worth and reputation; this support must be both fiscal and psychological.
2. There must be an adequate reward system for the faculty members who do advise.

3. Decisions must be made concerning the responsibilities assigned to the faculty advisor. Once determined, the responsibilities must be made clear in written guidelines.
4. Faculty members must know to whom they are responsible in discharging their duties.
5. The selection of faculty members for advising must be done with great care; personal interest among faculty is imperative.
6. The faculty advisor should be helped by a well-organized in-service training program conducted by professionals.
7. The advising program must show a system and a plan.
8. Faculty advisors should be helped to understand their relationship with professional advisors and to other service personnel on campus.
9. Clerical work should be held to the barest minimum.
10. The individual problems of faculty advisors must be recognized. He also deserves reassurance, suggestions, commendations, and explanations.
11. Faculty members who advise must be led, not driven. The coordinating director of advising should mouthe little authority and shoulder much responsibility.
12. The purposes and procedures of faculty advisement must be clearly understood by administrators, non-advising faculty, students, parents, and high school personnel who work with the

college. The ultimate success of the program is based on a common understanding of what the program is trying to do, as well as what it makes no pretense of doing.

13. The program of faculty advising must demonstrate real flexibility. When possible, changing conditions should be anticipated and planned for.
14. A program as pervasive as that of advising requires frequent systematic appraisal.

Later in the report [41:19] Hardee concluded:

The perception that deans, directors, and department chairmen hold of advising is also seen in the naming of faculty to the program. For an administrator to assign an individual who is less than competent in the classroom to advise students in the complexities of decision-making is to commit a gross error. The classroom incompetent, in most instances, shows equal inexpertise in the role of advisor. Administrators might better assign the teacher incompetents to heavier committee service, to a redoubling of research and writing, or to other jobs less likely to confound the student learner.

Hardee [43:294] conducted a survey of 218 colleges in the United States; all responded that faculty members in their institutions conducted academic advisement. Hardee's study was mainly concerned with the exploration of various counseling activities of faculty members who performed duties beyond academic advisement. The study, however, pointed out some persistent problems in programs of faculty advising. For example, administrative problems, heavy teaching loads, the avalanche of paper work, the extent of advising, etc. [43:105].

Hardee's study also reported that 181 respondents replied favorably to questions regarding programs in their institutions.

Fifty-eight institutions reported that students participated in academic advising [43:296].

In 1966, Tully and McGirt [88] directed a special study of academic advising at Florida State University, the University of Florida, and the University of South Florida. Data was collected from both faculty members and students. In each institution, information from advisor logs and from student responses, the topics of course selection, future educational goals, career planning, and enrollment adjustments were discussed more than 80 per cent of the time. They predicted that promotion in rank, recognition among faculty colleagues, and increases in salary would prevail in shaping faculty attitudes toward advisement. They found that the utilization of allotted advisors varied markedly from institution to institution.

As a result of a survey conducted in Liberal Arts Colleges at twenty-two major universities, Tinsely [85] recommended that some existing conditions be improved. Notable among these were:

- (1) the assigning of too many advisees to an advisor;
- (2) the failure to lighten other faculty responsibilities so that there is sufficient time for advisement work;
- (3) the failure to increase faculty remuneration for advisement activity;
- (4) excessive stress on the academic phase of the student's life to the partial exclusion of other factors that contribute to the development of the total person;
- (5) lack of any advisement training program.

Kiell [52] administered a check list and a sentence completion form to a sample of 200 students who were assigned to 42 advisors at Brooklyn College in New York. Fifty-five per cent of the respondents expressed a preference for drop-in, unscheduled consultation. More than half of the sample believed that the main function of the advisor revolved about program planning. Yet 10 per cent believed that their advisor did not know enough about the college, its resources and the curriculum for them to have confidence in him.

Morehead and Johnson [67] studied 226 male electrical engineering freshmen at North Carolina State University. These freshmen were exposed to distinctive faculty advising programs. Forty-eight students were randomly selected for the experimental group which had a more systematic advising program. The remaining 178 students comprised the control group which had the regular advising program. Both groups were alike at the start of the experiment in regard to age variances, predicted grade point average, and five personality variables as measured by the Minnesota Personality Scale. All were enrolled in the same courses during the study. The experimental group scheduled eight advisement sessions during the school year: twice each semester in groups and twice each semester on a personal basis. Group meetings were concerned with classroom instruction, effective study habits, study schedules, participation in classwork, and pertinent discussion areas. Individual conferences gave the students an opportunity to discuss academic progress and career plans. The advisement program for the control group consisted of meeting with the students in groups once during the orientation week to give help in course scheduling,

reviewing midterm grade status, and discussing those matters of importance to the student. These conferences were optional.

The collected data confirmed the hypothesis that the mean grade point average of the experimental group would be higher than that of the control group at the end of the freshman year. There was no significant difference in the proportion of high achievers. The data tended to indicate that the higher grade point average for the experimental group was not facilitated by the intensive faculty advising program or by professional advisement, but by a systematic program that any interested faculty member could conduct with this number of advisees by devoting approximately fifty hours a year to group sessions and individual conferences.

Koile [54] undertook research to develop an instrument to help identify college teachers interested in academic advising. He administered a 90-item Professional Activity Inventory for College Teachers to 500 colleges in 25 states. The sample included 290 institutions with faculty advisors and 210 without faculty advisors. A scoring system based on the logic of discriminant analysis was highly effective in discriminating between faculty who were genuinely interested in advisement and those who did not.

A study by Cummer [26] concluded that students' satisfaction was correlated to the extent of interest of faculty in academic advising. Students at Florida State University who were advised by instructional faculty with keen interest in advising showed significantly more satisfaction as measured by their responses to a faculty

advisement scale of twenty-two items than did students advised by faculty who expressed limited interest in advising.

During the academic years of 1964-65 and 1965-66, six Macalester faculty members were given release time from part of their teaching assignment. In a special experiment, 120 freshmen were randomly assigned; 10 males and 10 females to each of these 6 faculty members who were released from one of the three courses they would ordinarily have taught. Rossmann [78] examined the effect on these students comparing the remaining 400 freshmen whose faculty advisors retained full teaching assignments. The investigator looked for the differences in the rate of retention, grade point average, level of aspiration, satisfaction with college, and perception of the campus environment. The results showed that the students in the experimental group were more satisfied with their faculty advisors and were more likely to discuss course planning, career planning, and study problems with their advisors. There was a slightly higher retention rate among women in the experimental group. However, there were no significant differences between the groups with regard to grade point average, level of aspiration, satisfaction with college and perception of the campus. One of the conclusions of the study by Jamrich [48] was that the most desirable area of tangible institutional recognition for faculty advisors was a decrease in teaching assignments. Faculty members expressed the opinion that where their time was already limited, extra financial remuneration would not create the needed time.

An experiment was conducted on the effect of extra pay for faculty advising. Fahsbender [31] examined the effect on students who were assigned to eleven faculty members who received extra pay for their advising duties. Fahsbender concluded that students seeking help on educational matters preferred those faculty advisors who also received extra pay. The students wanted an adult helper who was readily available, an expert in his field, and one who was concerned with the student as a person.

Faculty advising has been many things in its time. It is:

. . . dignified and derided, much desired but often denigrated, done well and done ill. The answers concerning its accomplishments of the past and predictions for its future are only beginning to emerge, for the questions are only beginning to be asked--by legislators, budget officers, academic administrators, parents, students, and faculty themselves [41:27].

Student-to-Student Advisement

Hardee [41:29] notes that many educators conspicuously overlook the possibilities of using trained upperclassmen to advise other undergraduates. Yet the student personnel literature is outspoken that college students turn naturally to their peers with their problems and concerns.

It would seem logical, therefore, to use this energy and trust by systematically selecting and training qualified upperclassmen to work with freshmen and sophomores, or new transfer students in some sort of restricted advisement capacity. Some institutions have already experimented along these lines.

A survey completed by Hardee and Powell [42] revealed that 147 out of 218 colleges contacted employed "students-advising-students"

procedures. As they pointed out, the students were primarily used to initiate the incoming student to the university community and were not involved in their subsequent adjustment to the academic community or scholastic program.

More recently, however, some researchers have reported that there are institutions using students for academic advisement.

A survey of student-advisor utilization at four-year institutions of higher learning made by Brown and Zunker [18] reported that 67 per cent of those institutions used undergraduate student-advisors to help guide freshmen. Most of these student-advisors were assigned to duties in dormitories and student orientation programs. At Michigan State University this is reflected in the use of assistants in residence halls and Spartan Aides for the summer orientation program.

However, more than 10 per cent of the institutions in the study by Brown and Zunker reported the use of student advisors in subject-matter tutoring, study habit improvement, and other academic advising. The investigators observed a trend toward increased use of student advisors; this was the most expandable and least expensive guidance resource available to many institutions of higher education.

In the College of Engineering, special tutorial help is offered in a variety of required courses by the generous donation of time and energy by members of Triangle Fraternity.

Wharton and others [92] reported an evaluation of the student assistance program at Allegheny College. They used volunteers from among responsible juniors and seniors to help faculty in advising students. Faculty who wanted assistants expressed their preference for

particular volunteers who were given special instruction on academic requirements, course sequences and program planning, and general guidelines. In the first year, 28 of the 52 faculty had requested student assistants. But in the following year the number had grown to 38 of the 54 advisors concerned. In the third year, 49 of the 62 advisors of freshmen (70%) requested student assistants. There was unanimous agreement that the program merited continuation.

Among those who have built a program of academic advisement through peer-group interaction, and have continued to evaluate its worth is William F. Brown, Director of Testing and Guidance at Southwest Texas State College.

Brown affirms the belief that student-to-student advisement possesses four essential characteristics in order for it to be successfully adopted on other campuses:

- (1) it is economical in both a financial and personnel sense;
- (2) it is acceptable to both students and faculty;
- (3) it is effective in study behavior and grade improvement;
- (4) it is practical in terms of necessary facilities and required supervision.

Brown [17] reported that Southwest Texas State College employed twelve student academic advisors who were selected by an eight-step screening process, and then trained for their function. Brown evaluated their advisement effectiveness by researching a sample of 216 students (108 males and 108 females) from the 670 full-time freshmen entering the Southwest Texas State College in the fall of 1960.

Students in the control group (non-advised) were individually matched with those in the experimental (advised) sample on sex, high school quarter rank, high school enrollment-size, scholastic ability, and study orientation. Six upperclassmen, three males and three females, were randomly assigned as counselors to same-sex counselees. The test-retest differential for advised freshmen was significantly higher on measures of study behavior. Advised freshmen earned grades averaging one-half letter higher and 8.3 quality points higher during the first semester.

Chathaparampil and Niles [21] reported similar findings in an evaluative study of entering students advised by upperclassmen at Justin Morrill College of Michigan State University. An open-ended questionnaire was given to a random sample of 60 freshmen students, 30 males and 30 females. Results revealed that a high percentage of students had confidence in their student advisor. The data also indicated that a significant portion of the sample sought help from their student advisor for almost any type of help related to their academic programs.

Aschenbrenner [9] describes the work of upperclassmen as advisors at the Kellogg Campus of the California State Polytechnic College. The advisement load is limited to five advisees. The advisor's primary responsibility is to assist freshmen in working out their trial programs, to prepare and approve study lists for students, and to sign program cards. These advisors are selected by the department chairmen and interviewed by the counseling staff. Student training included review sessions of the Advisory Manual, and group orientation sessions.

What appears to be a financial bonanza on one dimension, may invite some searching questions as to its educational soundness on another level. After ten years of studying students and peer groups, Sanford [81:148] noted that peer groups in a variety of institutions have certain outstanding features in common.

Students are expected to be friendly, cooperative, and pleasant toward each other, and polite, dutiful and impersonal toward the faculty. College work is to be taken seriously, but not too seriously; frivolity is discouraged, but outstanding scholarly work is only tolerated, not applauded. In most areas of student life the accent is on moderation and leveling. If a student studies too much or dates too much, thinks too much or talks too much, is too ambitious or too indifferent, the peer culture has effective means for bringing him into line. With respect to ideas and issues, he is expected to be openminded and non-controversial--above all, to avoid unpleasantness. If an ethical decision has to be made, the proper course is to see first what the others think.

If there is an educational danger, as Sanford suggests, it seems to center about peer conformity. Sanford describes it in this fashion:

Conformity is a disposition to believe and behave as prestigious others do, regardless of the real merit of those beliefs and behavior patterns, and regardless of the integrity of one's self. We oppose this kind of conformity, not because we want people to share our opposition to particular beliefs, but because we want them to develop as individuals. We want them to be aware of sources of bias within themselves, to arrive at options through their own thought processes, and to integrate their rational beliefs with their personalities so that their convictions can stand against the crowd. In short, we want them to become differentiated, complex, and autonomous. . . . We must to some extent free the student from the claims of any peer culture [81:153].

The controversy over the desirability of upper division students advising lower division students involves the matter of educational philosophy, calculated risks, organizational controls, and receptivity by the students and faculty.

Recent Exploratory Advisement Systems

The Academic Advisement Center of Southern Illinois University permits students who meet certain conditions to assume full responsibility for self-advisement. These conditions are:

1. The student must have completed at least 28 hours of course work.
2. The student must have registered in his academic unit at least on one previous occasion.
3. The student must have earned all credits at Southern Illinois University or resolved all problems of evaluation of transfer credits from some other institution.
4. The student must be in good scholastic standing.
5. The student must not be registered for too many courses.

This system complements an educational philosophy intent on assisting students in developing their own competencies for solving problems. At times, however, this responsibility becomes onerous to young students.

For the past ten years the Counseling Center at the University of Illinois has experimented with a programmed counseling manual which replicates a live counselor as nearly as possible. This manual is arranged so that the incoming student can decide whether to apply for:

- (1) further individual advisement;

- (2) for small group advisement sessions concerned about curriculum and career choices;
- (3) for small group involvement which emphasizes transition and adjustment problems;
- (4) for small group advisement sessions intent on improving reading and study skills.

The manual discusses scholastic standards, study skills, the meaning of test scores, instructions for making one's own predictions of academic success, areas of specialization with the university, specific skills required in these areas, ways to evaluate college programs, and personal factors affecting academic success.

A letter of introduction to students and parents precedes the distribution of the planning manual. With the letter is a small package of supplementary material.

Cogswell and Estaban [22] reported that models of "educational planning interviews" were made with computer programming and computer-controlled equipment. This automated interview was programmed to review student progress, acknowledge comments from the students, react to student plans in their academic career, and aid students in planning a meaningful schedule. The automated systems were tested to assess the validity of the model by comparing the computer responses with those of regular academic advisors on a new sample of twenty students from the same total population. The study indicated that automated procedures may have great potential values for advisement.

Tragesser [87] reported that the University of Tennessee Medical Units utilize electronic power typing equipment to ease and to automate the entire preadmission process. The magnetic tape device enabled them to machine-produce "personalized" correspondence and documents.

McCracken and Penick [65] found that computer-assisted systems effectively helped in the academic advisement of cadets at the United States Air Force Academy.

In 1968, Smith [83] designed and tested a computer-assisted instruction and information-retrieval program using a computer configuration that automated certain aspects of the advising functions.

Tallahassee Junior College was the pilot institution; sixty-nine students and seven faculty served as subjects. They interacted with the system via two typewriter terminals installed in the school and driven through teleprocessing by means of an IBM-1440 computer system located on the Florida State University campus. Data was collected from questionnaires, internal records, and from jury rating forms.

The terminals were available to students for 90 hours of access time and 180 terminal hours. The participant could stay at the terminal as long as he wished.

Questions directed to the computer involved: (1) information about courses at the junior college; (2) information about courses at Florida State University; (3) information needed for transfer to another school in a specific major, etc. After retrieving the desired information, the student was asked to complete an opinion-type questionnaire.

The seven faculty members assumed the role of a Tallahassee Junior College student via a fictional record. The last step in the investigation requested the student to enter his desired schedule of courses for the following term.

A sample of this information was duplicated in addition to the student's permanent record. A complete listing was then submitted to each member of the faculty jury. They were asked to rate each of the student schedules as excellent, fair, uncertain, poor, or very poor according to the following criteria: (1) meeting course prerequisites, (2) fulfillment of stated goals, and (3) the reasonableness of course load as indicated on the rating-form directions.

Among the advantages Smith noted: (1) information can be readily up-dated; (2) the system can be made available at the convenience of the user; (3) the faculty advisor is able to devote more time to difficult problems and personalized needs; and (4) the system provides a means for handling a larger number of students in a shorter span of time.

In 1968, Juola, Winburne, and Whitmore examined the possibility of using computer-assisted procedures for identifying and assisting students who were on academic probation. For this study [49] at Michigan State University, a program was developed for the IBM-1401 computer which reproduced a student's enrollment on one sheet, enrollment for the previous term, grades in each course, a summary of all cumulative grades earned, and the projected term grade point average needed to bring the cumulative grade point average to a 2.00 or "C" equivalent. Students with enrollments appearing to be out of line

were requested by telephone to come in to discuss alternatives and possible benefits. Seventy-one students elected not to accept the offer for consultation; they provided a contrast group with the eighty-two students who did cooperate. Prior to the experiment both groups were essentially similar in their cumulative grade point average. The experiment resulted in a significantly higher grade point average for the "enrollment change group" than the "no-show group."

The advisement/counseling program at Harper Community College [44] in Palatine, Illinois is unique in its bold attempt to use a management-by-objectives (MBO) approach to advisement. This plan is rooted in two basic concepts: (1) the clearer the idea one has of what one is trying to do, the greater the chance of doing it; and (2) progress can only be measured in terms of what one is trying to make progress toward.

The system works as follows:

1. The central purpose and function of the organization is understood and agreed upon. Plans for the future are shared at all levels of supervision.
2. Each sub-unit purpose and how it integrates into the total organization is understood and agreed on.
3. Position descriptions are available for all organizational jobs, which provide the basis for establishing routine objectives, and authority/accountability relationships.

4. Each advisor expresses his major performance objectives for the coming year in measurable terms and with specific target dates of completion.
5. He submits them to his supervisor for review. From the ensuing open discussion comes a set of objectives agreed on by both parties.
6. The advisor verbally reviews progress toward these objectives with his supervisor on a regular basis. Objectives and plans are revised and updated by mutual agreement.
7. At the end of the academic year, the advisor prepares a brief report which lists all the major accomplishments, with comments on variances between results actually achieved and those expected.
8. This appraisal is discussed with the advisement supervisor. Reasons for goals not being met are explored.
9. A new set of objectives is established for the coming year.
10. Long-range program objectives are reviewed and adjusted as needed.

Writing major performance objectives, specific and yet considerate of the over-all needs of the college, is the most difficult and complicated part of the MBO method. Basically, these performance objectives can be categorized as: (1) routine, (2) problem-solving, (3) creative-developmental, and (4) personal.

Academic advisement is an ongoing process at Harper College. Full-time advisors help students plan their academic programs, explore

transfer requirements and expectations, and discuss various career possibilities. Offices are located near the college vocational library so students can easily contact advisors for information about jobs and financial aid.

New students meet with their divisional advisor in small groups of five to ten in order to discuss curricular and educational decisions. Student Aides are available at this time to help new students select sections, labs, fill out forms correctly, etc.

A more informal structure is used in working with part-time students. At designated times advisors are available to work exclusively with these part-time students. A convenient telephone registration process utilizing para-professionals is also used for helping part-time students.

Advisors at Harper College have their offices within the academic divisions. Students are assigned to these advisors on the basis of their expressed curricular interests. The purpose of decentralized advisement is to make the advisor more accessible to students and to facilitate communication and interaction with the faculty in each of the divisions.

Most good work in management is problem-centered. That is, it aims at accomplishing some specific goal. The definition of these key objectives for the whole organization, for all subordinate organizations, and for individuals in it provides the logical starting point for improvement:

1. If you do not have a goal, then any road will get you there.

2. You can't measure results without some prior expectations against which to judge them.
3. You do not know when things are drifting if you are not clear on what goal would constitute "non-drifting" or purposive action.
4. People in an organization cannot perform with maximum effectiveness if they are not aware of the goals sought, the purposes of their work, or how well they are doing in relation to these goals.

George Odiorne [69] at the University of Michigan has identified twenty common errors in setting obtainable goals:

1. The manager does not clarify common objectives for the entire unit.
2. He sets goals too low to challenge the individual subordinate.
3. He does not use prior results as a basis for using intrinsic creativity to find new and unusual answers.
4. He does not clearly shape his unit's common objectives to fit those of the larger unit of which he is a part.
5. He overloads individuals with patently inappropriate or impossible goals.
6. He fails to cluster responsibilities in the appropriate positions.
7. He allows two or more individuals to believe themselves responsible for doing exactly the same things when he knows that having one responsible party is better.
8. He stresses methods of working rather than areas of responsibility.
9. He emphasizes tacitly that it is pleasing him which really counts, rather than achieving the job objective.

10. He makes no policies as guides to action, but waits for results, then issues ad hoc judgments in correction.
11. He does not probe to discover what his subordinate's program for goal-achievement will be. He accepts every goal uncritically without a plan for successful achievement.
12. He is reluctant to add his own known needs to the program of subordinates.
13. He ignores the very real obstacles which will face the subordinate in achieving his goals, including many emergency or routine duties which consume too much time.
14. He ignores the proposed new ideas of subordinates, and imposes those which only he deems suitable.
15. He does not think through and act on what he must do to help his subordinate succeed.
16. He fails to set intermediate target dates or milestones by which to measure progress.
17. He does not introduce new ideas from outside the organization, nor permit others to do so, thereby freezing the status quo.
18. He fails to permit targets of opportunity to be seized in lieu of stated objectives that are less important.
19. He is rigid in allowing the dismissal of goals previously agreed upon and which have subsequently proven unfeasible, irrelevant, or impossible.
20. He does not reinforce successful behavior when goals are successfully reached.

Harper College seems to subscribe to the Freudian axiom:

"Thought is action in rehearsal." Their advisement program shows a firm conviction that anticipatory planning allows for a dramatic change in performance. To all appearances, Alvin Toffler would heartily endorse Harper's methodology and philosophy:

Just as the progressives of yesterday were accused of "presentism," it is likely that the education reformers of tomorrow will be accused of futurism [86:356].

Summary

This chapter began with a documented exposition of phenomenology-developmentalism as the supportive theory behind this study, and as the working base for the advisement program in the College of Engineering.

Centralized and decentralized advisement were the next items examined. No attempt was made to settle the present educational controversy about which method was more effective.

DeLisle's study emphasized the need for an expanded educational view of academic advisement, and called for more research about the relative importance of services to students and about the priorities among advisement personnel. Particular emphasis was placed on the availability of the advisor and the inclusion of supportive services in non-academic areas.

Chathaparampil's study concluded that the advisement program in the College of Engineering seemed to be rendering an assortment of needed services to its students; they expressed a significantly higher satisfaction on the variable of "personal help" than the students from Justin Morrill College, the students from the College of Arts and Letters, and those students advised by the study sample of teaching faculty. The most frequent criticisms centered about the lack of technical expertise among full-time advisors in explaining the structure and content of engineering courses.

Baxter's study, like DeLisle's, called for an expansion of advisement services, and a marked effort to improve the professional

expertise in guidance/counseling. Centralized facilities were favored over decentralized methods.

The Friedenbergr study emphasized the need for an academic advisor to function in an interpretive capacity; to interpret the curriculum parts and their educational rationale, to interpret the policies of the University, to interpret academic performances on a more personalized level, etc.

The commonal factor about Chapter II's treatment of various advisement models is that any system can be effective if certain conditions exist: (1) enthusiasm about and commitment to that particular system by advisory personnel; (2) adequate support by all concerned, especially on a fiscal and psychological level; and (3) an understanding of the peculiar strengths and limitations inherent in the system.

There also seems to be general agreement among experts that the totally effective advisement program is still a conceptual ideal, not an operational reality.

Another fundamental generalization is the acknowledged need for critical feedback and further study, especially for controlled experimentation.

It is in such a context that this researcher attempted to study one such advisement program. It is hoped the investigation will stimulate more research in the advisement area.

In Chapter III, the design and methodology of the study will be discussed in detail.

CHAPTER III

DESIGN OF STUDY

Introduction

The purpose of this chapter is to present the methods used to achieve the objectives of the study; i.e., (1) to compare the perceptions of engineering undergraduates against the use of instructional faculty about the relative necessity of providing various advisement services; (2) to determine if the variable of departmental affiliation for undergraduate students and instructional faculty is related to any major perceptual differences about the advisement program in the College of Engineering; and (3) to compare the preferences of engineering undergraduates and faculty about the relative merit of alternative academic advisement models.

Included in this chapter is a description of the population being studied, the method of surveying the population, the development of the survey instrument, and the procedures followed for analyzing the data.

Population Studied

The population of this study consisted of: (1) 693 students (sophomore, junior, and senior) enrolled in five departments in the

College of Engineering: chemical (CHE), civil (CE), computer science (CPS), electrical/systems science (EESS), and mechanical engineering (ME); and (2) seventy teaching faculty from the same departments who met two conditions:

- those who held the academic rank of instructor, assistant professor, associate professor, or professor;
- those full-time faculty members who had worked at the Michigan State University College of Engineering for at least one full year prior to this study.

All participants in the study were affiliated with their respective engineering departments as of January 11, 1972.

Table 3.1 shows the total number of students and faculty in the five engineering departments who participated in the study.

Table 3.1

Total Number of Participating Students/Faculty
by Department Affiliation

Engineering Department	Students	Faculty	Total
Chemical Engineering (CHE)	82	8	90
Civil Engineering (CE)	121	12	133
Computer Science (CPS)	167	14	181
Electrical/Systems (EESS)	176	18	194
Mechanical Engineering (ME)	<u>147</u>	<u>18</u>	<u>165</u>
Total	693	70	763

Table 3.2 shows the number of undergraduate students in the College of Engineering who participated in the study and the percentage of the total departmental student population they accounted for.

Table 3.2

Number and Percentage of Students
Participating in Survey

Egr. Dept.	Total Number Participating	Soph. No. Receiving Survey	Jr. No. Receiving Survey	Sr. No. Receiving Survey	Per cent of Total Dept. Population
CHE	82	24	35	23	78
CE	121	21	57	43	51
CPS	167	34	71	62	62
EESS	176	53	57	66	51
ME	<u>147</u>	<u>47</u>	<u>46</u>	<u>54</u>	<u>56</u>
Total	693	179	266	248	57

Table 3.3 shows the number of instructional faculty in the College of Engineering who participated in the study and what percentage of the total departmental faculty population they accounted for.

Table 3.3

Number and Percentage of Faculty
Participating in Survey

Egr. Dept.	Number of Faculty Recipients	Number Responding	Per cent of Faculty Responding
CHE	8	7	88
CE	12	12	100
CPS	14	11	89
EE/SYS	18	13	91
ME	<u>18</u>	<u>17</u>	<u>97</u>
Total	70	60	86

All engineering freshmen were excluded from this study because they have an automatic no-preference classification and are not officially affiliated with any particular engineering department.

Also excluded were students majoring in agricultural engineering (AE) and metallurgy, mechanics, and material science (MMM). The rationale for this exclusion was the limited student enrollments (less than fifty) in each department.

This also suggested the exclusion of corresponding faculty members in the same two engineering departments.

Method of Surveying Population

The undergraduate engineering students who participated in the study were surveyed by means of direct distribution of the questionnaire in one of twenty-one sections of engineering classes at the beginning of the winter term, 1972.

These numerous class sections included sophomore, junior, and senior students in the five engineering majors: CHE, CE, CPS, EESS, and ME. This stratification insured a good representation of the undergraduate engineering student population.

Direct distribution at the beginning of a class period was used for several reasons: (1) the method permitted a personalized appeal and for types of verbal persuasion which could be varied to suit the uniqueness of each group; (2) the method allowed for a personalized follow-up the next time the class assembles; and (3) the method promised a faster return rate which would facilitate key-punching and handling the discussional questions in Part IV of the survey.

Since most of the sophomore students in mechanical and electrical/systems engineering were enrolled in non-engineering courses (such as calculus, physics, social science, humanities, etc.), it was decided to mail them questionnaires. Information from the EESS and ME departments provided the names and addresses of 53 and 47 sophomore students respectively who lived in campus residence halls. The latter permitted on-campus mailing privileges and seemed appropriate since most sophomore engineering students do live on campus.

Each of these 100 students received: (1) a coded questionnaire (Appendix A), (2) an addressed return envelope, and (3) a cover letter (Appendix B) in which the nature and purpose of the study was explained.

Those who did not respond to the first mailing received a second appeal (Appendix B) about ten days later. Another coded questionnaire, a new cover letter (Appendix B) and an addressed return envelope were included in this second mailing.

A third and final appeal letter (Appendix B) urged the students to complete the questionnaire, if possible, or to return the final cover letter with a brief explanation as to why they did not complete the survey. This information was requested to learn more about the characteristics of the non-respondents. The date of this final letter was January 31, 1972.

A whole different procedure was demanded before attempting to distribute the questionnaire to the other 593 engineering undergraduates before the official start of one of their class periods.

In December of 1971 an early-enrollment list of students registered in engineering classes for the Winter, 1972 was obtained from the Student Affairs Office in the College of Engineering. A visual inspection of the data suggested the most appropriate class sections for obtaining a representative stratified sample of undergraduates in the five engineering majors on a sophomore through senior basis. This projective plan was then reviewed with all of the full-time advising personnel for a confirmation of program planning accuracy.

General procedural permissions were also obtained from Dean Von Tersch, Dr. Van Dusen in the Student Affairs Office, the chairmen of the five engineering departments involved in the study, and the professor of each class section.

To avoid distribution conflicts as to time and place, and to avoid confusion about the collection and follow-up procedures of the survey necessitated further planning, coordination, and consultation.

Questionnaires were distributed in the following campus buildings: (1) College of Engineering, (2) Olds Hall, (3) Computer Center, (4) Bessey Hall, (5) Anthony Hall, and (6) the Agricultural Hall.

The actual distribution of each questionnaire in class was prefaced by a five-minute introduction, something comparable to a cover letter in its persuasive appeal. Anonymity was stressed in order to invite a larger percentage of responses. A special effort was made to accentuate the importance of completing the first three sections of the questionnaire in its entirety, and to volunteer their perceptions in the discussional section of the survey.

The seventy faculty who participated in the study were surveyed by a mailed questionnaire. Each of them received: (1) a coded questionnaire (Appendix A), (2) an addressed return envelope, and (3) a cover letter (Appendix B) in which the nature and purpose of the study was explained.

A second and third letter (Appendix B) were sent out the following two weeks to those who had not responded. These appeals also included a duplicate coded questionnaire for the convenience of the faculty.

A final letter of appeal (Appendix B) was sent out on February 7, 1972 to the remaining faculty who had not completed a questionnaire. This letter urged the engineering faculty to complete the questionnaire, if possible, or to return the final cover letter with a brief explanation of why they did not complete the survey. This information was requested to identify characteristics of any non-respondents.

February 11, 1972 was chosen as the termination date for collecting all questionnaires.

Return Rate

The distribution mechanism of this survey most closely resembled the characteristics of the mailed questionnaire.

Kerlinger [51:397] states that responses to mailed questionnaires are generally poor; returns of less than 40 or 50 per cent are common. Usually the researcher must content himself with returns from 50 to 60 per cent.

Since the direct distribution of 593 questionnaires to stratified engineering groups was done on an anonymous basis, thus weakening the possibility of orderly follow-up other than a general appeal, a return rate of 50 per cent is not viewed as a serious handicap in this study.

Inferences were not made from those who responded to the non-respondents. Nor were inferences made about those students in the College of Engineering who did not participate in the study, or for that matter, to any other group of engineering undergraduates attending other schools.

Since a response pattern of 50 per cent or more would yield a sizeable number of returns, this response rate would be viewed as being acceptable and significant.

Table 3.4 shows the number of students and faculty who received questionnaires, the number who responded, and the percentage of those who responded. As shown in this table, 64 per cent of the participants completed and returned a questionnaire after one or three mailings.

Table 3.4

Number and Percentage of Survey Participants

Engineering Department	Number Student Participants	Number Faculty Participants	Number Student Responses	Number Faculty Responses	Per cent Student Responses	Per cent Faculty Responses
CHE	82	8	36	7	45	88
CE	121	12	63	12	52	100
CPS	167	14	79	11	47	89
EE/SYS	176	18	116	13	65	91
ME	<u>147</u>	<u>18</u>	<u>129</u>	<u>17</u>	<u>88</u>	<u>97</u>
Total	693	70	423	60	61	86
Combined Total	763		483		64	

Development of Survey Instrument

The questionnaire (Appendix A) used in this study was the product of: (1) a modification of several questionnaires used in similar studies; (2) major recommendations from full-time academic advisors in the College of Engineering; (3) consultation with research specialists; (4) a review of the literature related to the problem; and (5) refinements suggested by participants in the pilot study conducted in the Fall of 1971.

The chief resource used was the questionnaire and report submitted by DeLisle [27].

In the process of constructing the final instrument for this study, a preliminary questionnaire was pretested in October, 1971 by a representative sample of stratified students and instructional faculty. The pretest group was not included in the final study.

In December, 1971 the members of the guidance committee supervising this study, made final recommendations about refining and strengthening the questionnaire. Most of these suggestions were incorporated into the final instrument, especially in rewording the answer scales for Parts I and II and in making them forced-choice scales.

The survey instrument, in effect, had a metamorphosis of six substantive and several minor revisions before its final use in this study.

The format of the questionnaire used in the study is presented below by describing the content, source, and rationale for each section.

Part I. Perceptions About the Necessity of
Providing Various Academic Advisement Serv-
ices in the College of Engineering

The thirty items in Part I are modifications of Part IV of DeLisle's study [27]; question 30 from Baxter's study [12]; and were also developed by consulting over a hundred expressions of opinion in educational literature (cf. Bibliography and Appendix L).

In Part IV of DeLisle's study, students were asked to rate, on a four-point scale, the importance which they attached to various advisement functions: (1) Completely Unimportant to Me, (2) Somewhat Unimportant to Me, (3) Somewhat Important to Me, and (4) Very Important to Me. This section of DeLisle's study listed twelve questions.

In the Baxter study, question 30 asked for responses to twelve statements of functions possibly performed by the academic advisors in their work with students. Each of the fifty-one directors who responded in the survey was asked to state his interpretation of: (1) the student expectation of receiving such services through the advising center, (2) the director's expectations of performing these responsibilities, and (3) the institutional viewpoint regarding the appropriateness of these tasks being of major importance to the advisement function.

An abbreviated form of the twelve functions included:

(1) curriculum planning and registration each term, (2) drop-and-add procedures, (3) section changes, (4) making program adjustments, (5) long-range academic program planning, (6) referral services, (7) helping superior students, (8) helping weak academic students, (9) fostering personal development among all students, (10) motivating

students, (11) developing career plans with students, and (12) identifying institutional resources.

A limitation of the Baxter survey was that it only questioned advisement directors, and not those actually served--the students and the faculty.

In this study, each of the thirty described services in academic advisement asked for a perceptual judgment about the relative necessity of that service being provided by the College of Engineering. Subjects were asked to rate each service item on a forced-choice Likert-type five-point scale consisting of:

- 5 = Service Must Be Provided by Engineering Advisement
- 4 = Service Should Be Provided by Engineering Advisement
- 3 = Service Might Be Provided by Engineering Advisement
- 2 = Service Need Not Be Provided by Engineering Advisement
- 1 - Service Should Not Be Provided by Engineering Advisement

This five-step scale was used because it: (1) allowed each respondent to express a range of attitudes about each item, (2) helped in the identification of priorities, (3) was easy for respondents to understand and use, and (4) decreased the probability of misrepresenting the overall perceptual accuracy inherent in the rater.

Benjamin [13] found upon analyzing over 100 rating plans that 30 (median score) used a five-step scale.

Barrett points out that there is much discussion but little research on the problem of whether to use an odd or even number of scale steps. After reviewing major arguments from both sides, he concluded [11:89]:

There is no conclusive evidence with which to resolve the issue; the presence or absence of a central point probably does not make much difference.

Part II. Exploring Alternative Preferences to the Present Advisement System in the College of Engineering

The seventeen items in Part II of this study were derived from several resources: (1) Borow's [15:38] conceptual models of school counseling; (2) Hardee's [38] four stereotype models of inadequate faculty advisement; (3) Part VI of the DeLisle study [27]; and (4) chapter two of Hardee's ACPA monograph [41] on faculty advising.

Borow's list of nine conceptual models was an attempt to briefly "take cognizance of the profession's checkered past [15:38]." The list included:

Intuitive Model (reliance on exhortation and persuasion).

Matching Models (Parsonian rational method).

Trait Measurement (mostly influenced by applied psychology).

Information Dissemination (in sharp contrast to the Trait model and an oversimplification of Parson's matching models).

Work/Study Model (emphasizes vocational education, planning, and assistance.

Disciplinary Model (preventing and controlling undesirable student behavior).

Guidance Psychotherapy (emphasizes emotional re-education, and involves more counseling than advisement).

Educational Diagnostician (the advisor is seen primarily as a learning skill's specialist).

Human Development Facilitator (the advisor is seen primarily as an environmental arranger and social catalyst).

Hardee's stereotype models of inadequate advisement included the following:

The Automat Stereotype: the slip-in-a-coin-and-get-out-a-schedule process wherein the student and the advisor interact solely in a mechanical process of working out a program suitable for registration.

The Patch-After-Crash Stereotype: the advisor sees himself primarily as a reactionary "troubleshooter" at moments of crisis; in a sense, the advisor approximates an ombudsman.

The Malevolent Benevolency: the advisor protects, prevents, and paternalizes; he hovers over students like a mother hen.

The 1000 Mile Checkup: the advisor checks up several weeks after registration to see how the student's program has worked and if any major problems have arisen.

Most of the models identified by Borow's and Hardee were judged to be either inappropriate or inadequate for the purposes of this study. But some seminal ideas proved very helpful in the construction of Part II of this study.

In Part VI of DeLisle's study, students were asked to rate each of the ten advisement alternatives on a four-point scale:

(1) tend to feel unfavorable toward it, (2) tend to feel somewhat unfavorable toward it, (3) tend to feel somewhat favorable toward it, and (4) tend to feel very favorable toward it. Items number four,

six, seven, eight, nine, and ten of DeLisle's study seemed more pertinent to administrators than to undergraduate students.

In chapter two of Hardee's monograph [41:13-19], the author discussed five organizational patterns of advisement practices in various institutions of higher education across the country, and also seven plans for assigning faculty advisors to students.

In this study, respondents were asked to answer on a five-step scale in a manner which best reflected their opinion about each of the seventeen items. The scale used was:

- 5 = Idea Has Very Strong Potential (merits implementation)
- 4 = Idea Has Strong Potential (merits experimentation)
- 3 = Idea Has Some Potential (merits more discussion)
- 2 = Idea Has Weak Potential (does not interest me)
- 1 = Idea Has Very Weak Potential (less effective than now)

The purpose of Part II was to explore perceptual preferences of the sample population about various alternatives to the present advisement program in the College of Engineering.

The major rationale for including this section in the final questionnaire was aptly provided by the Committee on Admissions and Student Body Composition [1:48]:

Increased flexibility in the academic program cannot benefit students, and may indeed harm them, unless it is accompanied by a highly effective advising process. As in the area of instruction, innovation and experimentation with wider varieties of advising models are called for.

Part III. Descriptive Information

The purpose of Part III was to obtain demographic information about several nuisance variables rooted within the engineering undergraduates and instructional faculty who participated in this study.

Undergraduate student participants were asked to identify:

(1) engineering departmental affiliation, (2) whether or not they were in Honor's College, (3) their student classification, (4) their cumulative grade point average, (5) the number of terms they had completed in the College of Engineering, (6) the frequency of their yearly contact with their academic advisor, (7) where they began their college education, and (8) their general impression about the effectiveness of academic advisement in the College of Engineering.

Instructional faculty who participated in the study were asked to identify: (1) engineering departmental affiliation, (2) whether or not they presently served as advisors to undergraduates in their department, (3) their professorial rank, (4) the number of years of teaching they had completed in the College of Engineering, (5) how often they usually consulted with the academic advisors in their department in their capacity as a teacher during the course of a school year, and (6) their general impression about the effectiveness of academic advisement in the College of Engineering.

The usefulness of these classifications for investigative reasons was suggested by a review of advisement literature, and was supported by full-time advisement personnel in the College of Engineering as being factors most worthwhile investigating for significance.

Part IV. Open-Ended Discussion

Four open-ended questions were included in Part IV. First, respondents were asked to identify what engineering advisement service had personally been the most helpful to them. Second, respondents were asked to identify what engineering advisement service had

personally been the most disappointing to them. The third question asked respondents to identify what they perceived to be the major strength and the major weakness in the College of Engineering academic advisement program for the undergraduates. The fourth question asked respondents to recommend what engineering academic advisors should do, not do, or do differently in order to improve advisement services in the future.

The rationale for this section was based on Kerlinger's commentary [51:471]:

Open-end questions are flexible; they have possibilities of depth; . . . they supply a frame of reference but put a minimum of restraint on the answers and their expression; . . . they can suggest possibilities of relations and hypotheses. Respondents will sometimes give unexpected answers that may indicate the existence of relations not originally anticipated.

Methods Used for Analyzing Responses

Four techniques were used to report the data and to achieve the first three objectives of this study. Depending on the item and the objective, one or more of the following techniques were used: (1) a tabulation and report of the frequency distribution of responses for certain items; (2) a calculation of the mean score for certain items; (3) a rank ordering of certain items; and (4) a calculation of the value of the Chi Square test of significance in comparing the responses of engineering undergraduates and instructional faculty. Responses to items in Parts I, II, and III were punched on data processing cards and analyzed on the IBM 1800 computer in the College of Engineering. Objectives I, II, and III were achieved by the following techniques:

Objective I:

To compare the perceptions of engineering undergraduates against those of instructional faculty about the relative necessity of various advisement services.

In Part I of the survey, ratings of thirty advisement services were reported as frequency distributions expressed in percentages for the total number of respondents. This clearly identified the relative necessity for the College of Engineering to provide a specific type of advisement service as rated by the two major groups of students and faculty. Answers ranged from "Must Be Provided" to "Should Not Be Provided." The forced-choice responses on the five-step scale clearly identified how the two groups of respondents rated the different degrees of necessity for the College of Engineering to provide each of the thirty described services.

Undergraduate students were designated as Group A, and faculty were designated as Group B. To compare the ratings of the two groups, the Chi Square test of significance was used. The use of this technique required that the relationships of the variables be stated in the form of a null hypothesis. If there is a relationship between the responses of engineering undergraduates and those of the engineering faculty, the following null hypothesis had to be rejected:

Null Hypothesis I:

There are no significant differences between engineering undergraduates (Group A) and engineering faculty (Group B) about the relative necessity of various advisement services being provided by advising personnel in the College of Engineering.

Chi Square values were reported for all subjects, and those which appeared at the .05 and .01 level of significance were noted.

Objective II:

To determine if the variable of departmental affiliation for the students and faculty is related to any major perceptual differences about the advisement program in the College of Engineering.

To achieve this objective the undergraduate students and engineering faculty were combined and categorized on the basis of their departmental affiliation: chemical, civil, computer science, electrical/systems, and mechanical engineering. The standard abbreviation for each of these five departments listed in their respective order are: CHE, CE, CPS, EESS, and ME. These symbols will be used elsewhere in the study.

In Part I of the questionnaire, ratings of the various advisement services were reported as frequency distributions expressed in percentages by the respondents according to their respective departmental affiliation. Opinions ranged from "Must Be Provided" to "Should Not Be Provided." This five-step scale clearly identified how the students and faculty within one of the five engineering departments rated the relative necessity of the College of Engineering to provide each of the thirty described services.

The undergraduate students and teaching faculty in chemical engineering were designated as CHE; those in civil engineering were designated as CE. The set of undergraduates and faculty in computer science were designated as CPS; those in electrical engineering and

systems science were designated as EESS. And the students and faculty in mechanical engineering were designated as ME.

To compare the responses of these five groups, the Chi Square test of significance was used. The use of this technique required that the relationships of the variables be stated in the form of a null hypothesis. If there is a relationship between the responses of any two of the five engineering departmental groups, the following null hypothesis had to be rejected:

Null Hypothesis II:

There are no significant differences among any of the five engineering departmental groups about the relative necessity for the College of Engineering to provide various advisement services.

Chi square values were reported for all subjects, and those which appeared at the .05 and .01 level of significance were noted.

Objective III:

To compare the preferences of engineering undergraduates and faculty about the relative merit of alternative academic advisement models over the present program of advisement.

In Part II of the questionnaire, ratings of various alternatives to the present system of academic advisement within the College of Engineering were reported as frequency distributions by comparing the responses of the undergraduates against those of the faculty. Opinions ranged from the "Idea Has Very Strong Potential (merits implementation)" to "Idea Has Very Weak Potential (less effective than now)." This five-step scale and response pattern clearly identified

preferences among students and faculty to the seventeen items in Part II.

The undergraduate students were again designated as Group A; faculty were designated as Group B. To compare the ratings of these two groups on Part II of the survey, the Chi Square test of significance was used. The use of this technique required that the relationships of the variables be stated in the form of a null hypothesis. If there is a relationship between the engineering students and those of the faculty, the following null hypothesis had to be rejected:

Null Hypothesis III:

There are no significant differences between engineering undergraduates (Group A) and engineering faculty (Group B) about preferred alternatives among the proposed academic advisement models.

Chi Square values were reported for all subjects, and those which appeared at the .05 and .01 level of significance were noted.

It was also deemed appropriate to examine the responses to Part I and II of the survey on the basis of undergraduate student classification (sophomore, junior, and senior) for any possible significance at the .05 and .01 level. Ratings of the forty-seven items were reported as frequency distributions expressed in percentages for the three student groups. The sophomore students were designated as Group C, the junior students as Group D, and senior students as Group E. If any Chi Square values at the .05 and .01 level appeared, they were noted.

On item forty-eight all respondents were asked to rate their general impression about the effectiveness of academic advisement in

the College of Engineering on a five-step scale: (1) Very Unsatisfactory, (2) Unsatisfactory, (3) Limited Satisfaction, (4) Satisfactory, and (5) Very Satisfactory.

Responses cited by undergraduates (Group A) and engineering faculty (Group B) were reported as a mean percentage for each of the five steps on the scale. To indicate the degree of effectiveness of the advisement program as rated by the two groups of respondents, the answers were then rank-ordered on the basis of the mean percentage. This method permitted a determination of any differences in the rankings by the two groups.

On item fifty-four of the undergraduate survey and on item fifty-three of the faculty survey respondents were asked how often they usually consulted each year with advising personnel in the College of Engineering. Respondents answered from their respective roles as students and faculty on a five-step scale: (1) Probably once or twice, (2) Probably three or four times, (3) Probably five or six times, (4) Probably seven or eight times, and (5) Nine times or more.

Responses cited by undergraduates (Group A) and engineering faculty (Group B) were reported as a mean percentage for each of the five steps on the scale. To indicate the frequency of consultation as rated by the respondents, the answers were rank-ordered on the basis of the mean percentage. This method permitted a determination of any differences in the rankings by the two groups.

All other descriptive variables in Part III of the questionnaire for students and faculty were run on the IBM 1800 computer, visually inspected, and reported only if they appeared significant.

Responses to discussion questions in Part IV of the survey were to be summarized and written and table-form in Chapter IV. Selected verbatim examples from each question and derived-categories were to appear in several appendices at the end of the study.

Summary

A questionnaire was designed and distributed to 693 engineering undergraduates and 70 faculty in five departments in the College of Engineering at Michigan State University during the Winter term, 1972.

The survey instrument consisted of four parts: (1) In Part I, respondents rated the College of Engineering academic advisement program; (2) In Part II, respondents rated their personal preferences to various alternative-type academic advisement models; (3) In Part III, respondents provided demographic data about several variables that might prove significant; and (4) In Part IV, respondents cited the "Most Helpful" and "Most Disappointing" advisement services which they had experienced in the College of Engineering, along with their perceptions of the advisement program's "Major Strength" and "Major Weakness." Finally, respondents also made various recommendations about what engineering advisors should do, not do, or do differently in order to improve advisement services in the future.

In achieving the three objectives of the study, survey answers were reported and analyzed by one or more of the following techniques: (1) tabulation of frequency distribution, (2) calculation of a mean score, (3) rank-ordering of some items, and (4) computing the value of the Chi Square test of significance. Chi Square values at the .05 and .01 level were noted.

CHAPTER IV

ANALYSIS OF DATA

Introduction

In this chapter, the responses to the survey instrument are reported and analyzed to achieve the objectives of the study. The design of the chapter consists of: (1) a restatement of the three objectives and three null hypotheses which were used to achieve the objectives, and (2) a report and analysis of the data. The responses are reported and analyzed for each of the four parts of the questionnaire. The report of the data is preceded by a brief review of the nature and scope of the four parts of the survey.

Statement of Objectives

Objective I:

To compare the perceptions of engineering undergraduates against those of instructional faculty about the relative necessity of providing various advisement services.

Objective II:

To determine if the variable of departmental affiliation for the students and faculty is related to any major perceptual differences about the advisement program in the College of Engineering.

Objective III:

To compare the preferences of engineering undergraduates and faculty about the relative merit of alternative academic advisement models over the present program of advisement.

In order to test the significance of the relationships discussed in these three objectives, three null hypotheses are stated:

Null Hypothesis I:

There are no significant differences between engineering undergraduates and engineering faculty about the relative necessity of various advisement services being provided by advising personnel in the College of Engineering.

Null Hypothesis II:

There are no significant differences among any of the five engineering departmental groups about the relative necessity of the College of Engineering providing various advisement services.

Null Hypothesis III:

There are no significant differences between engineering undergraduates and engineering faculty about preferred alternatives among the proposed academic advisement models.

Report and Analysis of Data

Part I. Perceptions About
Academic Advisement Services

The intent of Part I was to identify what advisement services are considered the responsibility of the College of Engineering by its students and faculty in five departments: CHE, CE, CPS, EESS, and ME. Subjects were asked to select one answer from a five-point scale on how important they thought it was for the College of Engineering to provide various services in its academic advisement program at the undergraduate level. Opinions ranged from "Must Be Provided" to "Should Not Be Provided." Table 4.1 shows a frequency distribution of opinions for all respondents. These responses are expressed in percentages.

Table 4.1

Perceptions of All Respondents About the Relative
Necessity for the College of Engineering to
Provide Various Services in its
Academic Advisement Program

Advisement Services	Total Respondents N	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %
1. Working with students in resolving scheduling problems during pre-enrollment and registration.	483	43.9	32.5	15.7	6.2	1.7
2. Explaining program requirements and options to students in engineering departmental majors.	483	74.5	23.4	1.9	0.2	0.0
3. Explaining the interrelatedness and sequential nature of required courses within a departmental program.	483	40.2	41.0	14.9	3.9	0.0
4. Identifying necessary pre-requisites and required skills for courses within an engineering departmental major.	483	51.3	38.1	8.3	1.9	0.4
5. Working with students in planning a comprehensive academic program reflecting personal interest and demonstrated abilities.	483	31.7	51.1	14.5	2.1	0.6
6. Working with students in planning a personalized academic schedule each term.	483	19.5	37.3	29.2	12.6	1.4
7. Working with the undecided student in exploring new academic opportunities outside engineering.	483	16.6	38.9	34.6	8.7	1.2
8. Working with the weak academic student in planning how to recover.	483	27.5	47.0	20.3	4.8	0.4
9. Working with the new student in making personal/social adjustments to college life.	483	5.8	17.4	36.0	31.1	9.7
10. Working with students in identifying appropriate electives.	483	19.7	51.1	23.2	4.6	1.4
11. Working with students so they can develop an understanding of their personal academic strengths and weaknesses.	483	11.6	35.2	35.4	17.0	0.8
12. Working with students to improve their study habits.	483	2.1	15.7	36.2	40.0	8.1
13. Being readily available for consultation, especially on a drop-in basis.	482	28.4	52.8	15.5	2.9	0.2
14. Providing information to departmental curriculum committees about various student opinions.	482	25.3	45.3	23.0	5.4	0.8
15. Conducting regular research about engineering students in order to improve advisement services.	482	16.6	43.1	33.5	5.4	1.2

Table 4.1--Continued

Advisement Services	Total Respondents N	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %
16. Interpreting University and College policies to engineering students.	482	19.5	37.9	28.4	11.6	2.5
17. Writing letters of recommendation for students.	482	20.9	37.1	31.5	8.9	1.4
18. Suggesting specific resource agencies on campus to students for additional help.	482	23.4	46.0	27.1	2.9	0.4
19. Encouraging marginal students, when appropriate, to persevere in their engineering program.	482	8.1	32.7	36.6	14.9	7.5
20. Devising ways to motivate students for achieving proficiency in their engineering program.	482	8.3	27.1	35.8	24.0	4.6
21. Working with students to prepare for interviewing at the NSU Placement Bureau.	482	21.1	36.9	29.4	10.4	2.1
22. Working with students to evaluate actual employment offers.	482	23.2	32.5	30.8	11.2	2.1
23. Working with students to identify long-range career opportunities.	482	21.9	36.9	31.5	8.3	1.2
24. Providing information about admission to graduate school.	482	38.5	48.9	9.3	2.9	0.2
25. Working with students to cope with demands from their local draft boards.	482	12.8	21.5	33.7	20.7	11.0
26. Providing information about financial aid.	482	23.6	40.0	23.6	9.7	2.9
27. Working with students to foster a sense of self-direction, especially in making major decisions.	482	8.3	29.8	37.3	19.9	4.6
28. Allowing students/faculty the opportunity to voice criticism without fear of reprisal.	481	44.7	31.1	13.7	7.2	2.9
29. Sending students a departmental newsletter each term about curricular information and career concerns.	482	28.2	42.0	23.2	6.0	0.4
30. Representing student concerns at departmental faculty meetings.	482	30.0	42.4	19.9	4.8	2.7

Two items were rated by over one-half of the respondents as a "Service Which Must Be Provided" by advising personnel in the College of Engineering: (1) Explaining program requirements and options to students in engineering departmental majors (74.5%), and (2) Identifying necessary prerequisites and required skills for courses within an engineering departmental major (51.3%).

Three items were rated by over one-half of the respondents as a "Service Which Should Be Provided" by advising personnel in the College of Engineering: (1) Being readily available for consultation, especially on a drop-in basis (52.8%); (2) Working with students in identifying appropriate electives (51.1%); and (3) Working with students in planning a comprehensive academic program reflecting personal interest and demonstrated abilities (51.1%).

The highest-ranking item in the category of a "Service Which Might Be Provided" by advising personnel in the College of Engineering was: Working with students to foster a sense of self-direction, especially in making major decisions (37.3%).

The most noteworthy item in the category of a "Service Which Need Not Be Provided" by advisory personnel in the College of Engineering, the highest-ranking item was: Working with students to cope with demands from their local draft boards (11.0%).

The comparison of perceptions between undergraduate students and instructional faculty about the relative necessity of providing various advisement services is given in Table 4.2.

Table 4.2

Comparison of Student and Faculty Opinions About
the Relative Necessity for the College of
Engineering to Provide Various Services
in its Academic Advisement Program

Advisement Service	Group	No.	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %	df	Chi Square Value
1. Working with students in resolving scheduling problems during pre-enrollment and registration.	A	423	44.0	31.7	16.3	6.4	1.7	2	1.52
	B	60	43.3	38.3	11.7	0.5	1.7		
2. Explaining program requirements and options to students in engineering departmental majors.	A	423	75.9	22.7	1.2	0.2	0.0	1	3.28
	B	60	65.0	28.3	6.7	0.0	0.0		
3. Explaining the inter-relatedness and sequential nature of required courses within a departmental program.	A	423	39.2	41.6	15.1	4.0	0.0	2	1.20
	B	60	46.7	36.7	13.3	3.3	0.0		
4. Identifying necessary prerequisites and required skills for courses within an engineering departmental major.	A	423	52.0	38.5	7.8	1.4	0.2	2	4.38
	B	60	46.7	35.0	11.7	5.0	1.7		
5. Working with students in planning a comprehensive academic program reflecting personal interest and demonstrated abilities.	A	423	32.6	50.8	13.7	2.1	0.7	2	1.82
	B	60	25.0	53.3	20.0	1.7	0.0		
6. Working with students in planning a personalized academic schedule each term.	A	423	20.1	36.9	28.8	12.8	1.4	3	1.00
	B	60	15.0	40.0	31.7	11.7	1.7		
7. Working with the undecided student in exploring new academic opportunities outside engineering.	A	423	17.0	41.6	33.6	6.9	0.9	3	23.37**
	B	60	13.3	20.0	41.7	21.7	3.3		
8. Working with the weak academic student in planning how to recover.	A	423	27.7	45.9	21.0	5.0	0.5	2	2.32
	B	60	26.7	55.0	15.0	3.3	0.0		
9. Working with the new student in making personal/social adjustments to college life.	A	423	5.7	16.3	36.4	31.4	10.2	2	2.82
	B	60	6.7	25.0	33.3	28.3	6.7		
10. Working with students in identifying appropriate electives.	A	423	19.6	50.8	22.7	5.2	1.7	2	0.21
	B	60	20.0	53.3	26.7	0.0	0.0		
11. Working with students so they can develop an understanding of their personal academic strengths and weaknesses.	A	423	10.6	36.4	34.5	18.0	0.5	3	5.62
	B	60	18.3	26.7	41.7	10.0	3.3		
12. Working with students to improve their study habits.	A	423	1.2	12.5	36.6	40.7	9.0	3	18.19**
	B	60	8.3	21.7	33.3	35.00	1.7		
13. Being readily available for consultation, especially on a drop-in basis.	A	423	30.0	52.0	15.8	1.9	0.2	3	14.57**
	B	59	16.7	58.3	13.3	10.0	0.0		
14. Providing information to departmental curriculum committees about various student opinions.	A	423	25.1	45.2	23.6	5.4	0.7	2	0.48
	B	59	26.7	46.7	18.3	5.0	1.7		

Table 4.2--Continued

Advisement Service	Group	No.	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %	df	Chi Square Value
15. Conducting regular re-search about engineering students in order to improve advisement services.	A	423	18.0	43.3	32.6	5.0	1.2	2	3.52
	B	59	6.7	41.7	40.0	8.3	1.7		
16. Interpreting University and College policies to engineering students.	A	423	20.3	37.4	27.7	12.1	2.6	3	3.00
	B	59	13.3	41.7	33.3	8.3	1.7		
17. Writing letters of recommendation for students.	A	423	22.2	37.8	31.4	7.3	1.2	3	14.66**
	B	59	11.7	31.7	31.7	20.0	3.3		
18. Suggesting specific resource agencies on campus to students for additional help.	A	423	22.7	47.5	26.7	2.8	0.2	2	2.99
	B	59	28.3	35.0	30.0	3.3	1.7		
19. Encouraging marginal students, when appropriate, to persevere in their engineering program.	A	423	8.0	31.7	36.9	15.8	7.6	3	2.84
	B	59	8.3	40.0	35.0	8.3	6.7		
20. Devising ways to motivate students for achieving proficiency in their engineering program.	A	423	8.3	26.7	35.5	24.8	4.7	3	1.47
	B	59	8.3	30.0	38.3	18.3	3.3		
21. Working with students to prepare for interviewing at the MSU Placement Bureau.	A	423	23.6	39.5	27.9	7.8	1.2	3	53.22**
	B	59	3.3	18.3	40.0	28.3	8.3		
22. Working with students to evaluate actual employment offers.	A	423	26.5	35.0	29.3	8.5	0.7	2	65.52**
	B	59	0.0	15.0	41.7	30.0	11.7		
23. Working with students to identify long-range career opportunities.	A	423	24.6	38.1	29.3	6.9	1.2	2	21.75**
	B	59	3.3	28.3	46.5	18.3	1.7		
24. Providing information about admission to graduate school.	A	423	41.6	48.9	7.6	1.9	0.0	3	36.31**
	B	59	16.7	48.3	21.7	10.0	1.7		
25. Working with students to cope with demands from their local draft boards.	A	423	13.5	21.7	33.3	21.3	10.2	4	3.92
	B	59	8.3	20.0	36.7	16.7	16.7		
26. Providing information about financial aid.	A	423	23.4	40.0	23.9	9.9	2.8	3	0.20
	B	59	25.0	41.7	21.7	8.3	3.3		
27. Working with students to foster a sense of self-direction, especially in making major decisions.	A	423	8.5	30.0	38.1	18.9	4.5	2	2.23
	B	59	6.7	28.3	31.7	26.7	5.0		
28. Allowing students/faculty the opportunity to voice criticism without fear of reprisal.	A	423	47.8	31.0	13.9	5.4	1.9	4	35.34**
	B	58	23.3	31.7	11.7	20.0	10.0		
29. Sending students a departmental newsletter each term about curricular information and career concerns.	A	423	30.5	43.3	21.7	4.3	0.2	3	30.95**
	B	59	11.7	33.3	33.3	18.3	1.7		
30. Representing student concerns at departmental faculty meetings.	A	423	31.9	44.0	18.9	3.8	1.4	4	35.32**
	B	59	16.7	31.7	26.7	11.7	11.7		

**--Significant at .01 level.

Group A--Undergraduate Students
Group B--Engineering Faculty

Eleven items were found to be significant at the .01 level in comparing students and faculty: (1) Working with the undecided student in exploring new academic opportunities outside engineering; (2) Working with students to improve their study habits; (3) Being readily available for consultation, especially on a drop-in basis; (4) Writing letters of recommendation for students; (5) Working with students to prepare for interviewing at the MSU Placement Bureau; (6) Working with students to evaluate actual employment offers; (7) Working with students to identify long-range career opportunities; (8) Providing information about admission to graduate school; (9) Allowing students/faculty the opportunity to voice criticism without fear of reprisal; (10) Sending students a departmental newsletter each term about curricular information and career concerns; and (11) Representing student concerns at departmental faculty meetings.

In all of the above items, with one exception, the engineering faculty expressed a more negative or restrictive view that the service in question need not be or should not be provided by engineering advisory personnel, while the students expressed a more positive position that the service in question must be or should be provided by the advisement program in the College.

The one exception, where the trend was reversed, showed that the students exhibited a more negative view that working with students to improve their study habits need not be or should not be provided by engineering advisement. The faculty responded in an opposite vein.

Table 4.3 shows the comparison of opinions for all engineering students by their classification as a sophomore (Group C), junior (Group D), or senior (Group E). A significant difference at the .05 level was found in comparing the three student classes on one item: Providing information about financial aid. Following the suggestion of Downie and Heath [28:152], further Chi Square comparisons on the IBM 1800 computer showed the difference to be between the sophomore and senior students. Seniors, in nearly a 2:1 ratio compared to sophomores, felt that financial aid information must be provided by the engineering advisement program.

Table 4.3

Comparison of Sophomore, Junior, and Senior Opinions
About the Relative Necessity for the College of
Engineering to Provide Various Services in
its Academic Advisement Program

Advisement Service	Group	No.	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %	df	Chi Square Value
1. Working with students in resolving scheduling problems during pre-enrollment and registration.	C	112	44.6	34.8	12.5	5.4	2.7	6	2.69
	D	150	43.3	32.0	16.0	6.7	2.0		
	E	161	44.1	29.2	19.3	6.8	0.6		
2. Explaining program requirements and options to students in engineering departmental majors.	C	112	73.2	26.8	0.0	0.0	0.0	2	0.59
	D	150	76.7	22.0	1.3	0.0	0.0		
	E	161	77.0	20.5	1.9	0.6	0.0		
3. Explaining the inter-relatedness and sequential nature of required courses within a departmental program.	C	112	40.2	45.5	8.0	6.3	0.0	4	2.95
	D	150	40.0	40.7	19.3	0.0	0.0		
	E	161	37.9	39.8	16.1	6.2	0.0		
4. Identifying necessary prerequisites and required skills for courses within an engineering departmental major.	C	112	53.6	37.5	7.1	1.8	0.0	4	0.57
	D	150	53.3	37.3	8.0	1.3	0.0		
	E	161	49.7	40.4	8.1	1.2	0.6		
5. Working with students in planning a comprehensive academic program reflecting personal interest and demonstrated abilities.	C	112	31.3	54.5	12.5	1.8	0.0	4	3.50
	D	150	33.3	52.7	9.3	4.0	0.7		
	E	161	32.9	46.6	18.6	0.6	1.2		
6. Working with students in planning a personalized academic schedule each term.	C	112	27.7	33.0	28.6	9.8	0.9	6	10.26
	D	150	20.0	41.3	24.7	14.0	0.0		
	E	161	14.9	35.4	32.9	13.7	3.1		
7. Working with the undecided student in exploring new academic opportunities outside engineering.	C	112	14.3	44.6	34.8	4.5	1.8	6	5.08
	D	150	20.7	35.3	35.3	8.7	0.0		
	E	161	15.5	45.3	31.3	6.8	1.2		
8. Working with the weak academic student in planning how to recover.	C	112	18.8	51.8	23.2	6.3	0.0	6	7.63
	D	150	30.7	42.7	22.7	3.3	0.7		
	E	161	31.1	44.7	18.0	5.6	0.6		
9. Working with the new student in making personal/social adjustments to college life.	C	112	1.8	14.3	32.1	39.3	12.5	6	8.12
	D	150	6.7	20.0	36.7	28.0	8.7		
	E	161	7.5	14.3	39.1	29.2	9.9		
10. Working with students in identifying appropriate electives.	C	112	23.2	46.4	21.4	5.4	3.6	6	5.79
	D	150	19.3	49.3	26.7	3.3	1.3		
	E	161	17.4	55.3	19.9	6.8	0.6		
11. Working with students so they can develop an understanding of their personal academic strengths and weaknesses.	C	112	9.8	41.1	25.0	22.3	1.8	6	10.45
	D	150	10.0	38.0	34.0	18.0	0.0		
	E	161	11.8	31.7	41.6	14.9	0.0		
12. Working with students to improve their study habits.	C	112	1.8	14.3	37.5	36.6	9.8	6	3.51
	D	150	1.3	8.7	36.7	44.0	9.3		
	E	161	0.6	14.9	36.0	40.4	8.1		
13. Being readily available for consultation, especially on a drop-in basis.	C	112	30.4	50.9	16.1	2.7	0.0	4	2.36
	D	150	30.7	48.7	18.0	2.0	0.7		
	E	161	29.2	55.9	13.7	1.2	0.0		
14. Providing information to departmental curriculum committees about various student opinions.	C	112	18.8	50.9	25.9	1.8	2.7	6	8.17
	D	150	22.7	45.3	25.3	6.7	0.0		
	E	161	31.7	41.0	20.5	6.8	0.0		

Table 4.3--Continued

Advisement Service	Group	No.	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %	df	Chi Square Value
15. Conducting regular re- search about engineer- ing students in order to improve advisement services.	C	112	15.2	46.4	31.3	4.5	2.7	6	1.52
	D	150	18.7	42.0	34.0	5.3	0.0		
	E	161	19.3	42.2	32.3	5.0	1.2		
16. Interpreting University and College policies to engineering students.	C	112	19.6	37.5	30.4	7.1	5.4	6	7.99
	D	150	16.0	41.3	24.0	18.0	0.7		
	E	161	24.8	33.5	29.2	9.9	2.5		
17. Writing letters of recommendation for students.	C	112	25.0	44.6	27.7	0.9	1.8	4	6.83
	D	150	22.0	37.3	28.7	12.0	0.0		
	E	161	20.5	33.5	36.6	7.5	1.9		
18. Suggesting specific re- source agencies on campus to students for additional help.	C	112	26.8	46.4	25.0	1.8	0.0	4	3.95
	D	150	21.3	44.0	29.3	4.7	0.7		
	E	161	21.1	51.6	25.5	1.9	0.0		
19. Encouraging marginal stu- dents, when appropriate, to persevere in their engineering program.	C	112	10.7	32.1	38.4	15.2	3.6	6	3.17
	D	150	6.7	32.0	37.3	18.0	6.0		
	E	161	7.5	31.1	35.4	14.3	11.8		
20. Devising ways to motivate students for achieving proficiency in their engineering program.	C	112	8.9	27.7	32.1	26.8	4.5	6	3.81
	D	150	7.3	30.7	36.0	24.0	2.0		
	E	161	8.7	22.4	37.3	24.2	7.5		
21. Working with students to prepare for interviewing at the MSU Placement Bureau.	C	112	31.3	40.2	23.2	4.5	0.9	6	8.46
	D	150	21.3	41.3	28.7	8.0	0.7		
	E	161	20.5	37.3	30.4	9.9	1.9		
22. Working with students to evaluate actual employ- ment offers.	C	112	36.6	35.7	22.3	5.4	0.0	6	16.86**
	D	150	21.3	34.7	36.7	6.7	0.7		
	E	161	24.2	34.8	27.3	12.4	1.2		
23. Working with students to identify long-range career opportunities.	C	112	35.7	42.9	18.8	2.7	0.0	4	28.40**
	D	150	22.0	43.3	32.0	2.7	0.0		
	E	161	19.3	29.8	34.2	13.7	3.1		
24. Providing information about admission to graduate school.	C	112	42.0	47.3	8.0	2.7	0.0	4	2.37
	D	150	39.3	53.3	6.0	1.3	0.0		
	E	161	43.5	46.0	8.0	1.9	0.0		
25. Working with students to cope with demands from their local draft boards.	C	112	14.3	21.4	29.5	22.3	12.5	8	3.42
	D	150	12.7	23.3	36.0	18.0	10.0		
	E	161	13.7	20.5	33.5	23.6	8.7		
26. Providing information about financial aid.	C	112	17.0	37.5	31.3	11.6	2.7	6	13.44*
	D	150	19.3	43.3	23.3	9.3	4.7		
	E	161	31.7	38.5	19.3	9.3	1.2		
27. Working with students to foster a sense of self- direction, especially in making major decisions.	C	112	8.0	31.3	34.8	23.2	2.7	6	4.98
	D	150	10.0	34.0	36.0	16.0	4.0		
	E	161	7.5	25.5	42.2	18.6	6.2		
28. Allowing students/faculty the opportunity to voice criticism without fear of reprisal.	C	112	42.0	35.7	15.2	5.4	1.8	6	3.50
	D	150	48.0	28.7	14.7	7.3	1.3		
	E	161	51.6	29.8	12.4	3.7	2.5		
29. Sending students a depart- mental newsletter each term about curricular in- formation and career concerns.	C	112	31.3	37.5	26.8	4.5	0.0	4	5.23
	D	150	28.0	50.0	19.3	2.0	0.7		
	E	161	32.3	41.0	20.5	6.2	0.0		
30. Representing student con- cerns at departmental faculty meetings.	C	112	32.1	46.4	17.0	0.9	3.6	6	3.54
	D	150	27.3	46.7	20.0	6.0	0.0		
	E	161	36.0	39.8	19.3	3.7	1.2		

*--Significant at .05 level

**--Significant at .01 level

Group C--Sophomore Engineering Students

Group D--Junior Engineering Students

Group E--Senior Engineering Students

Significant differences at the .01 level were found in comparing the three classes on two items: (1) Working with students to evaluate actual employment offers, and (2) Working with students to identify long-range career opportunities.

Additional Chi Square investigation on the former item about employment offers showed a significant difference existed between the sophomores and juniors, and the sophomores and the seniors.

Additional Chi Square investigation on the latter item about long-range career opportunities showed a significant difference existed between the sophomores and juniors, the sophomores and seniors, and the juniors and seniors.

Table 4.4 shows the comparison of all respondents about the necessity of providing advisement services according to their affiliation in one of the following departments: CHE, CE, CPS, EESS, and ME. Four items showed significant differences at the .05 level: (1) Working with students in resolving scheduling problems during pre-enrollment and registration; (2) Working with students in planning a comprehensive academic program reflecting personal interest and demonstrated abilities; (3) Working with the new student in making personal/social adjustments to college life; and (4) Devising ways to motivate students for achieving proficiency in their engineering program.

Table 4.4

Comparison of All Respondents by Departmental Affiliation About the Relative Necessity for the College of Engineering to Provide Various Services in its Academic Advisement Program

Advisement Services	Group	No.	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %	df	Chi Square Value
1. Working with students in resolving scheduling problems during pre-enrollment and registration.	CHE	43	55.8	32.6	7.0	2.3	2.3	8	18.55*
	CE	75	37.3	34.7	22.7	5.3	0.0		
	CPS	90	42.2	22.2	21.1	11.1	3.3		
	EESS	129	39.5	36.4	14.7	7.8	1.6		
	ME	146	48.6	34.2	12.3	3.4	1.4		
2. Explaining program requirements and options to students in engineering departmental majors.	CHE	43	81.4	16.3	2.3	0.0	0.0	4	3.35
	CE	75	74.7	25.3	0.0	0.0	0.0		
	CPS	90	74.4	24.4	1.1	0.0	0.0		
	EESS	129	77.5	17.8	4.7	0.0	0.0		
	ME	146	69.9	28.8	0.7	0.7	0.0		
3. Explaining the inter-relatedness and sequential nature of required courses within a departmental program.	CHE	43	41.9	41.9	11.6	4.7	0.0	8	2.67
	CE	75	44.0	37.3	16.0	2.7	0.0		
	CPS	90	37.8	46.7	14.4	1.1	0.0		
	EESS	129	39.5	41.1	10.9	8.5	0.0		
	ME	146	39.7	39.0	19.2	2.1	0.0		
4. Identifying necessary prerequisites and required skills for courses within an engineering departmental major.	CHE	43	55.8	32.6	11.6	0.0	0.0	8	2.71
	CE	75	50.7	41.3	8.0	0.0	0.0		
	CPS	90	54.4	35.6	7.8	1.1	1.1		
	EESS	129	52.7	36.4	7.8	3.1	0.0		
	ME	146	47.3	41.1	8.2	2.7	0.7		
5. Working with students in planning a comprehensive academic program reflecting personal interest and demonstrated abilities.	CHE	43	27.9	58.1	11.6	2.3	0.0	8	19.91*
	CE	75	37.3	54.7	6.7	1.3	0.0		
	CPS	90	45.6	41.1	11.1	1.1	1.1		
	EESS	129	28.7	51.2	17.8	2.3	0.0		
	ME	146	24.0	53.4	18.5	2.7	1.4		
6. Working with students in planning a personalized academic schedule each term.	CHE	43	16.3	44.2	25.6	11.6	2.3	12	7.8
	CE	75	17.3	45.3	25.3	12.0	0.0		
	CPS	90	16.7	40.0	32.2	10.0	1.1		
	EESS	129	19.4	34.9	31.0	13.2	1.6		
	ME	146	23.3	31.5	28.8	14.4	2.1		
7. Working with the undecided student in exploring new academic opportunities outside engineering.	CHE	43	11.6	32.6	41.9	9.3	4.7	12	10.70
	CE	75	14.7	36.0	37.3	12.0	0.0		
	CPS	90	24.4	37.8	28.9	7.8	1.1		
	EESS	129	15.5	38.0	38.8	6.2	1.6		
	ME	146	15.1	43.8	30.8	9.6	0.7		
8. Working with the weak academic student in planning how to recover.	CHE	43	34.9	32.6	30.2	2.3	0.0	8	10.28
	CE	75	18.7	56.0	21.3	4.0	0.0		
	CPS	90	30.0	41.1	23.3	4.4	1.1		
	EESS	129	26.4	47.3	20.2	5.4	0.8		
	ME	146	29.5	50.0	15.1	5.5	0.0		
9. Working with the new student in making personal/social adjustments to college life.	CHE	43	9.3	18.6	32.6	27.9	11.6	12	24.50*
	CE	75	9.3	16.0	48.0	20.0	6.7		
	CPS	90	0.0	13.3	34.4	38.9	13.3		
	EESS	129	3.1	15.5	31.8	38.8	10.9		
	ME	146	8.9	21.9	35.6	26.0	7.5		
10. Working with students in identifying appropriate electives.	CHE	43	20.9	48.8	20.9	7.0	2.3	8	1.89
	CE	75	18.7	52.0	21.3	6.7	1.3		
	CPS	90	16.7	54.4	24.4	3.3	1.1		
	EESS	129	20.9	52.7	18.6	6.2	1.6		
	ME	146	20.5	47.9	28.1	2.1	1.4		

Table 4.4--Continued

Advisement Services	Group	No.	Must Be Provided %	Should Be Provided %	Must Be Provided %	Need Not Be Provided %	Should Not Be Provided %	df	Chi Square Value
11. Working with students so they can develop an understanding of their personal academic strengths and weaknesses.	CHE	43	7.0	34.9	37.2	20.9	0.0	8	2.40
	CE	75	14.7	33.3	32.0	18.7	1.3		
	CPS	90	11.1	32.2	36.7	18.9	1.1		
	EESS	129	7.8	39.5	37.2	14.0	1.6		
	ME	146	15.1	34.2	34.2	16.4	0.0		
12. Working with students to improve their study habits.	CHE	43	2.3	9.3	41.9	39.5	7.0	8	23.08**
	CE	75	1.3	12.0	34.7	46.7	5.3		
	CPS	90	0.0	8.9	25.6	53.3	12.2		
	EESS	129	1.6	13.2	38.0	37.2	10.1		
	ME	146	4.1	19.2	40.4	30.8	5.5		
13. Being readily available for consultation, especially on a drop-in basis.	CHE	43	30.2	53.5	4.7	9.3	2.3	8	7.90
	CE	75	20.0	50.7	21.3	6.7	0.0		
	CPS	90	27.8	55.6	15.6	1.1	0.0		
	EESS	129	32.6	52.7	12.4	2.3	0.0		
	ME	146	28.8	52.1	18.5	0.7	0.0		
14. Providing information to departmental curriculum committees about various student opinions.	CHE	43	32.6	32.6	18.6	16.3	0.0	8	10.50
	CE	75	17.3	45.3	26.7	8.0	1.3		
	CPS	90	26.7	48.9	18.9	5.6	0.0		
	EESS	128	20.9	50.4	23.3	3.1	2.3		
	ME	146	30.1	42.5	24.7	2.7	0.0		
15. Conducting regular research about engineering students in order to improve advisement services.	CHE	43	9.3	32.6	51.2	4.7	2.3	4	9.17
	CE	75	10.7	41.3	40.0	6.7	0.0		
	CPS	90	20.0	43.3	31.1	5.6	0.0		
	EESS	128	16.3	46.5	28.7	5.4	3.1		
	ME	146	19.9	43.8	30.8	4.8	0.7		
16. Interpreting University and College policies to engineering students.	CHE	43	27.9	32.6	23.3	16.3	0.0	12	13.92
	CE	75	8.0	36.0	34.7	17.3	2.7		
	CPS	90	24.4	38.9	26.7	10.0	0.0		
	EESS	128	19.4	36.4	29.5	10.1	4.7		
	ME	146	19.9	41.1	26.7	9.6	2.7		
17. Writing letters of recommendation for students.	CHE	43	23.3	23.3	37.2	14.0	2.3	12	9.06
	CE	75	25.3	40.0	26.7	6.7	0.0		
	CPS	90	17.8	38.9	35.6	7.8	0.0		
	EESS	128	20.2	36.4	32.6	7.8	3.1		
	ME	146	20.5	39.0	28.8	10.3	1.4		
18. Suggesting specific resource agencies on campus to students for additional help.	CHE	43	14.0	46.5	32.6	7.0	0.0	8	13.78
	CE	75	21.3	40.0	33.3	4.0	0.0		
	CPS	90	30.0	51.1	16.7	2.2	0.0		
	EESS	128	27.9	43.4	26.4	1.6	0.8		
	ME	146	19.2	47.9	29.5	2.7	0.7		
19. Encouraging marginal students, when appropriate, to persevere in their engineering program.	CHE	43	9.3	32.6	34.9	16.3	7.0	8	5.37
	CE	75	5.3	41.3	34.7	14.7	2.7		
	CPS	90	5.6	26.7	43.3	14.4	10.0		
	EESS	128	11.6	32.6	33.3	17.8	4.7		
	ME	146	7.5	32.2	37.0	12.3	11.0		
20. Devising ways to motivate students for achieving proficiency in their engineering program.	CHE	43	9.3	30.2	30.2	30.2	0.0	8	16.77*
	CE	75	5.3	41.3	37.3	12.0	2.7		
	CPS	90	5.6	18.9	46.7	22.2	6.7		
	EESS	128	10.9	24.8	34.1	26.4	3.9		
	ME	146	8.9	26.0	31.5	27.4	6.2		
21. Working with students to prepare for interviewing at the MSU Placement Bureau.	CHE	43	16.3	30.2	34.9	16.3	2.3	12	11.60
	CE	75	26.7	33.3	25.3	12.0	1.3		
	CPS	90	17.8	42.2	31.1	7.8	1.1		
	EESS	128	23.3	31.0	30.2	12.4	3.1		
	ME	146	19.9	42.5	28.1	7.5	2.1		

Table 4.4--Continued

Advisement Services	Group	No.	Must Be Provided %	Should Be Provided %	Might Be Provided %	Need Not Be Provided %	Should Not Be Provided %	df	Chi Square Value
22. Working with students to evaluate actual employment offers.	CHE	43	20.9	20.9	34.9	16.3	7.0	12	13.55
	CE	75	24.0	32.0	28.0	14.7	0.0		
	CPS	90	21.1	34.4	36.7	5.6	2.2		
	EESS	128	25.6	28.7	29.5	13.2	3.1		
	ME	146	22.6	38.4	28.8	9.6	0.7		
23. Working with students to identify long-range career opportunities.	CHE	43	16.3	25.6	44.2	11.6	2.3	12	10.01
	CE	75	22.7	42.7	26.7	6.7	0.0		
	CPS	90	23.3	40.0	25.6	10.0	1.1		
	EESS	128	21.7	33.3	34.9	9.3	0.8		
	ME	146	22.6	38.4	30.8	6.2	2.1		
24. Providing information about admission to graduate school.	CHE	43	34.9	41.9	16.3	4.7	2.3	4	5.49
	CE	75	37.3	45.3	12.0	4.0	0.0		
	CPS	90	42.2	54.4	3.3	0.0	0.0		
	EESS	128	45.0	40.3	11.6	3.1	0.0		
	ME	146	32.2	56.8	7.5	3.4	0.0		
25. Working with students to cope with demands from their local draft boards.	CHE	43	16.3	23.3	25.6	23.3	11.6	16	13.00
	CE	75	12.0	18.7	36.0	20.0	12.0		
	CPS	90	10.0	24.4	30.0	22.2	13.3		
	EESS	128	14.7	20.9	29.5	20.2	14.7		
	ME	146	12.3	21.2	41.1	19.9	5.5		
26. Providing information about financial aid.	CHE	43	20.9	44.2	30.2	4.7	0.0	8	6.40
	CE	75	20.0	37.3	29.3	9.3	2.7		
	CPS	90	24.4	37.8	21.1	11.1	5.6		
	EESS	128	19.4	47.3	17.8	10.9	2.3		
	ME	146	27.4	34.9	25.3	9.6	2.7		
27. Working with students to foster a sense of self-direction, especially in making major decisions.	CHE	43	11.6	30.2	30.2	27.9	0.0	8	11.55
	CE	75	5.3	40.0	37.3	13.3	2.7		
	CPS	90	8.9	23.3	40.0	23.3	4.4		
	EESS	128	3.9	29.5	45.0	17.1	4.7		
	ME	146	12.3	28.8	30.8	21.2	6.8		
28. Allowing students/faculty the opportunity to voice criticism without fear of reprisal.	CHE	42	34.9	32.6	16.3	9.3	4.7	12	9.06
	CE	75	36.0	32.0	20.0	6.7	4.0		
	CPS	90	46.7	28.9	14.4	8.9	1.1		
	EESS	128	46.5	34.1	9.3	7.0	3.1		
	ME	146	49.3	28.8	13.0	6.2	2.7		
29. Sending students a departmental newsletter each term about curricular information and career concerns.	CHE	43	16.3	27.9	32.6	20.9	2.3	8	24.79**
	CE	75	20.0	42.7	26.7	9.3	0.0		
	CPS	90	27.8	38.9	25.6	6.7	1.1		
	EESS	128	31.0	45.7	21.7	1.6	0.0		
	ME	146	33.6	44.5	18.5	3.4	0.0		
30. Representing student concerns at departmental faculty meetings.	CHE	43	20.9	34.9	32.6	9.3	2.3	12	18.53
	CE	75	21.3	44.0	24.0	4.0	5.3		
	CPS	90	32.2	42.2	15.6	5.6	4.4		
	EESS	128	27.9	43.4	20.9	5.4	2.3		
	ME	146	37.7	43.2	15.8	2.7	0.7		

CHE--Chemical Engineering Respondents
 CE--Civil Engineering Respondents
 CPS--Computer Science Respondents
 EESS--Electrical/Systems Science Respondents
 ME--Mechanical Engineering Respondents

*--Significant at .05 level
 **--Significant at .01 level

Additional Chi Square tests within the five departmental groups on the question dealing with the resolving of scheduling problems showed that a significant difference existed between respondents in CPS and those in ME, and between those in CPS and CHE.

Additional Chi Square investigation on the question dealing with planning a comprehensive academic program showed that a significant difference existed between CE and ME, between CPS and EESS, and between CPS and ME.

Further Chi Square investigation of the question dealing with assisting students in making personal/social adjustments showed significant differences among the following engineering majors: between CE and CPS, between CE and EESS, between ME and EESS, and between ME and CPS.

On the question about motivating students to seek engineering proficiency, additional Chi Square tests showed significant differences existed between those in CE and CPS, and those in CE and EESS.

Two items showed significant differences among the five departmental groups at the .01 level: (1) Working with students to improve their study habits; and (2) Sending students a departmental newsletter each term about curricular information and career concerns.

Additional Chi Square tests on the former item about study habits showed that significant differences existed between those in CPS and those in EESS, and between those in CPS and those in ME.

On the question dealing with the departmental newsletter each term, further Chi Square tests showed that significant

differences existed between those in CHE and ME, and between those in CHE and those in EESS.

Part II. Exploring Advisement Alternatives

In Part II, engineering students and faculty were asked to state their preferences about various alternatives to the present advisement program in the College of Engineering by selecting one answer from a five-point scale. Opinions ranged from the "Idea Has Very Strong Potential (merits implementation)" to "Idea Has Very Weak Potential (less effective than now)." Table 4.5 shows a frequency distribution of opinions for all respondents. Ratings are expressed in percentages.

Table 4.5

Perceptions of All Respondents About Preferred
Alternatives to the Present Advisement
Program in the College of Engineering

Advisement Alternatives	Total Respondents N	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %
31. Juniors and seniors, except for new transfer students, would be completely on their own for advisement, after receiving maximum help as freshmen and sophomores.	483	1.4	8.7	19.7	31.3	38.9
32. Organize an upperclass advisement manual within each engineering department so juniors and seniors could assume full responsibility for self-advisement.	483	4.8	18.4	35.2	24.6	17.0
33. Allow any sophomore, junior, or senior to select any available faculty member from the College of Engineering for academic advisement.	483	4.8	19.5	36.4	23.8	15.5
34. Allow only juniors and seniors to select any available faculty members from the College of Engineering for academic advisement.	483	7.5	27.1	36.0	17.6	11.8
35. Allow only Honor's College engineering students to select any available faculty member from the college for academic advisement.	482	2.9	10.8	19.0	34.4	32.7
36. Allow only those engineering students who have demonstrated they can perform at the 2.50 GPA or higher for three consecutive terms to assume full responsibility for self-advisement.	482	1.7	11.2	29.0	31.3	26.7
37. Appoint graduate assistants in each engineering department and give them full responsibility for advising juniors and seniors in their department.	483	1.4	7.9	23.2	28.0	39.5
38. Train and hire a set of seniors and give them full responsibility for advising sophomores through seniors in their engineering department.	483	1.0	8.1	18.6	27.3	44.9
39. Train and hire a set of seniors and give them responsibility in registration matters only for the sophomores through seniors in their department.	482	30.2	16.6	34.2	24.8	0.5

Table 4.5--Continued

Advisement Alternatives	Total Respondents N	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %
40. Have only full-time advisors handle all undergraduate advisement in the College of Engineering.	483	25.9	30.2	25.5	13.3	5.1
41. Have only teaching faculty handle all undergraduate advisement in the College of Engineering.	483	3.3	12.4	34.2	37.3	12.8
42. Have teaching faculty advise all sophomores, juniors, and seniors, and have full-time advisors work with all engineering freshmen.	482	5.0	17.8	32.9	30.0	14.1
43. Have teaching faculty advise all juniors and seniors; have full-time advisors work with all freshmen and sophomores.	482	5.8	21.9	37.7	25.3	9.1
44. Have engineering faculty volunteer to advise assigned students at the sophomore through senior levels.	482	5.6	22.4	34.6	23.4	13.9
45. Appoint engineering faculty to advise assigned students at the sophomore through senior levels.	482	1.4	13.9	28.6	33.7	22.2
46. Attempt to design a data bank retrieval system to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau.	483	41.0	35.4	17.4	3.3	2.9
47. Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement.	483	10.4	25.9	36.4	18.6	8.7

Two items were rated by over 30 per cent of the respondents as being an advisement alternative with a "Very Strong Potential": (1) Attempt to design a data bank retrieval system to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau (41.0%); and (2) Train and hire a set of seniors and give them responsibility in registration matters only for the sophomores through seniors in their department (30.2%).

Two items were also rated by over 30 per cent of all the respondents as having "Strong Potential": (1) The data bank idea listed above (36.4%); and (2) Have only full-time advisors handle all undergraduate advisement in the College of Engineering (30.2%).

It should be noted, that by combining the "Very Strong Potential" and "Strong Potential" ratings, 76.4 per cent of all respondents considered the idea of designing a data bank about engineering jobs as worthy of implementation or experimentation.

By effecting a similar combination on the question suggesting the use of full-time advisors for all undergraduate advisement in the College, 56.1 per cent of all the respondents considered the idea as having "Very Strong Potential" or "Strong Potential."

Two items were rated by over 35 per cent of the students and faculty as being an advisement alternative with "Some Potential (merits more discussion)": (1) Have teaching faculty advise all juniors and seniors; have full-time advisors work with all freshmen and sophomores (37.7%); and (2) Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement (36.4%).

Two items were rated by over 34 per cent of all the respondents as being advisement alternatives with "Weak Potential": (1) Have only teaching faculty handle all undergraduate advisement in the College of Engineering (37.3%); and (2) Allow only Honor's College engineering students to select any available faculty member from the College for academic advisement (34.4%).

Two items were rated by over 39 per cent of the students and faculty as being advisement alternatives with "Very Weak Potential": (1) Train and hire a set of seniors and give them full responsibility for advising sophomores through seniors in their engineering department (44.9%); and (2) Appoint graduate assistants in each engineering department and give them full responsibility for advising juniors and seniors in their department (39.5%).

It should be noted, that by combining the "Weak Potential" and "Very Weak Potential" ratings, two items received over a 70.0 per cent response: (1) Train and hire a set of seniors and give them full responsibility for advising sophomores through seniors in their engineering department (72.2%); and (2) Juniors and seniors, except for new transfer students, would be completely on their own for advisement, after receiving maximum help as freshmen and sophomores (70.2%).

The comparison of perceptions between engineering students and faculty about various alternatives to the present advisement program in the College of Engineering is shown in Table 4.6.

Table 4.6

Comparison of Student and Faculty Preference About Various Alternatives to
the Present Advisement Program in the College of Engineering

Advisement Alternatives	Group	No.	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %	df	Chi Square Value
31. Juniors and seniors, except for new transfer students, would be completely on their own for advisement, after receiving maximum help as freshmen and sophomores.	A	423	1.2	8.7	20.1	31.0	39.0	3	0.57
	B	60	3.3	4.3	16.7	33.3	38.3		
32. Organize an upperclass advisement manual within each engineering department so juniors and seniors could assume full responsibility for self-advisement.	A	423	5.4	19.1	35.2	24.1	16.1	3	4.88
	B	60	0.0	13.3	35.0	28.3	23.3		
33. Allow any sophomore, junior, or senior to select any available faculty member from the College of Engineering for academic advisement.	A	423	5.2	19.4	38.1	22.9	14.4	3	6.43
	B	60	1.7	20.0	25.0	30.0	23.3		
34. Allow only juniors and seniors to select any available faculty members from the College of Engineering for academic advisement.	A	423	8.5	28.1	35.5	16.8	11.1	3	7.16
	B	60	0.0	20.0	40.0	23.3	16.7		
35. Allow only Honor's College engineering students to select any available faculty member from the college for academic advisement.	A	423	3.1	10.2	18.0	35.7	33.1	3	4.48
	B	59	1.7	15.0	26.7	25.0	30.0		
36. Allow only those engineering students who have demonstrated they can perform at the 2.50 GPA or higher for three consecutive terms to assume full responsibility for self-advisement.	A	423	1.9	11.1	28.4	32.2	26.5	3	1.45
	B	59	0.0	11.7	33.3	25.0	28.3		
37. Appoint graduate assistants in each engineering department and give them full responsibility for advising juniors and seniors in their department.	A	423	0.9	7.8	24.8	28.1	38.3	3	6.48
	B	60	5.0	8.3	11.7	26.7	48.3		
38. Train and hire a set of seniors and give them full responsibility for advising sophomores through seniors in their engineering department.	A	423	1.2	9.0	19.9	27.4	42.6	2	10.66**
	B	60	0.0	1.7	10.0	26.7	61.7		
39. Train and hire a set of seniors and give them responsibility in registration matters only for the sophomores through seniors in their department.	A	423	4.3	16.8	35.7	25.1	18.2	3	12.23**
	B	59	0.0	15.0	23.3	23.3	36.7		

Table 4.6--Continued

Advisement Alternatives	Group	No.	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %	df	Chi Square Value
40. Have only full-time advisors handle all undergraduate advisement in the College of Engineering.	A	423	27.2	31.0	25.5	12.3	4.0	4	14.03**
	B	60	16.7	25.0	25.0	20.0	13.3		
41. Have only teaching faculty handle all undergraduate advisement in the College of Engineering.	A	423	2.6	13.7	36.2	36.9	10.6	4	26.74**
	B	60	8.3	3.3	20.0	40.0	28.3		
42. Have teaching faculty advise all sophomores, juniors, and seniors, and have full-time advisors work with all engineering freshmen.	A	423	5.0	19.1	34.5	27.9	13.5	3	11.44**
	B	59	5.0	8.3	21.7	45.0	18.3		
43. Have teaching faculty advise all juniors and seniors; have full-time advisors work with all freshmen and sophomores.	A	423	6.4	22.7	39.0	23.9	8.0	3	10.76*
	B	59	1.7	16.7	28.3	35.0	16.7		
44. Have engineering faculty volunteer to advise assigned students at the sophomore through senior levels.	A	423	5.7	22.5	35.5	23.6	12.8	3	3.93
	B	59	5.0	21.7	28.3	21.7	21.7		
45. Appoint engineering faculty to advise assigned students at the sophomore through senior levels.	A	423	0.9	13.9	29.3	34.5	21.3	3	2.86
	B	59	5.0	13.3	23.3	28.3	28.3		
46. Attempt to design a data bank retrieval system to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau.	A	423	45.9	38.1	13.9	1.4	0.7	2	139.88**
	B	60	6.7	16.7	41.7	16.7	18.3		
47. Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement.	A	423	11.3	25.1	35.9	19.4	8.3	3	1.99
	B	60	3.3	31.7	40.0	13.3	11.7		

Group A--Engineering Students
Group B--Engineering Faculty

*--Significant at .05 level
**--Significant at .01 level

One item was found to be significant at the .05 level in comparing the two groups: Have teaching faculty advise all juniors and seniors; have full-time advisors work with all freshmen and sophomores (Question No. 43). A closer inspection of the response pattern shows that the engineering faculty were more emphatic in rating the idea with "Weak" or "Very Weak" potential.

Six items appeared as significant at the .01 level in comparing the students against the faculty: (1) Train and hire a set of seniors and give them full responsibility for advising sophomores through seniors in their engineering department. A much higher percentage of the faculty felt this idea had "Very Weak Potential." (2) Train and hire a set of seniors and give them responsibility in registration matters only for the sophomores through seniors in their department. Again, the faculty rated this idea as having "Very Weak Potential" more emphatically than did the students. (3) Have only full-time advisors handle all undergraduate advisement in the College of Engineering. In general, students rated this idea as having "Very Strong" or "Strong" potential more emphatically than did the faculty. (4) Have only teaching faculty handle all undergraduate advisement in the College of Engineering. Faculty were less receptive to this suggestion than were the students, based on a percentage distribution. (5) Have teaching faculty advise all sophomores, juniors, and seniors; have full-time advisors work with all engineering freshmen. Again, the faculty gave this idea a more negative vote than did the students. And (6) Attempt to design a data bank retrieval system

to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau. The students more emphatically voted this idea as worthy of implementation or experimentation than did the faculty.

The comparison of opinions among engineering sophomores, juniors and seniors about various alternatives to the present advisement program in the College of Engineering is shown in Table 4.7.

Table 4.7

Comparison of Sophomore, Junior, and Senior Preferences
About Various Alternatives to the Present Advisement
Program in the College of Engineering

Advisement Alternatives	Group	No.	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %	df	Chi Square Value
31. Juniors and seniors, except for new transfer students, would be completely on their own for advisement, after receiving maximum help as freshmen and sophomores.	C	112	0.9	4.5	18.8	39.3	36.6	6	9.54
	D	150	2.0	8.0	19.3	32.0	38.7		
	E	161	0.6	12.4	21.7	24.2	41.0		
32. Organize an upperclass advisement manual within each engineering department so juniors and seniors could assume full responsibility for self-advisement.	C	112	3.6	12.5	41.1	23.2	19.6	6	9.51
	D	150	4.7	20.7	32.7	28.0	14.0		
	E	161	7.5	22.4	33.5	21.1	15.5		
33. Allow any sophomore, junior, or senior to select any available faculty member from the College of Engineering for academic advisement.	C	112	5.4	18.8	42.9	20.5	12.5	8	4.86
	D	150	4.0	21.3	39.3	20.7	14.7		
	E	161	6.2	18.0	33.5	26.7	15.5		
34. Allow only juniors and seniors to select any available faculty members from the College of Engineering for academic advisement.	C	112	3.6	24.1	43.8	17.0	11.6	6	10.51
	D	150	9.3	29.3	31.3	15.3	14.7		
	E	161	11.2	29.8	33.5	18.0	7.5		
35. Allow only Honor's College engineering students to select any available faculty member from the college for academic advisement.	C	112	2.7	3.6	25.0	34.8	33.9	6	12.18
	D	150	2.0	12.7	16.7	32.7	36.0		
	E	161	4.3	12.4	14.3	39.1	29.8		
36. Allow only those engineering students who have demonstrated they can perform at the 2.50 GPA or higher for three consecutive terms to assume full responsibility for self-advisement.	C	112	0.9	11.6	25.0	38.4	24.1	6	5.04
	D	150	2.7	10.0	30.0	26.7	30.7		
	E	161	1.9	11.8	29.2	32.9	24.2		
37. Appoint graduate assistants in each engineering department and give them full responsibility for advising juniors and seniors in their department.	C	112	0.9	8.9	30.4	29.5	30.4	6	8.73
	D	150	2.0	4.7	21.3	32.7	39.3		
	E	161	0.0	9.9	24.2	23.0	42.9		
38. Train and hire a set of seniors and give them full responsibility for advising sophomores through seniors in their engineering department.	C	112	1.8	11.6	23.2	25.0	38.4	6	8.66
	D	150	0.7	6.0	15.3	32.7	45.3		
	E	161	1.2	9.9	21.7	24.2	42.9		
39. Train and hire a set of seniors and give them responsibility in registration matters only for the sophomores through seniors in their department.	C	112	6.3	21.4	33.0	21.4	17.9	6	6.34
	D	150	2.7	13.3	36.0	29.3	18.7		
	E	161	4.3	16.8	37.3	23.6	18.0		

Table 4.7--Continued

Advisement Alternatives	Group	No.	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %	df	Chi Square Value
40. Have only full-time advisors handle all undergraduate advisement in the College of Engineering.	C	112	26.8	27.9	28.6	10.7	6.3	8	12.17
	D	150	24.0	38.7	19.3	14.7	3.3		
	E	161	30.4	26.1	29.2	11.2	3.1		
41. Have only teaching faculty handle all undergraduate advisement in the College of Engineering.	C	112	0.9	13.4	32.1	44.6	8.9	6	7.23
	D	150	2.7	15.3	38.7	35.3	8.0		
	E	161	3.7	12.4	36.6	32.9	14.3		
42. Have teaching faculty advise all sophomores, juniors, and seniors, and have full-time advisors work with all engineering freshmen.	C	112	0.9	24.1	33.0	30.4	11.6	6	5.57
	D	150	7.3	15.3	35.3	31.3	10.7		
	E	161	5.6	19.3	34.8	23.0	17.4		
43. Have teaching faculty advise all juniors and seniors; have full-time advisors work with all freshmen and sophomores.	C	112	8.0	26.8	34.8	25.0	5.4	8	8.90
	D	150	3.3	19.3	44.7	24.7	8.0		
	E	161	8.1	23.0	36.6	22.4	9.9		
44. Have engineering faculty volunteer to advise assigned students at the sophomore through senior levels.	C	112	4.5	30.4	35.7	22.3	7.1	8	10.16
	D	150	5.3	22.0	35.3	22.0	15.3		
	E	161	6.8	17.4	35.4	26.1	14.3		
45. Appoint engineering faculty to advise assigned students at the sophomore through senior levels.	C	112	0.9	18.8	27.7	35.7	17.0	6	11.83
	D	150	0.7	13.3	36.7	30.7	18.7		
	E	161	1.2	11.2	23.6	37.3	26.7		
46. Attempt to design a data bank retrieval system to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau.	C	112	57.0	35.7	6.3	0.9	0.0	4	12.13*
	D	150	42.7	38.7	15.3	1.3	2.0		
	E	161	41.0	39.1	18.0	1.9	0.0		
47. Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement.	C	112	17.9	30.4	31.3	16.1	4.5	8	17.58*
	D	150	8.7	26.0	38.0	21.3	6.0		
	E	161	9.3	20.5	37.3	19.9	13.0		

Group C--Sophomores
Group D--Juniors
Group E--Seniors

*--Significant at .05 level

Two items were found to be significantly different at the .05 level in comparing the three classes of students: (1) Attempt to design a data bank retrieval system to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau. Further Chi Square investigation showed that the sophomores differed significantly from both the juniors and seniors in answering this question. And (2) Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement. Additional Chi Square testing showed the significant difference to be between the sophomores and the seniors.

The comparison of opinions among all the respondents by their departmental affiliation about their preferences to various alternatives to the present advisement program in the College of Engineering is shown in Table 4.8.

Table 4.8

Comparison of All Respondents by Departmental Affiliation About
Their Preferences Concerning Various Alternatives to the
Present Advisement Program in the College of Engineering

Advisement Alternatives	Group	No.	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %	df	Chi Square Value
31. Juniors and seniors, except for new transfer students, would be completely on their own for advisement, after receiving maximum help as freshmen and sophomores.	CHE	43	2.3	2.3	18.6	30.2	46.5	8	11.11
	CE	75	2.7	4.0	17.3	37.3	38.7		
	CPS	90	2.2	14.4	23.3	27.8	32.2		
	EESS	129	0.8	6.2	18.6	28.7	45.7		
	ME	146	0.7	11.6	19.9	32.9	34.9		
32. Organize an upperclass advisement manual within each engineering department so juniors and seniors could assume full responsibility for self-advisement.	CHE	43	2.3	14.0	30.2	27.9	25.6	12	34.21**
	CE	75	2.7	14.7	40.0	26.7	16.0		
	CPS	90	8.9	32.2	31.1	15.6	12.2		
	EESS	129	3.1	10.1	40.3	24.0	22.5		
	ME	146	5.5	20.5	32.2	28.8	13.0		
33. Allow any sophomore, junior, or senior to select any available faculty member from the College of Engineering for academic advisement.	CHE	43	0.0	16.3	27.9	37.2	18.6	12	18.73
	CE	75	5.3	22.7	34.7	25.3	12.0		
	CPS	90	6.7	14.4	43.3	15.6	20.0		
	EESS	129	2.3	17.1	37.2	24.8	18.6		
	ME	146	6.8	24.0	34.9	23.3	11.0		
34. Allow only juniors and seniors to select any available faculty member from the College of Engineering for academic advisement.	CHE	43	2.3	27.9	30.2	25.6	14.0	12	26.11*
	CE	75	10.7	41.3	29.3	8.0	10.7		
	CPS	90	8.9	26.7	38.9	11.1	14.4		
	EESS	129	3.1	21.7	41.9	19.4	14.0		
	ME	146	10.3	24.7	34.2	22.6	8.2		
35. Allow only Honor's College engineering students to select any available faculty member from the college for academic advisement.	CHE	43	2.3	0.0	23.3	34.9	37.2	8	6.87
	CE	75	5.3	12.0	10.7	38.7	33.3		
	CPS	90	4.4	13.3	23.3	32.2	26.7		
	EESS	128	0.8	10.1	17.8	37.2	34.1		
	ME	146	2.7	12.3	20.5	30.8	33.6		
36. Allow only those engineering students who have demonstrated they can perform at the 2.50 GPA or higher for three consecutive terms to assume full responsibility for self-advisement.	CHE	43	2.3	11.6	23.3	25.6	34.9	12	21.54*
	CE	75	0.0	9.3	30.7	34.7	25.3		
	CPS	90	3.3	20.0	31.1	20.0	25.6		
	EESS	128	1.6	8.5	25.6	32.6	31.8		
	ME	146	1.4	8.9	31.5	37.0	21.2		

Table 4.8--Continued

Advisement Alternatives	Group	No.	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %	df	Chi Square Value
37. Appoint graduate assistants in each engineering department and give them full responsibility for advising juniors and seniors in their department.	CHE	43	2.3	7.0	16.3	27.9	46.5	8	4.62
	CE	75	0.0	9.3	21.3	28.0	41.3		
	CPS	90	4.4	5.6	24.4	26.7	38.9		
	EESS	129	0.0	8.5	20.2	28.7	42.6		
	ME	146	1.4	8.2	28.1	28.1	34.2		
38. Train and hire a set of seniors and give them full responsibility for advising sophomores through seniors in their engineering department.	CHE	43	2.3	9.3	14.0	16.3	58.1	8	6.77
	CE	75	0.0	5.3	18.7	29.3	46.7		
	CPS	90	0.0	6.7	20.0	26.7	46.7		
	EESS	129	1.6	10.1	14.7	28.7	45.0		
	ME	146	1.4	8.2	22.6	28.8	39.0		
39. Train and hire a set of seniors and give them responsibility in registration matters only for the sophomores through seniors in their department.	CHE	43	0.0	14.0	27.9	37.2	18.6	12	12.60
	CE	75	1.3	17.3	29.3	29.3	22.7		
	CPS	90	2.2	16.7	42.2	20.0	18.9		
	EESS	128	3.1	14.7	33.3	25.6	23.3		
	ME	146	7.5	18.5	34.2	21.2	18.5		
40. Have only full-time advisors handle all undergraduate advisement in the College of Engineering.	CHE	43	44.2	27.9	18.6	9.3	0.0	8	36.48**
	CE	75	9.3	29.3	29.3	14.7	17.3		
	CPS	90	18.9	25.6	30.0	22.2	3.3		
	EESS	129	36.4	28.7	22.5	10.1	2.3		
	ME	146	24.0	35.6	25.3	11.0	4.1		
41. Have only teaching faculty handle all undergraduate advisement in the College of Engineering.	CHE	43	0.0	7.0	20.9	55.8	16.3	4	31.23**
	CE	75	14.7	24.0	37.3	22.7	1.3		
	CPS	90	1.1	8.9	32.2	40.0	17.8		
	EESS	129	0.8	11.6	34.9	35.7	17.1		
	ME	146	2.1	11.0	37.0	39.0	11.0		
42. Have teaching faculty advise all sophomores, juniors, and seniors, and have full-time advisors work with all engineering freshmen.	CHE	43	0.0	4.7	34.9	37.2	20.9	4	31.17**
	CE	75	17.3	30.7	34.7	13.3	4.0		
	CPS	90	3.3	13.3	30.0	38.9	14.4		
	EESS	128	2.3	17.8	29.5	29.5	20.9		
	ME	146	3.4	17.8	36.3	31.5	11.0		
43. Have teaching faculty advise all juniors and seniors; have full-time advisors work with all freshmen and sophomores.	CHE	43	2.3	20.9	34.9	30.2	9.3	8	20.71**
	CE	75	6.7	33.3	42.7	13.3	4.0		
	CPS	90	4.4	18.9	40.0	24.4	12.2		
	EESS	128	7.0	21.7	27.9	29.5	14.0		
	ME	146	6.2	18.5	43.2	26.7	5.5		

Table 4.8--Continued

Advisement Alternatives	Group	No.	Very Strong Potential %	Strong Potential %	Some Potential %	Weak Potential %	Very Weak Potential %	df	Chi Square Value
44. Have engineering faculty volunteer to advise assigned students at the sophomore through senior levels.	CHE	43	2.3	18.6	41.9	14.0	20.9	12	15.98
	CE	75	12.0	21.3	33.3	21.3	12.0		
	CPS	90	4.4	31.1	32.2	18.9	13.3		
	EESS	128	2.3	17.1	38.0	26.4	16.3		
	ME	146	6.8	23.3	31.5	27.4	11.0		
45. Appoint engineering faculty to advise assigned students at the sophomore through senior levels.	CHE	43	0.0	7.0	25.6	32.6	32.6	4	34.94**
	CE	75	6.7	28.0	37.3	26.7	1.3		
	CPS	90	0.0	7.8	21.1	40.0	31.1		
	EESS	128	0.8	10.1	29.5	31.8	27.9		
	ME	146	0.7	15.8	28.8	35.6	19.2		
46. Attempt to design a data bank retrieval system to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau.	CHE	43	34.9	34.9	18.6	4.7	7.0	8	8.64
	CE	75	40.0	32.0	20.0	2.7	5.3		
	CPS	90	38.9	36.7	16.7	4.4	3.3		
	EESS	129	35.7	39.5	17.8	4.7	2.3		
	ME	146	49.3	32.9	15.8	1.4	0.7		
47. Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement.	CHE	43	7.0	20.9	44.2	14.0	14.0	12	25.31*
	CE	75	10.7	20.0	36.0	26.7	6.7		
	CPS	90	4.4	24.4	37.8	22.2	11.1		
	EESS	129	12.4	22.5	31.8	23.3	10.1		
	ME	146	13.0	34.2	37.7	9.6	5.5		

CHE--Chemical Engineering Respondents
 CE--Civil Engineering Respondents
 CPS--Computer Science Respondents
 EESS--Electrical/Systems Science Respondents
 ME--Mechanical Engineering Respondents

*--Significant at .05 level

**--Significant at .01 level

Three items were found to be significantly different at the .05 level in comparing the respondents according to their departmental affiliation: (1) Allow only juniors and seniors to select any available faculty members from the College of Engineering for academic advisement. Further Chi Square investigation showed that significant differences existed between those in CPS and those in CHE and in ME. (2) Allow only those engineering students who have demonstrated they can perform at the 2.50 GPA or higher for three consecutive terms to assume full responsibility for self-advisement. Additional testing showed that significant differences existed between those in CPS and those in EESS and in ME, and between those in CE and ME. (3) Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement. Further investigation showed that significant differences existed between those in ME and those in CPS and EESS, and between those in CE and those in CPS and EESS.

Six items were found to have significant differences at the .01 level in comparing all respondents by their departmental affiliation: (1) Organize an upperclass advisement manual within each engineering department so juniors and seniors could assume full responsibility for self-advisement; (2) Have only full-time advisors handle all undergraduate advisement in the College; (3) Have only teaching faculty handle all undergraduate advisement in the College; (4) Have teaching faculty advise all sophomores through seniors; have full-time advisors work with all engineering freshmen; (5) Have teaching faculty advise all juniors/seniors; have full-time advisors work with all

freshmen/sophomores; and (6) Appoint engineering faculty to advise assigned students at the sophomore through senior levels.

Additional Chi Square testing on the item about the upperclass advisement manual showed that a significant difference existed between the respondents in CPS and those in the other four engineering departments. CPS respondents were more favorable about using such a manual and about fostering self-advisement responsibility among their junior/senior students.

Further investigation showed that the significant difference at the .01 level for the other five items listed above occurred between the members of CE and the other four departments. CE respondents, in general, expressed a marked preference for using engineering faculty for advising undergraduates.

Part III. Descriptive Information

The intent of Part III was to collect demographic data about engineering undergraduates and instructional faculty who participated in the study.

A report on the general impression of students and faculty about the effectiveness of the advisement program in the College of Engineering is shown in Table 4.9. Responses are given as a mean percentage for the student and faculty groups and then rank-ordered on the basis of the mean percentage. There was a clear indication of satisfaction in both groups: 65.4 per cent of the students and 90.0 per cent of the faculty thought that the advisement program was either satisfactory or very satisfactory. No faculty members expressed an

Table 4.9

**Student and Faculty Opinions About the Effectiveness
of the Advisement Program in the
College of Engineering**

Satisfaction Level	Mean Percentage		Rank	
	Students	Faculty	Students	Faculty
Very Unsatisfactory	3.5	0.0	4	4-5
Unsatisfactory	3.1	0.0	5	4-5
Limited Satisfaction	27.9	10.0	2	3
Satisfactory	46.3	58.3	1	1
Very Satisfactory	19.1	31.7	3	2

opinion of dissatisfaction, and only 6.6 per cent of the 423 students were either unsatisfied or very unsatisfied.

A report on the frequency of consultation by the students and faculty with the advising personnel in their department on a yearly basis is given in Table 4.10. Responses are given as a mean percentage for the two groups and then rank-ordered on the basis of the mean percentage. Over one-half of the students (51.1%) responded they consulted with their academic advisor three or four times a year. Fifty per cent of the faculty (50.0%) indicated that they consulted nine times or more each year with advisory personnel in their instructional role as a teacher.

Of the 422 undergraduates who responded to item number 50, 42, or 9.9 per cent were in the Engineering Honor's College, while 380 or 89.8 per cent were not Honor's students.

Out of the 423 students who answered item 52, some 63 or 14.9 per cent had a GPA ranging from 3.5 - 4.0; 109 students or 25.8 per

Table 4.10

Student and Faculty Estimations About the Frequency
of Consultation with Advising Personnel in Their
Department of Engineering

Frequency of Consultation	Mean Percentage		Rank	
	Students	Faculty	Students	Faculty
Once or twice a year	14.2	20.0	3	2
Three or four times a year	51.1	16.7	1	3
Five or six times a year	21.5	8.3	2	4
Seven or eight times a year	8.3	5.0	4	5
Nine times or more a year	5.0	50.0	5	1

cent had a GPA ranging from 3.0 - 3.4; 160 undergraduates or 37.8 per cent had a GPA ranging from 2.5 - 2.9; 81 students or 19.1 per cent had a GPA ranging from 2.0 - 2.4; and 10 students or 2.4 per cent had a GPA below 2.0.

On item 53, some 56 or 13.2 per cent had completed only one term in the College of Engineering; 90 students or 21.3 per cent had completed two or three terms; 178 students or 42.1 per cent had completed four to six terms in the College; 37 or 8.7 per cent had completed seven to nine terms; and 62 or 14.7 per cent had completed ten or more terms in the College of Engineering.

On the final question for students in Part III, 45 out of 423 students or 10.6 per cent began their college education at some other four-year institution; 70 students or 16.5 per cent began at Michigan State University but not in engineering; 255 or 60.3 per cent began in the MSU College of Engineering; and 53 students or 12.5 per cent began their higher education at a community college.

Among the 60 faculty respondents, 19 or 31.7 per cent served as appointed academic advisors to undergraduates in their department, and 41 or 68.3 per cent did not.

Some 24 faculty or 40 per cent had full professorial rank; 23 or 38.3 per cent were associate professors; 10 or 16.7 per cent were assistant professors; and 3 men or 5.0 per cent held instructor's rank.

Some 39 faculty or 65.0 per cent had completed seven or more years of teaching in the College of Engineering; 10 teachers or 16.7 per cent had completed four to six years of teaching in the College; 3 individuals or 5.0 per cent had completed three years of teaching in the College; 5 men or 8.3 per cent had completed two years of teaching; and 3 new teachers or 5 per cent had completed just one year of teaching in the College of Engineering.

Part IV. Responses to Discussion Questions

In this part of the survey, respondents were asked to indicate their views on the following: (1) what advisement service in the College of Engineering had personally been the most helpful to them; (2) what advisement service in the College had personally been the most disappointing to them; (3) what they thought was the major strength of the College's advisement program; (4) what they thought was the major weakness of the College's advisement program; (5) what they thought should be done in order to improve the advisement program in the College; (6) what they thought should not be done in order to improve the advisement program in the College; and (7) what they thought should be done differently in order to improve the advisement program in the College.

Student/Faculty Opinions About the Most Helpful Advisement

Service.--The student and faculty responses concerning the "Most Helpful" advisement service in the College of Engineering are given in Table 4.11. Helpful areas reported are those which were cited by 10 or more respondents.

Three areas were cited by 30 or more respondents as being most helpful: (1) Academic Program-Related (139 responses); (2) Personal Attention/Effort (96 responses); and (3) Communication Facilitator (32 responses). Selected reasons for listing service areas as being "Most Helpful" are given in Appendix C.

Table 4.11

Student/Faculty Opinions About the
Most Helpful Advisement Service

Service Category	Students	Faculty
Academic Program-Related	124	15
Personal Attention and Effort	91	5
Communication Facilitator	22	10
Availability	14	1
Very Little or Nothing	11	0
Total Responses	262	31

Student/Faculty Opinions About the Most Disappointing Advisement Service.--Responses of students and faculty about the "Most Disappointing" service area in the College of Engineering advisement program are given in Table 4.12. Those areas listed by ten or more respondents are reported. Five service areas were listed by 30 or more respondents: (1) Virtually Nothing (61 responses); (2) Information About Engineering Majors (41 responses); (3) Career Information (32 responses); (4) Type of Personal Treatment (31 responses); and (5) Freshman Advisement (30 responses). Selected reasons for listing service areas as "Most Disappointing" are given in Appendix D.

Table 4.12

Student/Faculty Opinions About the Most
Disappointing Advisement Service

Service Category	Students	Faculty
Virtually Nothing	53	8
Info. About Egr. Major	37	4
Career Information	32	0
Type of Personal Treatment	27	4
Freshman Advisement	27	3
Information About Electives	22	0
Unavailability	16	2
Total Responses	214	21

Student/Faculty Opinions About the Major Strength of the Advisement Program.--Responses for students and faculty in this category are reported in Table 4.13. "Strength" areas reported are those cited by ten or more respondents. Five were cited by 30 or more respondents: (1) Full-time Advisors (62 responses); (2) Academic Program-Planning (61 responses); (3) Personalized Treatment (60 responses); (4) Availability (35 responses); and (5) Faculty Advisors (31 responses). Selected reasons for listing service areas as being the "Major Strength" of the advisement program are given in Appendix E.

Table 4.13

Student/Faculty Opinions About the Major
Strength of the Advisement Program

Major Strength Category	Students	Faculty
Full-Time Advisors	44	18
Academic Program Planning	59	2
Personalized Treatment	51	9
Availability	26	9
Faculty Advisors	28	3
Total Responses	208	31

Student/Faculty Opinions About the Major Weakness of the Advisement Program.--Table 4.14 shows the responses of students and faculty for this category. Areas listed by ten or more respondents are reported. Two areas were listed by 30 or more respondents: (1) Academic Program Planning (45 responses); and (2) Advisement Methodology (42 responses). Selected reasons for listing items as a 'Major Weakness' are given in Appendix F.

Table 4.14

Student/Faculty Opinions About the Major
Weakness of the Advisement Program

Major Weakness Category	Students	Faculty
Academic Program Planning	43	2
Advisement Methodology	26	16
Communication of Information	22	4
Impersonalization	23	1
Career Orientation	21	3
Not Enough Advisors	23	1
Unavailability	22	0
Nothing	11	1
Total Responses	191	28

Student/Faculty Opinions About What Should be Done in the Advisement Program.--Table 4.15 shows the student and faculty responses to this question. Areas reported are those which were cited by ten or more respondents. Five were listed by 30 or more respondents: (1) Academic Program-Related (64 responses); (2) Diversified Advisement Opportunities (39 responses); (3) Enlarge Career Concern (38 responses); (4) Personal Attention (34 responses); and (5) Improve Communication (32 responses). Selected reasons for listing items as "Should Be Done" are given in Appendix G.

Table 4.15

Student/Faculty Opinions About What Should
be Done in the Advisement Program

Should be Done	Students	Faculty
Academic Program Related	57	7
Diversified Advisement	34	5
Career Concern	36	2
Personal Attention	32	2
Improve Communication	29	3
Continue Present Program	24	1
Total Responses	212	20

Student/Faculty Opinions About What Should Not be Done in the Advisement Program.--Responses to this question are shown in Table 4.16. Items listed by ten or more respondents are reported. Only one item was listed by 30 or more respondents: Advisement Practices to be Avoided (30 responses). Selected reasons for listing items as "Should Not be Done" are presented in Appendix H.

Table 4.16

Student/Faculty Opinions About What Should
Not be Done in the Advisement Program

Should Not be Done	Students	Faculty
Advisement Models to be Avoided	27	3
Impersonalization	13	1
Program Rigidity	12	0
Total Responses	52	4

Student/Faculty Opinions About What Should be Done Differently in the Advisement Program.--Responses to this question are given in Table 4.17. Items listed by ten or more respondents are reported. Only one item was cited by 30 or more respondents: Academic Program Planning/Scheduling (42 responses). Selected reasons for listing items as "Should be Done Differently" are given in Appendix I.

Table 4.17

Student/Faculty Opinions About What Should be
Done Differently in the Advisement Program

Should be Done Differently	Students	Faculty
Academic Planning/Scheduling	37	5
Be More Accessible	28	1
Career Action	12	1
Total Responses	77	7

Additional Comments.--Among some of the extra comments included by some respondents, those stated in Appendix J seemed to be most appropriate for this study.

Summary

The exploratory nature of this study resulted in the collection of considerable data from students and faculty about their perceptions of the academic advisement program for undergraduates in the College of Engineering. Although most of this information should be useful to those responsible for the advisement program, certain responses are of more noteworthy significance.

The demographic data revealed that 65.4 per cent of the 423 students and 90.0 per cent of the 60 faculty thought that the advisement program was either "Satisfactory" or "Very Satisfactory." Only 5.6 per cent of the students were either "Unsatisfied" or "Very Unsatisfied."

In rating the frequency of consultation with their departmental advisor each year, 51.1 per cent of the students reported a minimum of three to four consultations, and 50.0 per cent of the faculty estimated a minimum of nine or more such consultations in their role as teachers.

Among the student respondents, 40.7 per cent had a GPA ranging from 3.0 to 4.0; 56.9 per cent from 2.0 to 2.9; and 2.4 per cent had a GPA below 2.0.

Of the 60 faculty respondents, 19 or 31.7 per cent served as appointed academic advisors to undergraduates in their department, and 41 faculty or 68.3 per cent did not.

Three areas were cited by 30 or more respondents as being the "Most Helpful" advisement service: Academic Program-Related (139), Personal Attention/Effort (96), and Communication Facilitator

(32). Five areas were listed by 30 or more respondents as the "Most Disappointing" advisement service: Nothing (61), Information about Engineering Majors (41), Career Information (32), Type of Personal Treatment (31), and Freshmen Advisement (30). Five areas were listed by 30 or more respondents as the "Major Strength" of the advisement program: Full-time advisors (62), Academic Program Planning (61), Personalized Treatment (60), Availability (35), and Faculty Advisors (31). Two areas were listed by 30 or more respondents as the "Major Weakness" of the advisement program: Academic Program Planning (45), and Advisement Methodology (42). Five areas were listed by 30 or more respondents as something which "Should Be Done" in the advisement program: Academic Program-Related (64), Diversified Advisement Opportunities (39), Enlarge Career Concern (38), Personal Attention (34), and Improve Communication (32). One item was cited by 30 or more respondents about what "Should Not Be Done" in the advisement program: Advisement Practices to be Avoided (30). One item was listed by 30 or more respondents as something which "Should be Done Differently" in the advisement program: Academic Program Planning/Scheduling (42).

In rating the necessity of providing various advisement services, three items were identified by more than 85 per cent of the respondents as a service which "Must be Provided" or "Should be Provided" by College personnel: (1) Explaining program requirements and options to students in engineering departmental majors; (2) Identifying necessary prerequisites and required skills for courses within an engineering departmental major; and (3) Providing

information about admission to graduate schools. "Working with students to improve their study habits" was rated by 48.1 per cent of the respondents as being a service which "Need Not Be Provided" or "Should Not Be Provided" by personnel in the College.

In general, the sophomores, juniors, and seniors held similar views about most of the items in the survey instrument. Significant differences, however, were noted on five items:

1. Seniors rated providing information about financial aid as a service which must be provided more so than the sophomores-- .05 level of significance.
2. Sophomores rated the idea of designing a data bank about job conditions and employer expectations as meriting implementation (Very Strong Potential) more so than did the juniors and seniors-- .05 level of significance.
3. Sophomores differed from the seniors in rating the idea of holding group advisement sessions for discussing regular registration concerns as having strong potential-- .05 level of significance.
4. Sophomores differed from both the juniors and seniors in rating the necessity of working with students to evaluate actual employment offers-- .01 level of significance.
5. Sophomores differed from both the juniors and seniors in rating the necessity of working with students to identify long-range career opportunities-- .01 level of significance.

Null Hypothesis I, which stated that there are no significant differences between engineering undergraduates and faculty about the relative necessity of various services being provided by advising personnel in the College, was rejected in eleven cases:

1. Students rated the service of an advisor working with the undecided student in exploring new academic opportunities outside engineering as being more necessary than did the faculty-- $.01$ level of significance.
2. Faculty rated the service of working with students to improve their study habits as being more necessary than did the students-- $.01$ level of significance.
3. Students rated the service of being readily available for consultation, especially on a drop-in basis, as being more necessary than did the faculty-- $.01$ level of significance.
4. Students rated the service of the advisor writing letters of recommendation for students as being more necessary than did the faculty-- $.01$ level of significance.
5. Students rated the service of working with students to prepare for interviewing at the MSU Placement Bureau as being more necessary than did the faculty-- $.01$ level of significance.
6. Students rated the service of helping with the evaluation of actual employment offers as being more necessary than did the faculty-- $.01$ level of significance.

7. Students rated the service of identifying long-range career opportunities as being more necessary than did the faculty-- .01 level of significance.
8. Students rated the service of providing information about admission to graduate school as being more necessary than did the faculty-- .01 level of significance.
9. Students rated the opportunity to voice criticism without fear of reprisal as being more necessary than did the faculty-- .01 level of significance.
10. Students rated the idea of a quarterly departmental newsletter as being more necessary than did the faculty-- .01 level of significance.
11. Students rated the service of being represented by the advisor at the departmental faculty meetings as being more necessary than did the faculty-- .01 level of significance.

Null Hypothesis II, which stated that there are no significant differences among any of the five engineering departmental groups about the relative necessity for the College of Engineering to provide various advisement services, was rejected in six cases:

1. Respondents in CPS rated the service of resolving scheduling problems at registration time as being more necessary than did the respondents in CHE and ME-- .05 level of significance.
2. Respondents in ME differed from those in CPS and CE, and those in EESS differed from those in CPS in rating the necessity of planning a comprehensive academic program

reflecting personal interest and demonstrated abilities--
.05 level of significance.

3. Both sets of respondents in CE and ME differed from those in CPS and EESS in rating the service of working with the new student in making personal/social adjustments to college life as being more necessary--.05 level of significance.
4. Respondents in CE rated the service of motivating students to seek proficiency in engineering as being more necessary than did those in CPS and EESS--.05 level of significance.
5. Respondents in CPS rated the service of working with students to improve their study habits as being more necessary than did those in EESS and in ME--.01 level of significance.
6. Respondents in CHE rated the service of a quarterly news letter as being less necessary than those in ME and in EESS--.01 level of significance.

Null Hypothesis III, which stated that there are no significant differences between engineering undergraduates and faculty about preferred alternatives to proposed academic models when compared with the present advisement system, was rejected in seven cases:

1. Students rated the alternative of training and hiring a set of seniors and giving them full responsibility for advising the sophomores through seniors in their department as having more positive potential than did the faculty--.01 level of significance.

2. Students rated the alternative of training and hiring a set of seniors and giving them responsibility in registration matters only for the sophomores through seniors in their department as having more positive potential than did the faculty-- $.01$ level of significance.
3. Students rated the alternative of having only full-time advisors handle all undergraduate advisement in the College as having stronger potential than did the faculty-- $.01$ level of significance.
4. Faculty rated the alternative of having only teaching faculty handle all undergraduate advisement as having weaker potential than did the students-- $.01$ level of significance.
5. Faculty rated the alternative of having faculty advise the sophomores through seniors and of having full-time advisors work with all freshmen as having weaker potential than did the students-- $.01$ level of significance.
6. Faculty rated the alternative of having faculty advise all juniors/seniors and full-time advisors handle all freshmen/sophomores as having weaker potential than did the students-- $.05$ level of significance.
7. Students rated the suggestion of designing a data bank about job conditions and employer expectations as having very strong potential compared to the opinions of the faculty-- $.01$ level of significance.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

The study is summarized by a review of the nature of the problem, the objectives of the study, the description of the population participating in the study, and the procedures followed in the survey of that population. The design of the survey instrument is discussed, followed by a summary of the results. Finally, conclusions are drawn and suggestions are made for additional research which relates to the problem.

Summary

What was discovered by DeLisle [27] in her 1965 campus-wide study was recently accented by the Commission on Admissions and Student Body Composition in their 1971 Report to the President of Michigan State University:

The quality and quantity of academic advising have become perhaps the most serious and least-remarked casualties of the past decade's growth. . . . As in the area of instruction, innovation and experimentation with wider varieties of advising are called for [1:47-49].

Since its inception in 1962 as a Pilot Program, academic advisement in the College of Engineering has never been comprehensively

evaluated. To all appearances, the program was effective. Yet the program has expanded its staff and scope of services.

This study attempted to focus primarily on evaluating the necessity of providing various advisement services for undergraduates in the College of Engineering, as these services were perceived by the students and faculty in five departments: CHE, CE, CPS, EESS, and ME.

Another important concern was to explore modifications of or alternatives to the present advisement system which might be suggested by students and faculty.

A codification of such information would be welcomed by those responsible for the program's operation, and for re-examining the matter of allocating sufficient manpower and resources.

The primary purpose of this study was to compare the perceptions of undergraduates against those of faculty about the relative necessity of providing various services in the College's advisement program. The secondary purpose was to determine if the common variable of departmental affiliation for both students and faculty was related to major perceptual differences about the advisement program. The tertiary purpose was to compare the preferences of undergraduates and faculty about the relative potential of alternative academic advisement models. Three objectives served as a basis for this study:

Objective I:

To compare the perceptions of engineering undergraduates against those of instructional faculty about the relative necessity of various advisement services.

Objective II:

To determine if the variable of departmental affiliation for the students and faculty is related to any major perceptual differences about the advisement program in the College of Engineering.

Objective III:

To compare the preferences of engineering undergraduates and faculty about the relative merit of alternative academic advisement models over the present program of advisement.

In order to achieve these Objectives, three null hypotheses were stated for analytical purposes only:

Null Hypothesis I:

There are no significant differences between engineering undergraduates and engineering faculty about the relative necessity of various advisement services being provided by advising personnel in the College of Engineering.

Null Hypothesis II:

There are no significant differences among any of the five engineering departmental groups about the relative necessity of various advisement services being provided by advising personnel in the College of Engineering.

Null Hypothesis III:

There are no significant differences between engineering undergraduates and engineering faculty about preferred alternatives among the proposed academic advisement models.

Population Participating in Study

The study was limited in scope to 693 undergraduates and 70 faculty in the College of Engineering at Michigan State University. Opinions were solicited by means of a mailed questionnaire for 170 of the respondents, and by direct distribution to 593 students.

Responses were tabulated and analyzed after an initial distribution and three follow-up efforts for faculty and two follow-up efforts for students. Of the 70 faculty who received the questionnaire, 60 or 86 per cent returned a partially or completely answered questionnaire. Of the 100 sophomores in ME and EESS who received mailed questionnaires, 77 or 77 per cent returned a completely answered questionnaire. Of the 593 students who received the questionnaire by direct distribution, 346 or 58 per cent returned a completed questionnaire.

Design of the Survey Instrument

Resources used in designing the survey instrument consisted of: (1) the DeLisle Study [27]; (2) a modification of other studies pertinent to the problem; (3) major recommendations from full-time academic advisors in the College of Engineering; (4) consultation with research specialists; and (5) refinements suggested by participants in the Pilot Study conducted in the Fall of 1971. The principal resource used was the DeLisle Study.

The survey instrument consisted of four parts: (1) In Part I, respondents rated the relative necessity of various services being provided by the College of Engineering academic advisement program; (2) In Part II, respondents rated their personal preferences to various alternatives to the present system of advisement in the College; (3) In Part III, respondents provided pertinent demographic data; and (4) In Part IV, respondents cited the "Most Helpful" and "Most Disappointing" advisement services which they had experienced in the College of Engineering, along with their perceptions of the program's

"Major Strength" and "Major Weakness." Finally, respondents also made various recommendations about what engineering advisors should do, not do, or do differently in order to improve advisement services in the future.

Methods Used for Analyzing Data

In achieving the three objectives of the study, responses to the questionnaire were reported and analyzed by one or more of the following techniques: (1) tabulation of frequency distribution, (2) calculation of mean score, (3) rank-ordering of items, and (4) computing the value of the Chi Square test of significance. Chi Square values significant at the .05 and .01 level were noted. Most of the results were also presented in Table form to make them relatively easy to evaluate.

Results

The following results may be of the greatest interest to those who are responsible for undergraduate advisement in the College of Engineering:

1. The demographic data revealed that 65.4 per cent of the 423 undergraduates and 90.0 per cent of the 60 faculty thought that the present advisement program in the College was either "Satisfactory" or "Very Satisfactory."
2. Three areas were cited by 30 or more respondents as being the "Most Helpful": Academic Program-Related (139), Personal Attention/Effort (96), and Communication Facilitator (32).

3. Five areas were listed by 30 or more respondents as the "Most Disappointing": Nothing (61), Information about Engineering Majors (41), Career Information (32), Type of Personal Treatment (31), and Freshman Advisement (30).
4. Five areas were listed by 30 or more respondents as the "Major Strength" of the advisement program: Full-time advisors (62), Academic Program-Planning Skills (61), Personalized Treatment (60), Availability (35), and Faculty Advisors (31).
5. Two areas were listed by 30 or more respondents as the "Major Weakness" of the advisement program: Academic Program Planning (45), and Advisement Methodology (42).
6. Five areas were listed by 30 or more respondents as something which "Should Be Done" to improve the advisement program: Academic Program-Related (64), Diversified Advisement Opportunities (39), Enlarge Career Concerns (38), Personal Attention (34), and Improve Communication (32).
7. One category was cited by 30 or more respondents as something which "Should Not Be Done" in the advisement program: Practices To Be Avoided (30).
8. One item was cited by 30 or more respondents as something which "Should Be Done Differently" in the advisement program: Academic Program Planning/Scheduling (42).
9. In rating the necessity of providing various advisement services, three items were identified by more than 85 per cent

of the respondents as a service which "Must Be Provided" or "Should Be Provided" by Engineering College personnel:

- a) Explaining program requirements and options to students in engineering departmental majors.
- b) Identifying necessary prerequisites and required skills for courses within an engineering department.
- c) Providing information about admission to graduate schools.

10. In general, the three classes of undergraduates held similar views about most of the items in Parts I and II of the survey instrument. Significant differences, however, were noted on five items:

- a) Seniors rated providing information about financial aid as a service which must be provided more so than did the sophomores-- $.05$ level of significance.
- b) Sophomores rated the idea of designing a data bank about job conditions and employer expectations as meriting implementation (Very Strong Potential) more so than did the juniors and seniors-- $.05$ level of significance.
- c) Sophomores differed from the seniors in rating the idea of holding group advisement sessions for discussing regular registration concerns as having strong potential-- $.05$ level of significance.
- d) Sophomores differed from both the juniors and seniors in rating the necessity of working with students to evaluate actual employment offers-- $.01$ level of significance.
- e) Sophomores differed from both the juniors and seniors in rating the necessity of working with students to identify long-range career opportunities-- $.01$ level of significance.

11. Null Hypothesis I, which stated that there are no significant differences between engineering undergraduates and faculty about the relative necessity of various services being provided by advising personnel in the College, was rejected in eleven cases:

- a) Students rated the service of an advisor working with the undecided student in exploring new academic opportunities outside engineering as being more necessary than did the faculty-- .01 level of significance.
- b) Faculty rated the service of working with students to improve their study habits as being more necessary than did the students-- .01 level of significance.
- c) Students rated the service of being readily available for consultation, especially on a drop-in basis, as being more necessary than did the faculty-- .01 level of significance.
- d) Students rated the service of the advisor writing letters of recommendation for students as being more necessary than did the faculty-- .01 level of significance.
- e) Students rated the service of working with students to prepare for interviewing at the MSU Placement Bureau as being more necessary than did the faculty-- .01 level of significance.
- f) Students rated the service of helping with the evaluation of actual employment offers as being more necessary than did the faculty-- .01 level of significance.
- g) Students rated the service of identifying long-range career opportunities as being more necessary than did the faculty-- .01 level of significance.
- h) Students rated the service of providing information about admission to graduate school as being more necessary than did the faculty-- .01 level of significance.
- i) Students rated the opportunity to voice criticism without fear of reprisal as being more necessary than did the faculty-- .01 level of significance.
- j) Students rated the idea of a quarterly departmental newsletter as being more necessary than did the faculty-- .01 level of significance.
- k) Students rated the service of being represented by the advisor at the departmental faculty meetings as being more necessary than did the faculty-- .01 level of significance.

12. Null Hypothesis II, which stated that there are no significant differences among any of the five engineering departmental groups about the relative necessity for the College of Engineering to provide various advisement services, was rejected in six cases:

- a) Respondents in CPS rated the service of resolving scheduling problems at registration time as being more necessary than did the respondents in CHE and ME-- .05 level of significance.
- b) Respondents in ME differed from those in CPS and CE, and those in EESS differed from those in CPS in rating the necessity of planning a comprehensive academic program reflecting personal interest and demonstrated abilities-- .05 level of significance.
- c) Both sets of respondents in CE and ME differed from those in CPS and EESS in rating the service of working with the new student in making personal/social adjustments to college life as being more necessary-- .05 level of significance.
- d) Respondents in CE rated the service of motivating students to seek proficiency in engineering as being more necessary than did those in CPS and EESS-- .05 level of significance.
- e) Respondents in CPS rated the service of working with students to improve their study habits as being more necessary than did those in EESS and in ME-- .01 level of significance.
- f) Respondents in CHE rated the service of a quarterly newsletter as being less necessary than those in ME and in EESS-- .01 level of significance.

13. Null Hypothesis III, which stated that there are no significant differences between engineering undergraduates and faculty about preferred alternatives to proposed academic models when compared with the present advisement system, was rejected in seven cases:

- a) Students rated the alternative of training and hiring a set of seniors and giving them full responsibility for advising the sophomores through seniors in their department as having more positive potential than did the faculty-- .01 level of significance.
- b) Students rated the alternative of training and hiring a set of seniors and giving them responsibility in registration matters only for the sophomores through seniors in their department as having more positive potential than did the faculty-- .01 level of significance.
- c) Students rated the alternative of having only full-time advisors handle all undergraduate advisement in the College as having stronger potential than did the faculty-- .01 level of significance.
- d) Faculty rated the alternative of having only teaching faculty handle all undergraduate advisement as having weaker potential than did the students-- .01 level of significance.
- e) Faculty rated the alternative of having faculty advise the sophomores through seniors and of having full-time advisors work with all freshmen as having weaker potential than did the students-- .01 level of significance.
- f) Faculty rated the alternative of having faculty advise all juniors/seniors and full-time advisors handle all freshmen/sophomores as having weaker potential than did the students-- .05 level of significance.
- g) Students rated the suggestion of designing a data bank about job conditions and employer expectations as having very strong potential compared to the opinions of the faculty-- .01 level of significance.

Conclusions and Recommendations

What general patterns emerge from the examination of the aforementioned findings.

Sophomores: The three classes of undergraduates held similar opinions about all but five items in Parts I and II of the survey

instrument. In each of these five exceptions, the sophomores differed from upperclassmen. Three of the differences hinged on career concerns.

Engineering attrition at the sophomore level runs at about a 10 per cent level, when viewed from a national perspective.

In the College of Engineering at Michigan State University there seems to be three sub-groups of sophomores: (1) the undecided student who retains a no-preference classification; (2) the marginal academic performer who experiences great difficulty with the advanced calculus and physics series; and (3) the strong academic performer who usually evidence definite signs of a growing commitment to engineering.

As for the first type of sophomore, special care must be taken to assist the undecided student before proceeding to a choice of engineering programs. Some of the responses to the open-ended questions in Part IV of the survey, evidenced a strong resentment and occasional hostility among those who were forced to declare an engineering major at the end of the sophomore year. While the advisor probably acted in what he believed to be in the best interests of the student, it is imperative that the student be informed early enough in the school year about the necessity of making some form of academic commitment before reaching junior status.

Instructors can and should provide a valuable experiential background for the student who explores an engineering program in which the faculty member is knowledgeable. And if the faculty member can move beyond the confines of his own specialization area, he can

best reflect the broader perspective of engineering programs and career opportunities.

Often unable to study and channel his energies, the undecided student feels he will not find academic success until he knows where he is going. To reach a destination necessitates a planned route.

As for the second type of sophomore, special care must also be given to guide the marginal academic performer in a direction in which he can maintain an adequate performance, academically now and professionally at a later date. It is important to help this type of student identify why he is not meeting performance expectations. Is it an attitudinal problem? Is the weak academic performance due mainly to poor study habits? Is it because of weaknesses in a specific area? If so, how does it relate to engineering? Or is the marginal academic performance prompted mostly by external pressures, such as the draft board or financial need? Has the student taken any standardized tests at the Counseling Center to match his supposed interests with his demonstrated abilities? Does the student feel he can correct and control his academic performance?

If a student denies the reality of his present condition, he cannot proceed to change it. This thought is expressed in Gestalt psychology as "the paradoxical law of change," which states that a person begins to change only when he accepts what he is.

General Hypotheses Extrapolations: Out of 47 items in Parts I and II of the survey instrument, students were in substantial disagreement with the faculty on 18 items.

In 10 out of 11 instances, where the first null hypothesis was rejected, the students voted a particular service to be a more necessary responsibility of advising personnel in the College than did the faculty.

Both students and faculty, when compared by their departmental affiliation, held similar opinions about the necessity of providing various advisement services, except in six instances. Four of these six instances, where the second null hypothesis was rejected, showed that members in Computer Science differed substantively from those in Mechanical Engineering. These four differences reflected the tendency for CPS students to be more self-reliant academically.

In 4 out of 7 cases, where the third null hypothesis was rejected, the engineering students described a proposed alternative model of advisement as having stronger potential than did the faculty. Students were more inclined to favor experimenting with major/minor modifications of the present system than were the faculty.

Advisement Satisfaction: The results of this study clearly showed that 65 per cent of the students and 90 per cent of the faculty believed that the present advisement program in the College was either "Satisfactory" or "Very Satisfactory."

In general, the six full-time advisors received a solid vote of confidence from both students and faculty. Because their professional and experiential background is not rooted in engineering, these men must rely heavily on making student referrals to appropriate

faculty. Thus, involvement in the affairs of the department and frequent personal consultation with each faculty member is strongly suggested for the advisor to be able to make the proper referral and to be knowledgeable about the developments that tend to concern students.

Students expressed favorable reaction to the personalized treatment extended to them outside of the "registration-crunch" by the full-time advisors. No doubt, their full-time availability and their exclusive advisement function accounts for a great deal of their acceptance and utilization in the College. These men have also had programs of graduate study in which they have become skilled in listening to students and in helping them sift through factors in making decisions. Not to be overlooked is the fact that the full-time advising personnel are not perceived by students as a potential threat, whereas a grievance against a faculty member who also advises might result in a low grade or inaction for the complaining student, or so he believes.

An operational position was stated in Chapter I that the basic purpose and mandate of the advisement program in the College of Engineering was to help the student choose a program of study which will facilitate the development of his perceived and demonstrated potential. A review of pertinent literature in Chapter II suggested that programs, too often, are planned on the expediency of available personnel or on the basis of an ambiguous rationale which seldom concerns itself with accountability and specific achievements. Programs are seldom constructed or executed on the basis of the

wholistic nature of advisement. However, if the advisor sees himself as a catalytic agent, the advisement program can become the vehicle through which many of the multiple student personnel services become readily available to students.

Sense of Direction: Special attention must be shown to two groups of students: (1) the incoming freshman; and (2) the outgoing senior who is concluding his formal education.

One question which haunts most high school graduates is: "What do I really want to do with my life?" If the present literature is to be believed, few college students have had any meaningful opportunities to explore this question of who is interested in them and who has the ability to help them structure some plan of manageable exploration. Unless such a purposeful exploration takes place, a student will probably experience great difficulty in deciding how to develop his skills, channel his energies, and refine his vocational goals. As O'Banion notes:

Vocational goals are life goals extended into the world of work. What a person is and wants to be determines what he does. . . . Many programs of academic advising flounder because they begin with "Program choice." It is assumed that students have already made choices regarding life goals and vocational goals when they enter college--a questionable assumption for college students in general [68:64].

On the basis of research at Vassar, the important thing to note is that most of what happens developmentally in college happens during the first two years, and that a little more happens in the junior year than in the senior year. This suggests that most students become adapted to college. They have learned how "to play the game" and win enough to keep on playing. By the time of their senior

year many students do not encounter sufficient challenge to induce developmental changes. Many prefer to rest on their laurels.

There is also evidence which suggests once a person has accepted the responsibilities of a job and a family, it is difficult to develop further because social roles require a conformity which is hard to resist. If this is so, the senior year is a type of last chance for structured exploration.

Nevitt Sanford [81:163] suggested the following:

In thinking of how to link the seniors and freshmen on the same campus, I am proposing a kind of campus Peace Corps, in which some members of a community take it upon themselves to help other members. Seniors may tutor freshmen or participate in seminars or discussions, showing freshmen how educated men conduct themselves in these settings. . . . Like the mother who relives her adolescence through that of her daughter, the senior who works closely with freshmen will recall his own freshman self; he will see it in a new light and incorporate this new conception into his personality.

Educators must not only expect more of seniors, but they must also give them more in return. What educators can give to college students is a greater sense of direction toward the professional world. Faculty, so the data of this study suggests, apparently believe: (1) engineering-related jobs are available to most of the engineering seniors; and (2) very few seniors graduate without solid job offers. Students, obviously, think otherwise.

While it is not the responsibility of the engineering faculty to train students for specific jobs, or to find jobs for their students, it is their responsibility to be concerned and properly informed about the employment problems the majority of senior engineering students are experiencing. For all college personnel, documentation must replace educated guesswork.

Who Should Advise?: Taking exception to those systems in which advisors make decisions for students, this writer believes that students are responsible for and usually capable of making their own decisions. It is the responsibility of the advisor to provide accurate information and a climate of freedom and concern which will facilitate decision-making.

One does not assume responsibility for his life, but rather one must recognize that each person is responsible for his life. It is only in the financial and material sphere that one can accurately speak of a person assuming responsibility for his life. But on the psychological level, one does not have this option. By nature, man is necessarily self-responsible. His option is only whether or not he will choose to accept this hard fact and its consequences.

While the majority of engineering students welcomed the idea of exercising more control over their academic program, they did not express much enthusiasm for the suggestion of self-advisement, nor for the use of upperclassmen and graduate assistants as advisors. Based on comments in the discussional section of the survey, it would appear that the frequency and variety of unexpected changes in some major areas of engineering has resulted in considerable anxiety and confusion among many students. They want to consult with someone who knows exactly what is required of them and what new trends may be developing, academically and professionally.

Of all the students participating in the study, those in CPS seemed most disposed to the suggestion of self-advisement. This

should not come as a surprise, since the highest percentage of Honor's students are housed in that department.

But it does raise some interesting questions about other students in other colleges who are not majoring in Engineering. For example, is the social science major more needful of advisement than the student who majors in business? The reader should be reminded that DeLisle found some significant differences about advisement needs and services, when the students were compared by their college affiliation [27].

On the topic of faculty advisors, the students in CE expressed a favorable attitude in most instances. There was evidence of one unidentified faculty advisor who was not meeting basic student needs. And there was a general indication for all the faculty advisors in CE to make themselves more available to the students, especially at enrollment and registration times.

It appears that the general lack of advisor availability in CE at busy registration times should prompt leaders in the College to closely examine the rather high ratio of faculty advisors to students. There is also a related question as to how extensive the advisement services are beyond program planning and getting students in courses? As the department of CE takes on a new dimension of importance, because of the national concern over ecology, pollution, and transportation problems, care should be taken to make appropriate expansions and improvements in departmental advisement services.

A number of leading educators have suggested that faculty advising is the best way to integrate faculty into the student

personnel program. This also gives the student the opportunity to see the instructor in a new role. When faculty volunteer for advising activities, they are likely to be better advisors and better instructors. When faculty are required to participate in academic advising, both advising and instruction will probably suffer. In both instances, the student is the loser.

Some administrators and faculty argue in favor of faculty systems of advising for financial reasons. If instructors are given released time to perform this important function, however, it is questionable whether it is less expensive to use faculty in preference to full-time professionals. If faculty are not given released time, advising often becomes a perfunctory activity.

Few faculty have the time for the in-service education necessary to help them become effective advisors. If they teach full loads, participate on committees, and sponsor organizations, there is little time left for acquiring or practicing advisement competency. Unless there is an opportunity for faculty to learn about test interpretation, programs and courses, technical and non-technical electives, expectations and regulations, transfer requirements, student characteristics and development, the changing nature of work in society, about remedial and tutorial services, they cannot be expected to advise students effectively.

Faculty who effectively contribute to academic advisement must be rewarded at the time of evaluation for rank and pay, or in reduced teaching assignments. There must also be a sensible student

load. In the Carnegie report, Raines suggested that there be no more than fifteen advisees without a reduced teaching assignment [68:68].

One major hazard that must be guarded against is for the faculty member to use the advisement consultation for recruiting students into particular courses and programs which do not appeal to the student.

In the final analysis, who does advising is probably not as important as the operational philosophy of the institution that supports the advising program, and the dedication and knowledge which each advisor brings to the process.

Pragmatic Implications for the College of Engineering

The results of this study do not suggest any drastic changes for those responsible for the advisement program in the College of Engineering. This program should continue to combine the professional competencies of full-time advisors with those of qualified instructional faculty. Perhaps the use of Koile's [54] 90-item attitudinal form for identifying appropriate faculty as advisors would prove as helpful now as it did in the mid-fifties.

For those items on the present study, where respondents indicated a marked preference for experimentation with a particular idea, efforts should be made to act on the matter if circumstances permit.

Academic advising is the prelude to the main activity of the College for undergraduates--instruction. Certainly those responsible for the advisement program should insure adequate resources to

guarantee the continuation and effectiveness of this supportive activity. Above all, they must guarantee that the advisement program has enough diversity to meet the wide variety of students within the College. No single formula for serving all students will suffice to meet the individual differences noted.

The various dimensions of student development are interdependent. The parameters of cognitive, affective, social, and vocational growth interface. This suggests a long-range view of personal growth, wherein the advisor resists doing for the student what he can reasonably be helped to do for himself.

Need for Evaluation: Some type of evaluation of the advisement program should be conducted each term and should include a random sample of opinions from various student groupings. This appraisal should be brief and structured to reflect the characteristics and needs of the special group being sampled. E.g., at the end of the fall term would be the most appropriate time to sample freshman and transfer students. An evaluation given to seniors should include questions about careers, interviewing, resumes, graduate school, and help in identifying appropriate electives. Such evaluation and feedback is necessary to make sensible modification of a system that changes with the changing times.

Questions and Answers: Because circumstances did not permit structured interviews to be conducted with a representative sample of the respondents in this study, it would be helpful to do so in order to extract further meaning from the findings.

The answers provided by respondents raised a list of questions for which there are no documented answers. How many students in engineering have major financial problems? How many seniors have had plant visits, and solid job offers? How many have accepted? How much emphasis is placed on the student's GPA during a placement interview? What predominant image do incoming freshmen have about the professional engineer? How do recent alumni feel about their present job as it relates to their engineering education? What factors account for the continuing trend of diminishing freshman enrollments? What is the relationship between a specific type of advisement and attrition? What do industrial executives think of the College's academic programs? Why are more students applying for graduate school in the last year or so? How do most of the engineering students invest their electives? Etc., etc., etc.

Communication Facilitator: In the discussional section of the survey, students rated this area high on their list of importance. Accurate information facilitates decision-making and action. It is a major tool in building the capacity for self-direction. Accordingly, it is strongly suggested that the departments of CPS, EESS, and ME continue the use of a quarterly newsletter. Advising personnel in CE should also consider initiating such a bulletin, since the idea was readily welcomed by their students. Such a need in CHE is not apparent, since other means can facilitate the swift communication of information.

This writer also recommends that each engineering department construct a current curriculum handbook for their students. An

experimental use of such a handbook was welcomed by both students and faculty in ME in 1970. The contents of such a handbook could include: (1) revised course descriptions that would have some meaning for a student new to engineering; (2) specific recommendations about technical and non-technical electives; (3) identifying necessary skills and prerequisites for required courses in engineering; (4) a suggested model of when technical courses should be taken for optimal effectiveness; (5) a suggested model of when technical courses could be taken by transfer students and those who are off-sequence in mathematics, physics, and chemistry; (6) editorial comments by the department chairman or the advisor; (7) information about tutorial help; and (8) general information.

Employment Concerns: The apparent concern of all students, particularly the sophomores, about career opportunities and the job market merits the serious attention of administrators, faculty, and advising personnel. The faculty did not exhibit such a concern in the study; their concern was mostly academic.

The polarity was so great and the topic is of such complexity and importance that it warrants a separate dissertational study. One wonders if such a faculty-student polarity pattern is equally prominent in some other engineering setting, or in some other college on the Michigan State University campus.

Some engineering students suggested that most of the interviewing on campus be done in the decentralized setting of the College rather than in the centralized offices of the Placement Bureau. While this suggestion may invite new logistical and

coordination difficulties, it does have merit. Such an arrangement would permit more of the engineering faculty to have some interaction with the business end of engineering. It would certainly provide immeasurable convenience and practicality for engineering students.

This suggestion also raises the question of whether certain types of majors might also best be served in a decentralized setting. Specifically, education and business majors.

Engineering students wondered how their academic program was really related to general employment opportunities. They wanted more guidance about investing their electives so it would enhance their interviewing appeal and employment opportunities.

The students also expressed the desire for more guidance in writing resumes, in preparing for interviewing, in evaluating actual employment offers, in getting background information about companies they hope to visit, in requesting letters of recommendation, etc.

Surely the faculty can participate in meeting some of these needs. In this writer's opinion, it would be logical for a faculty member who has helped a student with independent study to also help him in the area of career concerns. For the faculty member is in a much better position to know some important things about the student.

One way that the faculty could demonstrate their concern about the students' plight in today's job market would be to use

their consulting contacts and professional information for the benefit of students.

Based on the past examples of generosity and cooperation by engineering faculty, this writer firmly believes that any lack of concern about employment opportunities is due to misinformation or lack of information. It is not because of a lack of good will. Action is preceded by conviction. So it is questionable that the engineering faculty are truly persuaded that there is a major need among their students and that they can be of more help than they are at the present moment.

Perhaps a general appeal could also be made to engineering alumni through Currents, the College newsletter, for identifying employment opportunities in their company or geographical area.

Recommendations for Additional Research

1. This study dealt with a stratified sample of 693 students currently enrolled in the College of Engineering. Since only 423 students responded, they do not represent all of the 1200 undergraduates in the College. To obtain a more thorough evaluation of the advisement program, effort could be made to learn of the views of the 770 students not included. Such a study could also be extended to include those who have transferred to non-engineering majors, and those who have completed their engineering program.

2. A separate study with a substantially modified questionnaire would be in order for the freshmen engineering students, since they exhibit special needs. Attrition is also highest at this class level. The appropriateness of such a study is also suggested by the fact that thirty respondents listed their experiences with freshmen advisors as the "Most Disappointing" feature of the advisement program, and the fact that freshmen were not included in this study. If a new study about advisement for engineering freshmen was organized, it could lend itself to a new dissertation by running a Pre-test and Post-test in fall and spring respectively.
3. With some minor modifications the survey instrument used in this study could be utilized as an evaluative tool for other schools, particularly if their academic programs have a rigid structure similar to that found in every program of engineering.
4. A separate study concentrating exclusively on a deeper exploration of advisement model alternatives and allotment of resources might prove practical as finances become more limited.
5. Useful data would be obtained by replicating this study in another five or ten years. As conditions change inside and outside the College of Engineering, students and faculty may have changing views about the advisement program.

6. The use of factor analysis [37] with specific segments of the engineering student population (e.g., the freshmen and sophomores) would identify some broad profile patterns which were not possible with the Chi Square technique.

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APPENDICES

APPENDIX A

STUDENT/FACULTY QUESTIONNAIRE

ACADEMIC ADVISEMENT QUESTIONNAIRE

Part I: Perceptions about Academic Advisement Services

The following items attempt to measure how important you think it is for the College of Engineering to provide various services in its academic advisement program at the undergraduate level. Select one answer from the scale below for each item:

- 5 = Service Must Be Provided By Engineering Advisement
 4 = Service Should Be Provided By Engineering Advisement
 3 = Service Might Be Provided By Engineering Advisement
 2 = Service Need Not Be Provided By Engineering Advisement
 1 = Service Should Not Be Provided By Engineering Advisement

<u>Item</u>	<u>Academic Advisement Service</u>	<u>Answer</u>
(1)	Working with students in resolving scheduling problems during pre-enrollment and registration.	_____
(2)	Explaining program requirements and options to students in an engineering departmental major.	_____
(3)	Explaining the interrelatedness and sequential nature of required courses within a departmental program.	_____
(4)	Identifying necessary prerequisites and required skills for courses within an engineering departmental major.	_____
(5)	Working with students in planning a <u>comprehensive</u> academic program reflecting personal interest and demonstrated abilities.	_____
(6)	Working with students in planning a personalized academic schedule each term.	_____
(7)	Working with the undecided student in exploring new academic opportunities outside engineering.	_____
(8)	Working with the weak academic student in planning how to recover.	_____
(9)	Working with the new student in making personal/social adjustments to college life.	_____
(10)	Working with students in identifying appropriate electives.	_____
(11)	Working with students so they can develop an understanding of their personal academic strengths and weaknesses.	_____
(12)	Working with students to improve their study habits.	_____

- 5 = Service Must Be Provided By Engineering Advisement
4 = Service Should Be Provided By Engineering Advisement
3 = Service Might Be Provided By Engineering Advisement
2 = Service Need Not Be Provided By Engineering Advisement
1 = Service Should Not Be Provided By Engineering Advisement

- (13) Being readily available for consultation, especially on a drop-in basis. _____
- (14) Providing information to departmental curriculum committees about various student opinions. _____
- (15) Conducting regular research about engineering students in order to improve advisement services. _____
- (16) Interpreting University and College policies to engineering students. _____
- (17) Writing letters of recommendation for students. _____
- (18) Suggesting specific resource agencies on campus to students for additional help. _____
- (19) Encouraging marginal students, when appropriate, to persevere in their engineering program. _____
- (20) Devising ways to motivate students for achieving proficiency in their engineering program. _____
- (21) Working with students to prepare for interviewing at the MSU Placement Bureau. _____
- (22) Working with students to evaluate actual employment offers. _____
- (23) Working with students to identify long-range career opportunities. _____
- (24) Providing information about admission to graduate schools. _____
- (25) Working with students to cope with demands from their local draft boards. _____
- (26) Providing information about financial aid. _____
- (27) Working with students to foster a sense of self-direction, especially in making major decisions. _____
- (28) Allowing students/faculty the opportunity to voice criticism without fear of reprisal. _____
- (29) Sending students a departmental newsletter each term about curricular information and career concerns. _____
- (30) Representing student concerns at departmental faculty meetings. _____

Part II: Exploring Advisement Alternatives

The purpose of this section is to explore your perceptions about various alternatives to the present advisement program in the College of Engineering. Select one item from the scale below for each item:

- 5 = Idea Has Very Strong Potential (merits implementation)
 4 = Idea Has Strong Potential (merits experimentation)
 3 = Idea Has Some Potential (merits more discussion)
 2 = Idea Has Weak Potential (does not interest me)
 1 = Idea Has Very Weak Potential (less effective than now)

<u>Item</u>	<u>Possible Advisement Model</u>	<u>Answer</u>
(31)	Juniors and seniors, except for new transfer students, would be completely on their own for advisement, after receiving maximum help as freshmen and sophomores.	_____
(32)	Organize an upperclass advisement manual within each engineering department so juniors and seniors could assume full responsibility for self-advisement.	_____
(33)	Allow <u>any sophomore, junior, or senior</u> to select any available faculty member from the College of Engineering for academic advisement.	_____
(34)	Allow <u>only juniors and seniors</u> to select any available faculty member from the College of Engineering for academic advisement.	_____
(35)	Allow <u>only Honor's College</u> engineering students to select any available faculty member from the college for academic advisement.	_____
(36)	Allow only those engineering students who have demonstrated they can perform at the 2.50 GPA or higher for three consecutive terms to assume full responsibility for self-advisement.	_____
(37)	Appoint graduate assistants in each engineering department and give them full responsibility for advising juniors and seniors in their department.	_____
(38)	Train and hire a set of seniors and give them <u>full responsibility</u> for advising sophomores through seniors in their engineering department.	_____
(39)	Train and hire a set of seniors and give them <u>responsibility in registration matters only</u> for the sophomores through seniors in their department.	_____
(40)	Have <u>only full-time advisors</u> handle all undergraduate advisement in the College of Engineering.	_____

- 5 = Idea Has Very Strong Potential (merits implementation)
 4 = Idea Has Strong Potential (merits experimentation)
 3 = Idea Has Some Potential (merits more discussion)
 2 = Idea Has Weak Potential (does not interest me)
 1 = Idea Has Very Weak Potential (Less effective than now)

- (41) Have only teaching faculty handle all undergraduate advisement in the College of Engineering. _____
- (42) Have teaching faculty advise all sophomores, juniors, and seniors, and have full-time advisors work with all engineering freshmen. _____
- (43) Have teaching faculty advise all juniors and seniors; have full-time advisors work with all freshmen and sophomores. _____
- (44) Have engineering faculty volunteer to advise assigned students at the sophomore through senior levels. _____
- (45) Appoint engineering faculty to advise assigned students at the sophomore through senior levels. _____
- (46) Attempt to design a data bank retrieval system to help engineering students identify job conditions and expectations from employers who interview each year at the MSU Placement Bureau. _____
- (47) Hold group advisement sessions each term for discussing regular registration concerns and to allow more time for those who wish personalized advisement. _____

Part III: Descriptive Information

For each question below, please write the number for your answer on the blank line at the right of the page.

- | <u>Item</u> | <u>Answer</u> |
|---|---------------|
| (48) What is your general impression about the effectiveness of academic advisement in the Engineering College? | |
| 1. Very Unsatisfactory | |
| 2. Unsatisfactory | |
| 3. Limited Satisfaction | |
| 4. Satisfactory | |
| 5. Very Satisfactory | _____ |
| (49) What engineering department are you affiliated with? | |
| 1. Chemical Engineering | |
| 2. Civil Engineering | |
| 3. Computer Science | |
| 4. Electrical Egr./Systems | |
| 5. Mechanical Engineering | _____ |

Students Only

<u>Item</u>	<u>Answer</u>
(50) Are you in the engineering Honor's College?	
1. Yes	
2. No	_____
(51) What is your student classification?	
1. Sophomore (40-84 credits)	
2. Junior (85-129 credits)	
3. Senior (130-180 credits)	_____
(52) What is your cumulative grade point average?	
1. Below 2.0	
2. 2.0 - 2.4 GPA	
3. 2.5 - 2.9 GPA	
4. 3.0 - 3.4 GPA	
5. 3.5 - 4.0 GPA	_____
(53) How many <u>terms</u> have you completed in the College of Engineering?	
1. One term only	
2. Two or three terms	
3. Four to six terms	
4. Seven to nine terms	
5. Ten or more terms	_____
(54) How often do you usually <u>consult each year</u> with your advisor in the College of Engineering?	
1. Probably once or twice	
2. Probably three or four times	
3. Probably five or six times	
4. Probably seven or eight times	
5. Nine times or more	_____
(55) Where did you begin your college education?	
1. Community College	
2. MSU College of Engineering	
3. MSU but not in Engineering	
4. Other 4 yr. institution	_____

Part IV: Open-Ended Discussion

What engineering advisement service has personally been the most helpful to you?

Faculty Only

<u>Item</u>	<u>Answer</u>
(50) Do you presently serve as an academic advisor to undergraduates in your department.	
1. Yes	
2. No	_____
(51) What is your professorial rank?	
1. Full Professor	
2. Associate Professor	
3. Assistant Professor	
4. Instructor	_____
(52) How many years of teaching have you completed in the College of Engineering?	
1. One year	
2. Two years	
3. Three years	
4. Four to six years	
5. Seven years or more	_____
(53) How often do you usually <u>consult each year</u> with the academic advisors within the College in your capacity as a teacher?	
1. Probably once or twice	
2. Probably three or four times	
3. Probably five or six times	
4. Probably seven or eight times	
5. Nine times or more	_____

Part IV: Open-ended Discussion

What engineering advisement service has personally been the most helpful to you?

Students/Faculty

What engineering advisement service has personally been the most disappointing to you?

What do you think is the major strength and the major weakness in the College of Engineering academic advisement program for the undergraduates?

Major Strength

Major Weakness

What would you recommend that engineering academic advisors do, not do, or do differently in order to improve advisement services in the future?

Do

Not Do

Do Differently

APPENDIX B

LETTERS TO STUDENTS/FACULTY

MICHIGAN STATE UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT

January 11, 1972

Dear Engineering Faculty Member:

The College of Engineering would like to know what you think about its program of academic advisement. For this purpose, the enclosed questionnaire was designed, pre-tested and refined over the past six months.

The era of accountability suggests that we seriously examine the relative necessity of providing various advisement services, and that we identify what items are of high priority. It also seems appropriate to explore the desirability of various alternatives to the present advisement system in the College.

To make this evaluation of academic advisement more meaningful and representative, the enclosed questionnaire will be given to approximately 700 undergraduate students and 70 faculty in the College of Engineering. Since the advisement program is designed to benefit both faculty and students, it is fitting that both groups contribute their assessments and recommendations.

Since this survey and a sufficiently high return-rate are also absolutely essential to my own doctoral dissertation, it is doubly important for me to receive your responses. I need virtually a 100% return from the participating members of the engineering faculty to validate that section of my study. Consequently, all faculty questionnaires are coded. All answers will be held in strict confidence. Anonymity will prevail in all reporting.

To insure a greater number of questionnaire returns from our engineering undergraduates, some of you will be asked to cooperate in an additional way. Namely, to permit the administration of the survey during one class period, or to permit the distribution and collection of the survey in one class section you teach. The former method, naturally, is preferred. Permission for making this appeal was obtained from Dean Von Tersch and the chairman of respective departments. Dr. Van Dusen, who is also on my guidance committee, is solidly behind this project.

I deeply appreciate your cooperation. Please return the completed questionnaire to Room 210 E.B. within the next week.

Upon completion of the study, I will forward an abstract of my findings to you.

Gratefully,



Alan G. Hoffman,
Assistant to the Dean

MICHIGAN STATE UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT

January 19, 1972

Dear Engineering Faculty Member:

Last week you were sent a questionnaire which sought your assessment of the academic advisement program in the College of Engineering. As of this date I have not received a response from you. In case the survey was accidentally misplaced during the confusion of the beginning of the Winter '72 term, I have enclosed another questionnaire for you to answer and return at your first convenience.

In my initial letter of request I tried to emphasize the importance of your cooperation in answering this survey. The project is important to me for my doctoral dissertation and to the Student Affairs Office for identifying and documenting priorities. Only by hearing from virtually 100% of the engineering faculty will the College benefit from this evaluation effort.

Thank you for taking the time and effort needed to answer this request. Your opinions and those of other engineering faculty should have a major impact on the academic advisement program in the College

Sincerely,



Alan G. Hoffman
Assistant to the Dean
Department of Mechanical Egr.

AGH:awr

Enclosure

MICHIGAN STATE UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT

February 1, 1972

Dear Engineering Faculty Member:

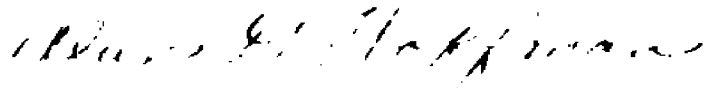
My study of faculty and student perceptions about the academic advisement program in the College of Engineering is nearing completion. I am still keenly interested in your personal response.

Since the advisement program is partially designed to assist faculty in the smooth execution of their instructional efforts, it is important that we eliminate the guesswork about such interaction. The advisement program merits your time in responding to this survey with your own personal perceptions. We need your comments.

Mid-term exams are just around the corner. So please return your completed questionnaire soon. Do it today before it is accidentally set aside. (Call 355-3338 if you have need for a faculty questionnaire).

Hoping to hear from you soon, I remain.

Sincerely,



Alan G. Hoffman
Assistant to the Dean
Department of Mechanical Engineering (Rm. 210)

AGH:awr

MECHANICAL ENGINEERING DEPARTMENT
MICHIGAN STATE UNIVERSITY

February 7, 1972

Dear Engineering Faculty:

This Friday, February 11, will mark the termination of my study of academic advisement in the College of Engineering.

If for some reason you do not plan to complete the questionnaire, please respond to the special section at the bottom of this letter. Naturally, my primary interest is to have you return a completed questionnaire. But if this is not possible, my secondary interest is to learn your reason for not answering the questionnaire.

Thank you for taking the time and effort to answer this final request. As indicated in my first letter, I will be happy to send you a brief report on this study upon completion.

Gratefully,



Alan G. Hoffman
Assistant to the Dean
Department of Mechanical Engineering (Rm. 210)

Please answer if not completing questionnaire

I do not wish to complete the academic advisement questionnaire because:

MICHIGAN STATE UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT

January 11, 1972

Dear Engineering Student:

The College of Engineering would like to know what you think about its program of academic advisement. For this purpose, the enclosed questionnaire was designed, pre-tested and refined over the past six months.

The era of accountability suggests that we seriously examine the relative necessity of providing various advisement services, and that we identify what items are of high priority. It also seems appropriate to explore the desirability of various alternatives to the present advisement system in the College.


To make this evaluation of academic advisement more meaningful and representative, the enclosed questionnaire will be given to several hundred engineering undergraduates and to over seventy faculty members in the College. Since the advisement program is designed to benefit both faculty and students, it is fitting that both groups contribute their assessments and recommendations.

Since this survey and a sufficiently high return-rate are also absolutely essential to my own doctoral dissertation, it is doubly important for me to receive your responses. For purposes of computer checking your questionnaire has been coded. However, all answers will be held in strict confidence. Anonymity will prevail in all reporting.

To facilitate the return of your questionnaire please use the campus mail system or hand deliver your copy to Room 210 Engineering Bldg. within one week. (A stamp is not necessary if you use the campus mail).

Dean Von Tersch, Dr. Van Dusen and the advisory staff join me in thanking you for your cooperation with this important project.

Gratefully,



Alan G. Hoffman
Assistant to the Dean
Department of Mechanical Engineering
Room 210 EB

AGH:awr

Encl.

MICHIGAN STATE UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT

January 20, 1972

Dear Engineering Student:

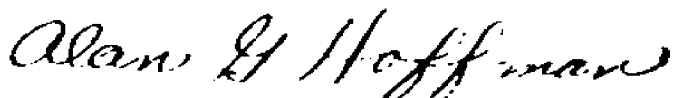
Last week you were sent a questionnaire which asked for your assessment of the academic advisement program in the College of Engineering. As of this date, I have not received an answer from you. For your convenience, I have enclosed another questionnaire for you to answer and return at your first convenience.

I strongly urge you to complete the questionnaire. It is important to me and to the Office of Student Affairs to learn your perceptions about the College's advisement program. Only by hearing from a significant number of students will valid statistical inferences be possible, and will the College of Engineering benefit from this evaluation effort.

Thank you for taking the time and effort needed to complete the questionnaire. Your opinions and those of other engineering students should have a major impact on the future of the academic advisement program in the College.

Please make your return by using the campus mail system or by dropping it off at Rm. 210 E.B. Postage is not necessary if you use the campus mail and do not go through the East Lansing post office.

Sincerely,



Alan G. Hoffman,
Assistant to the Dean
Department of Mechanical Engineering (Rm. 210)

AGH:awr

Enclosure

MICHIGAN STATE UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT

January 31, 1972

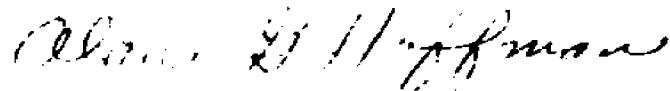
Dear Engineering Student:

You recently received a letter reminding you to complete a questionnaire about academic advisement in the College of Engineering. Another questionnaire was enclosed for your convenience, but no answer has been received to date. If you still need a questionnaire, call 5-3338 and we will forward one.

If for some reason you are not planning to complete the questionnaire, please respond to the special section at the bottom of this letter. My primary interest is to have you return a completed questionnaire. If this is not possible, my secondary interest is to learn your reasons for not completing the questionnaire.

Thank you for taking the time to answer this last request. Please use the campus mail system in forwarding your return to Rm. 210 E.B.

Gratefully,



Alan G. Hoffman,
Assistant to the Dean
Department of Mechanical Engineering

Please answer if not completing questionnaire

I do not wish to complete the academic advisement questionnaire because:

APPENDIX C

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THE MOST HELPFUL ADVISEMENT SERVICE IN THE COLLEGE ADVISEMENT PROGRAM

(NOTE: Reproduced verbatim in this appendix are selected comments received in the space reserved for that purpose on the questionnaire. They are grouped into five categories. Noted in the parentheses is the respondent's departmental affiliation, and whether he is a student or faculty member.)

APPENDIX C

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THE MOST HELPFUL ADVISEMENT SERVICE IN THE COLLEGE ADVISEMENT PROGRAM

ACADEMIC PROGRAM-RELATED (listed by 139 respondents)

I received the most help from advising personnel when they pointed out undergraduate student problems with scheduling and in curriculum matters. Also in providing feedback and student opinions on course material (in and out of my department) and on my teaching methods. (CHE faculty)

Help in keeping track of changing curriculum requirements.
(ME student)

Being a Fall '71 transfer student, I feel that the advisement service has been an improvement over other systems. It allows me to consult a professional full-time man for important matters rather than a general counselor. (EE student)

I'm thankful for the help given after I was forced to drop a course because I was overwhelmed by my schedule. (CHE student)

I think that the most helpful service has been the ability of my advisor to propose courses for me to take in order to decide on a suitable minor. (CPS student)

I appreciate the feedback from students through the advising people about students' feelings about the way I conduct class.
(EE faculty)

I liked help in planning my schedule so that I can most effectively balance my classes (some demanding, some not so demanding), and so I can get the most out of each course.
(ME student)

It's very helpful in evaluating courses transferred from other schools. (CE faculty)

What helped me most was having a faculty member for advisement concerning courses and options, and the tentative teaching assignments of instructors publicized before each term. (EE student)

Relief from paperwork--being sure that requirements are being carefully watched. (CPS faculty)

Discussion before registration to help with possible alternative plans and in identifying electives. (ME student)

Discussing class schedules, etc. But mostly in getting help after receiving low grades. (CHE student)

Straightening out registration snarls and red-tape.
(EE student)

My advisor and I have planned it so that I will not drag school out any longer than is necessary. (CE student)

Helping me plan a personalized academic program each term.
(ME student)

Explaining all requirements for a degree and discussing their relative importance. (CHE student)

What I found most helpful was the discussion of planning ahead to be ready for locked-sequence courses. Also for suggestions about minor areas of concentration and some recommended courses. (CPS student)

Helpful?--being able to alter some required courses, identify paper prerequisites, and especially being able to talk with my advisor on whether or not a course may be too advanced for my present level of skills. Also, very much, was letters of recommendation. (CPS student)

PERSONAL ATTENTION AND EFFORT (listed by 96 respondents)

I have personally found the advisement from my full-time advisor extremely satisfying. Being a transfer student and not knowing the bureaucratic quirks of MSU, I probably wouldn't have been able to graduate as quickly as I will. (CPS student)

I have been helped by just being able to go in and just chat with my advisor. He's always there and each time I stop in I have been able to come out more confident. (EE student)

The advisement to really take stock of myself and weigh what I'm doing now and where I want to go in the future. (ME student)

I have most successfully used the advisement service as a sounding board for some of my more unconventional ideas; I consider my advisor a personal friend. (CHE student)

My advisor encourages me at the right times. (CE student)

I deeply appreciate the personal contact with my advisor and the feeling that he really cares about me. (ME student)

The motivation to study by showing why courses were needed--thus making the courses more interesting. (EE student)

Taking care of student problems in the area of University, College, and Department regulations. (CHE faculty)

My advisor helped me plan a program so I can graduate a term early. Also his help in obtaining several engineering scholarships. (CE student)

My full-time freshman advisor was really interested in what I was doing, and he knew what he was doing. (CE student)

Most helpful was the advisor's knowledge of my capability in certain areas of study, and he gave good advice. (CPS student)

My major problems throughout school have been to get the draft board off my back and to get into closed sections of required classes. Thanks to the Student Affairs Office I will soon graduate. (ME student)

I've been under the advisement of two outstanding faculty, and I can only say BRAVO! I can see my way clear to graduation thanks to them. The present system is excellent. I would venture to guess the best advisement system on the campus. (CE student)

COMMUNICATION FACILITATOR (listed by 32 respondents)

I'm really grateful for the curriculum handbook put out by my advisor. When will it be updated? (ME student)

Distribution of Placement Bureau Bulletins. (CHE student)

It's really been helpful to have someone to contact if a student is absent excessively, or performs poorly in class, etc. (EE faculty)

The EE Newsletter has been a great help to me in working out my schedule. (EE student)

The arrangement of meetings with experienced senior faculty members with regard to answering some occupational questions. (EE student)

Help in communicating with students who are having academic difficulty, perhaps due to some personal problem. (CE faculty)

My advisor has been very helpful in answering special questions I've had. If he didn't know the answer, he directed me to the proper source of information. And he seems to take a personal interest in my educational program, which is, in itself, extremely helpful. (CPS student)

AVAILABILITY (listed by 15 respondents)

Knowing that my full-time advisor was always available so I could just drop-in if there was a question. (CHE student)

Going in and talking to my advisor without a special appointment. (CE student)

VERY LITTLE OR NOTHING (listed by 11 respondents)

They've all been about equal help: none. Any services offered are not publicized and are not easily accessible. (EE Honor's student)

My advisor is worthless. (CE student)

APPENDIX D

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THE MOST DISAPPOINTING ADVISEMENT SERVICE IN THE COLLEGE ADVISEMENT PROGRAM

(NOTE: Reproduced verbatim in this appendix are selected comments received in the space reserved for that purpose on the questionnaire. They are grouped into seven categories. Noted in the parentheses is the respondent's departmental affiliation, and whether he is a student or faculty member.)

APPENDIX D

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THE MOST DISAPPOINTING ADVISEMENT SERVICE IN THE COLLEGE ADVISEMENT PROGRAM

VIRTUALLY NOTHING (listed by 61 respondents)

I have yet to be disappointed by my advisor. (ME student)

No complaints. (CE student)

None--I'm extremely impressed with the high quality of the
advisement program. (CPS faculty)

I have no real disappointments. (SYS student)

I have not been disappointed in any way. (CHE student)

INFORMATION ABOUT ENGINEERING MAJOR (listed by 41 respondents)

Lack of information on new courses being substituted for
old requirements. (EE student)

Some advisors have not been properly informed about the
nature of some classes which were recommended to me. I lacked
the proper background and had to do extra work. (ME student)

Describing what each minor area of study is actually about. Each minor area is given a name or label, but you are never sure what it means and what you will actually study. (CPS student)

Not enforcing course prerequisites at registration time. (CPS faculty)

The advisor shouldn't tell students to put courses off until later and cause programming problems later on. (CHE student)

The vagueness in the description of the various areas of directed study within my major. (CE student)

Advisors don't seem to have a clear idea of what each required course entails, and therefore can't give me an idea of whether I want to take it at this time. (CPS student)

I got little help on how a course fits into my total study program. (EE student)

CAREER INFORMATION (listed by 32 respondents)

No help in preparing for interviewing. (CPS student)

The faculty show no apparent concern about the job market and opportunities after graduation. (CHE student)

Very disappointed in lack of help to prepare me for either future education or employment concerns. (CE student)

Not enough copies of the Placement Bureau Bulletin. (EE student)

How about some reliable statistics on types of jobs that will relate to my major. I'd also welcome some advice about which electives will be of the most practical help in the future?
(SYS student)

The advisement program needs to expose students to the work and research situations in which they will probably be employed. I had to talk to engineers in my home town during the summer to gain this information. (ME student)

No instructor or advisor has ever related my course work effectively to an actual engineering job type situation.
(ME student)

TYPE OF PERSONAL TREATMENT (listed by 31 respondents)

My faculty advisor acts annoyed whenever I bring in a form that requires his signature. Is that so much to give a student?
(CE student)

I hate having to come see my advisor when I know very well what to take. In fact, I have no choice, even though the selection had already been approved the term before. Such inconvenience for a permit-to-register card. (CPS student)

How impersonal my advisement has been. I can't even get a straight answer to a simple question. (CPS student)

I feel that the first two years of my program some advisors were trying to weed out some of the students. (CE student)

I'm disappointed in the little effect our griping has even though a large percentage of us make the same complaint.
(EE student)

Having faculty advisors who do not have the time or the training to discuss other issues besides what courses to take. (CHE student)

FRESHMAN ADVISEMENT (listed by 30 respondents)

They bounced freshmen students around those downstairs offices so that I ended up with three different advisors in a year and a half. (CPS student)

The freshmen advisement group sessions were too large, too hurried, and too impersonal. (EE student)

Especially bad was my third term as a freshman. I was unsure of my major and just got shoved into one to get me out of the way. (EE student)

It's disappointing that the freshmen advisors don't have engineering degrees. How can they advise in a subject they've never studied? (ME student)

Freshman advisement was no help at all. (ME student)

Freshman advisors do not have an adequate knowledge of the practices of engineering. (CE faculty)

They infringe too much on other professional areas, such as attempting to place students in professional jobs, discussing careers, etc. This should be left to others who are more informed. (CHE faculty)

INFORMATION ABOUT ELECTIVES (listed by 22 respondents)

Advisors' lack knowledge of other courses outside of engineering. This makes it hard to help a student obtain a more diversified education. (CE student)

It is frustrating when you ask your advisor about mathematics, psychology, sociology, etc. and he says he does not know what would be helpful; he just knows about engineering. (CPS student)

Advisement didn't give me any aid in selecting any electives outside my major area. I also need to know what specific courses would be most supportive of my engineering major. (EE student)

Can someone please suggest good professors inside and outside the department? Also those to stay away from? (CPS student)

UNAVAILABILITY (listed by 18 respondents)

Trying to get in touch with my advisor was tough. (CE student)

It seems that you can't talk about your personal problems with your advisor because he always seems in such a hurry, always so damn busy. Like you only have an appointment for a few minutes. It would seem to me that we should have more advisors. (EE student)

My faculty advisor has to teach and is on several committees. He is hard to get a hold of. When you do catch him, he's on the run. (CE student)

The advisors seemed pressed for time and have so many students to advise. This does not make for a close relationship. It makes it hard for them to channel us toward an interesting profession. (CE student)

APPENDIX E

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF THE MAJOR STRENGTH OF THE ADVISEMENT PROGRAM IN THE COLLEGE

(NOTE: Reproduced verbatim in this appendix are selected comments received in the space reserved for that purpose on the questionnaire. They are grouped into five categories. Noted in the parentheses is the respondent's departmental affiliation, and whether he is a student or faculty member.)

APPENDIX E

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF THE MAJOR STRENGTH ON THE ADVISEMENT PROGRAM IN THE COLLEGE

FULL-TIME ADVISORS (listed by 62 respondents)

Having full-time advisors who stay up-to-date on engineering and classes on campus. (EE student)

My exposure to full-time advisors has indicated that they are very well informed on almost every area of academia. If they did not know, they knew of someone who did. (ME student)

Because they are not really engineers, the full-time advisors have a broader view of the university resources than the engineering faculty do as a whole. This can be very helpful to students who want to explore a bit and receive a good general education. (CE faculty)

The full-time advisors have a greater interest in the students than the faculty in most cases. (CPS student)

He knows where to go to solve your problems with the least amount of grief and time. (EE student)

Professional advisors at the freshman/sophomore level. (CHE faculty)

The use of professional advisors who have the interest and time to work with students. (EE faculty)

It's great having a full time advisor who knows what's happening. (EE student)

The major strength is that advisement is rendered in a professional manner by men who have some experience and special training in this endeavor. (ME faculty)

ACADEMIC PROGRAM PLANNING (listed by 61 respondents)

Help in fitting in required courses and general advisement for no-preference students. (CE student)

Help in organizing a long-range program of all required classes in my major. (ME student)

I felt very free to take any class of interest to me in helping me decide my major area of interest during my freshman year of advisement. (EE student)

A good job is done in working out student programs. (CHE faculty)

Students' class scheduling of programs--a solid piece of hard work. (ME faculty)

Well planned lists of recommended and required courses in my program. (CE student)

Helping students plan and implement a workable plan of action. (CPS student)

PERSONALIZED TREATMENT (listed by 60 respondents)

Relatively personal service given by knowledgeable advisors.
(CHE faculty)

In EE it's the friendliness and helpfulness of the advising staff. (EE student)

I think it provides continuity and personal contact with no sense of threat. (CPS faculty)

He tries to help me as a person and not just as a number.
(ME student)

The personal attention from advisement people; you don't get much of that at MSU any more. (CPS student)

Students have a channel for personal complaints through men not directly involved in their classes. (EE faculty)

More personalized because everything is done within my major field. (CE student)

The greatest show of strength is the amount of personal attention given to the students, and the combined uniformity of treatment (in enforcing regulations) along with providing flexibility when planning a program with a student. (ME faculty)

AVAILABILITY (listed by 35 respondents)

Willing to see students at anytime. (CPS student)

Easy to reach, no pressure on students. (ME student)

Available for consultation most of the time. (CHE student)

Can see your advisor at your convenience, and as often as you want. (EE student)

FACULTY ADVISORS (listed by 31 respondents)

Personal commitment of faculty advisors. (CE faculty)

My Honor's College advisor has helped me very much. (EE student)

Faculty members who are willing to help students. (ME student)

The strongest thing is the personal closeness available to the student because of the small ratio of students to faculty advisors in our major. These men know about engineering and requirements very thoroughly. (CE student)

APPENDIX F

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF THE MAJOR WEAKNESS OF THE COLLEGE ADVISEMENT PROGRAM

(NOTE: Reproduced verbatim in this appendix are selected comments received in the space reserved for that purpose on the questionnaire. They are grouped into eight categories. Noted in the parentheses is the respondent's departmental affiliation, and whether he is a student or faculty member.)

APPENDIX F

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF THE MAJOR WEAKNESS OF THE COLLEGE ADVISEMENT PROGRAM

ACADEMIC PROGRAM PLANNING (listed by 45 respondents)

Long range program planning. (CE student)

Advisor does not know enough about engineering electives to help me any. (ME student)

Our curriculum is not flexible enough, and our advisors don't know enough about appropriate elective courses. (EE faculty)

The prerequisites and required courses change so frequently in CPS that it's hard to keep track of. (CPS student)

Freshmen need some organized lectures about the key differences about various engineering majors. (CHE student)

ADVISEMENT METHODOLOGY (listed by 42 respondents)

There's not enough adequate advisement for minority students, especially at the freshman and sophomore levels. (CPS student)

Use of full-time advisors who aren't engineers. (CPS faculty)

The "registration-crunch" which requires the job to be done in a brief time span. (ME faculty)

The advice is not straightforward. He should look out for the best interests of the student. (CE student)

Lack of technical background among full-time advisors as it relates to engineering goals, needs, etc. (EE faculty)

My faculty advisor does not have any confidence in my ability to choose my own electives or minor fields. (CPS student)

Advisor only reacts to problems; can't anticipate or plan ahead. (CPS student)

The faculty are not trained for advisement. (CE student)

The "tenure" and change-over of advisors breaks the continuity of advisement for students. (ME faculty)

COMMUNICATION OF INFORMATION (listed by 26 respondents)

Some freshmen advisors have provided incorrect information to transfer students on several occasions. (CE faculty)

Information is often second-hand and can involve an extra step to be checked out for accuracy. (CHE faculty)

Not being told what I could expect from advisement services until this survey. (CE student)

Lack of communication within my department. No one knows who is teaching what or when until the last minute. (ME student)

Poor communication about options available in major and minor areas. (CPS student)

Advisor's inability to give more than "yes" and "no" answers to questions. (EE student)

IMPERSONALIZATION (listed by 24 respondents)

For those who do not know what courses to take, it sticks them with a stereotyped program. For those that do know what to take, it does not help a bit. (CPS student)

Poor personal attention. (ME student)

Since sophomores are the ones who must commit themselves to a particular major, they need much more direction to discover the best course of action. They don't get it here. (SYS student)

Lack of personal contact due to number of students who must see him. (EE student)

The faculty advisors in our department seem preoccupied with their class work and not with their assigned students for advisement. (CE student)

Not always having private discussions since others waiting outside can easily overhear everything. (CHE student)

CAREER ORIENTATION (listed by 24 respondents)

Advisement is not tied in closely enough with the Placement Bureau. (EE student)

Lack of information and advice of how courses will relate to future job opportunities, and lack of preparation for job interviews. (CE student)

As an underclassman it is hard to visualize career opportunities. (CPS student)

Will somebody please tell me what a mechanical engineer does in the outside world? (ME student)

There is too much involvement in career matters which are not related to academic concerns. (CHE faculty)

All in all, the advisors are academic oriented, and perhaps the students most need career advisors. (CE faculty)

NOT ENOUGH ADVISORS (listed by 24 respondents)

There are so many people assigned to one faculty advisor that he has to have you in his class to get to know who you are. (CE student)

Not enough advisors to go around. (EE student)

Too many students per advisor. (CHE student)

Need more good full-time advisors. (ME student)

The student/advisor ratio reminds me of one big FORM LETTER.
(CPS student)

UNAVAILABILITY (listed by 22 respondents)

He's never around when I need him. (CE student)

Too little time for advisement. (ME student)

Too big a hassle trying to talk to someone about my major.
(CPS student)

Hard to find free-time with my faculty advisor. (CE student)

NOTHING (listed by 12 respondents)

No major weakness. (ME student)

I have not found any major weakness yet. (EE student)

Right now, I can't see any. (CHE student)

APPENDIX G

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF WHAT SHOULD BE DONE TO IMPROVE THE COLLEGE ADVISEMENT PROGRAM

(NOTE: Reproduced verbatim in this appendix are selected comments received in the space reserved for that purpose on the questionnaire. They are grouped into six categories. Noted in the parentheses is the respondent's departmental affiliation, and whether he is a student or faculty member.)

APPENDIX G

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF WHAT SHOULD BE DONE TO IMPROVE THE COLLEGE ADVISEMENT PROGRAM

ACADEMIC PROGRAM SUGGESTIONS (listed by 64 respondents)

Do encourage the students to seek the advice from the appropriate faculty on the subject of electives in engineering, technical course content, etc. (ME faculty)

Do become well integrated into what is going on academically in their assigned advisement area. (EE faculty)

Give the student at least a general outline of what to expect from his classes in his four years of study. Get more specific with each advancing class level. (EE student)

Do help with planning electives according to the student's interests. (CE student)

Do work out more long-range programs with each student. (CE student)

Try to get the instructors to supply a more comprehensive course description than the useless one in the University catalog. (ME student)

Urge all students to take interesting electives outside the college. There's more to life than engineering. (CE student)

Do make out a continuous schedule for each student each term from his first term as a freshman until he graduates so he knows where he stands at all times. (ME student)

Set up a course for seniors in CPS covering the area of "Current Problems in CPS." This course should include a small research paper. It seems that we are learning only the traditional stuff, and are not getting a well-rounded education that prepares us for the real problems we will face after graduation. (CPS student)

DIVERSIFIED ADVISEMENT (listed by 39 respondents)

Do try to find more faculty volunteers or to get more professional advisors to unload the present staff. (CPS student)

For transfer students have another experienced student make contact and show him the college and campus. During his first term, he has a friend to turn to for help. (EE student)

Do let students pick their own advisor within the College. (CE student)

Do experiment with different ideas mentioned in this survey. (CHE student)

Do hire some special advisors for specialization. E.g., financial aid, career planning, etc. There should also be more questionnaires like this one. (ME student)

Bring faculty into advising at every opportunity. (ME faculty)

The advisement director should encourage all advisors to tell students about all engineering majors. One gentleman I talked to tried very hard to sell me on civil engineering when he found out that I was undecided about my major. But he told me nothing about other areas of engineering. (ME student)

Do schedule group sessions for sophomores in each major department. Much can be gained by small group discussions to help with individual program problems. (CPS student)

Do include sophomores with full time freshmen advisors. (ME student)

Do continue using professional full-time advisors at the freshman/sophomore levels. (CHE faculty)

Do follow the example set by Dr. _____ and work with each student on an individual basis. (CE student)

Do talk to students with low grades, and often. I found it very helpful. Those with high grades probably don't need as much contact with advisors. (CHE student)

Do use upperclassman as advisors, both for the experience of working with people and to give lowerclassmen an experienced view of what to expect. Everything should be on a voluntary basis. (CHE student)

I suggest a team approach. Namely, to incorporate more faculty into the ongoing process to supplement and complement the expertise of the full-time advisors. A major goal would be to increase faculty-student interaction outside the classroom. Another goal would be to structure a mechanism for eliciting and measuring student reactions to our educational environment on a continuing basis. (ME faculty)

CAREER CONCERN (listed by 38 respondents)

I feel that there are probably a lot of job opportunities available to the student, but he may never know about them because no one helps him get things together. (CE student)

Do provide job information beyond that given by a possibly biased interviewer at the Placement Bureau. (CPS student)

Do have job interviews in the Engineering building instead of over at the Placement Bureau. (EE student)

Do explain job situations and availability vs. the number of qualified students. (EE student)

Do make available some lists of expectations by employers so we can plan accordingly. (CPS student)

Help students find a job other than just with the companies who interview on campus. Help the student early in his program to realize the many opportunities open to him in his specific field so he can work towards something more tangible. (ME student)

Literature and films should be used to inform us what to expect after graduation. (ME student)

GIVE PERSONAL ATTENTION (listed by 34 respondents)

Do listen and act on student complaints. (CPS student)

Act with more understanding that each student is different and has unique needs. (CPS student)

I have had three different advisors over the past four terms! Namely, a freshman advisor, then my ME advisor, and finally my Honor's College advisor. This is too unsettling to be helpful. (ME student)

All I want from my advisor is some demonstration of concern. (CE student)

Try to get to know students better as far as their strengths and weaknesses. (EE student)

Do suggest more "specific resource agencies on campus to students for additional help." (SYS student)

Do give more direction to freshmen about several areas of engineering. (EE student)

Do channel potential dropouts to faculty for consultation before the students are permitted to make a final decision to leave engineering. (CHE faculty)

IMPROVE COMMUNICATION (listed by 32 respondents)

Do have closer communication with other departments. (ME student)

A newsletter each term would be helpful. (CE student)

Possibly the advisors should meet periodically with the faculty and explain what their advisement problems are. (EE faculty)

Do send a newsletter each term about courses and changes, etc. (CPS student)

CONTINUE PRESENT PROGRAM (listed by 24 respondents)

The present advisory program seems to me to be appropriate for present and future conditions. (ME student)

The present system works well when the individual advisor works well. So far, the CHE department works well! (CHE student)

APPENDIX H

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF WHAT SHOULD NOT BE DONE IN THE COLLEGE ADVISEMENT PROGRAM

(NOTE: Reproduced verbatim in this appendix are selected comments received in the space reserved for that purpose on the questionnaire. They are grouped into three categories. Noted in the parentheses is the respondent's departmental affiliation, and whether he is a student or faculty member.)

APPENDIX H

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF WHAT SHOULD NOT BE DONE IN THE COLLEGE ADVISEMENT PROGRAM

ADVISEMENT METHODS TO BE AVOIDED (listed by 30 respondents)

Do not have graduate assistants or appoint faculty for advisement. Interested faculty who volunteer for such a program would be very beneficial, however. (CHE student)

Advisors should not rely on juniors or seniors to accept all academic responsibilities. It is very easy to get messed up in a University of this magnitude. (ME student)

Do not have faculty do advising. They probably would not be able to take the time, nor the desire to take time, to learn all that they would need to learn in order to advise students properly. (EE student)

Please don't depend entirely on faculty, and DO NOT depend on graduate students--too many are not that familiar with MSU and could care less. (CHE student)

Do not let people who are not engineering faculty or who do not have a complete knowledge of the courses advise anyone during their freshman year. (CE student)

Do not institute seniors or faculty appointees for advising. Seniors are not sufficiently qualified or interested enough; they're thinking about jobs or graduate school. (ME student)

Do not turn any advising over to students. I am a well informed junior (as much as anyone in my class), but I would not be capable of advising freshmen and sophomores. (ME student)

General advisement by non-engineering personnel should not go beyond the freshman year. Use faculty after that. (CE faculty)

Do not assign a faculty member to students against his will. This unfair to both parties. (EE faculty)

IMPERSONALIZATION (listed by 14 respondents)

Don't depersonalize the student. Leave a reasonable amount of freedom for him to achieve his own goals. (CPS student)

Do not simply approve what the student signs up for without finding out his program objectives. (CE faculty)

PROGRAM RIGIDITY (listed by 12 respondents)

All during my freshman and sophomore years my advisor would suggest I get an education degree for a minor. His prejudice against women in engineering upset me enough to change to a new advisor. (CPS student)

Do not require advisor's signature for drops-and-adds. (CPS student)

Do not try to force the student into something he may not need or restrict him (by persuasion) to take any more engineering courses other than those required. (ME student)

APPENDIX I

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF WHAT SHOULD BE DONE DIFFERENTLY IN THE COLLEGE ADVISEMENT PROGRAM

(NOTE: Reproduced verbatim in this appendix are selected comments received in the space reserved for that purpose on the questionnaire. They are grouped into three categories. Noted in the parentheses is the respondent's departmental affiliation, and whether he is a student or a faculty member.)

APPENDIX I

COMMENTS SUBMITTED BY ENGINEERING STUDENTS AND FACULTY CONCERNING THEIR PERCEPTIONS OF WHAT SHOULD BE DONE DIFFERENTLY IN THE COLLEGE ADVISEMENT PROGRAM

ACADEMIC PLANNING/SCHEDULING (listed by 42 respondents)

Please develop an engineering course that the freshmen and sophomores can take to give them a more diversified junior and senior schedule. (CE student)

Set up a better program for Winter and Spring term transfer students that follows some order as far as prerequisites go. The program now is not structured as far as interrelatedness and overlap goes. (CE student)

I suggest three things be done differently:

1) Have full time advisors give intensive orientation to all freshmen and sophomores about study habits, program options, opportunities, and expectations. Get real course prerequisites from each instructor.

2) Mechanize, where possible, the routine of scheduling, course planning, registration, etc.

3) Use active consultation with faculty volunteers who would focus on professional orientation with all engineering students. Depending on quantity of students, this could be done in groups or individually as subject area specialists. (ME faculty)

Encourage students to diversify their program. (CPS student)

Think of your advisement post, less as a job, and more as a chance to help make another man's goals a reality. (CE student)

Feel freer to describe professors to students. This does not have to imply approval or disapproval, but it should be honest. (CPS student)

If possible, an advisor should talk to all new students, freshmen and transfer, about what engineering is all about. (EE student)

Meet with students earlier in the term. Most of my questions are not about the next term, but are more of a long range concern. (CPS student)

Rather than call the student in every term to review the planned curriculum, make it once a year (in Fall?). Once a year is sufficient for many of us. (CHE student)

Try to get each new student into some courses which will give him a small taste of what is to come. (CPS student)

Give most of the academic planning information for the coming term in a published newsletter. Then students who wish more personal advisement will be able to talk with their advisor for a longer period of time. (CPS student)

BE MORE ACCESSIBLE (listed by 29 respondents)

Give as much time as students need. (EE student)

Stick around till 5:00 p.m. (CE student)

Try to allow more time for students, approximately two weeks before early registration. (CE student)

At the beginning of my freshman year, my advisor sent out notices to encourage me to come in and just get acquainted. I tried this and practically got the third degree about why I came to see him. (CPS student)

Is it possible to be available one night a week or on Saturday morning for those of us who work during the day when we're not in class? (ME student)

CAREER ACTION (listed by 13 respondents)

Send out statistics of the number of graduates in each engineering department and the number who found employment which is directly related to their major. This is a duty of the College. (EE student)

Talks and tours of companies in the area would be very helpful to many. The problem of choosing is knowing what you have to choose from. (ME student)

Organize lists of recommended graduate schools with updated information about tuition costs, program content, etc. (CPS student)

Have full time advisors get better acquainted with the joys of engineering work--it's a marvelous career. (CHE faculty)

APPENDIX J

ADDITIONAL COMMENTS GIVEN BY RESPONDENTS

(NOTE: Reproduced in this appendix are selected edited comments submitted by some respondents. They are grouped into five categories. Noted in the parentheses is whether the respondent is a student or a faculty member.)

APPENDIX J

ADDITIONAL COMMENTS PROVIDED BY RESPONDENTS

ACADEMIC PROGRAM RELATED:

Advisors should not be so carefree about what a student takes in scheduling. My faculty advisor failed to show me how easy it is to get out of sequence in the upper college. (student)

Tell the student exactly where he stands as far as the fulfillment of requirements. Also provide personal recommendations to the students. The average student probably resents being told. But he can often end-up getting hurt without it. (student)

Freshman advisors failed to inform some No-Preference students about the consequences of not deciding on a major early in their program. Namely: (1) some credits may not be accepted by the engineering major selected, and (2) the expense involved from attending school longer in order to be able to graduate. (student)

The biggest problem I have had has been with my prof's. It would be nice to know about the "bad" ones in advance. It may be out of place for an advisor to suggest that a student not take a certain professor. At least some general information about how prof's differ in teaching, grading, etc. would be very helpful. Or perhaps a special study could be done among engineering students about instructional capability from a student's point of view. I really feel that this has been a major problem in my academic career, and has hurt me more than anything else. (student)

May I recommend that advisors join the students in trying to reduce course requirements and possibly see if they can develop some inter-department courses that would induce interest in students who are undecided about a major. (student)

Why not take a random sample of students, have them rate engineering instructors and then make this sample available to everyone before registration? (student)

Advisors should do something to eliminate or restructure the laboratory requirements. A student doesn't need ten labs to teach him how to write a lab report. The gobs of time required for lab reports can be put to much better educational use, especially for gaining a better understanding of the theoretical base in the text material. (student)

Before pre-enrollment time, identify who will be teaching what courses the next term. Don't change this list. I would be willing to wait a whole term if a professor I preferred would teach the material. (student)

Organize a student committee of juniors and seniors for the purpose of writing a booklet of courses given and the professors teaching them. (student)

Since it seems that quite a few engineers leave the field before the end of their sophomore year, it would seem advisable to have more engineering orientation courses in the freshman year. I would not expect the freshman advisors to create such a course or courses, but they could approach the faculty. (student)

If a student is "marginal" with his grades, that's his problem. It's hard enough to get a job out there. If he really wants to be an engineer, he can work it out for himself. (student)

I suggest the construction of a special elective catalog. This would contain a list of suggested courses which would contain a list of suggested courses which would fit with different areas of engineering emphasis, identify the man teaching the course, and provide some kind of evaluation from students who have already taken the course. Special attention would be given to the courses practicality and applicability to some field of engineering. This catalog would have to be updated, and that would entail quite a bit of work. But it would be of immense help to many students who wish to broaden their curriculum program somewhat and want to get the best investment for their hard-earned money. (student)

I'm just beginning to get concerned with what my engineering major will be like. Since I'm a sophomore and my experiences are limited, I'm anxious to find out what to expect. My advisor works full-time and keeps an open door. So I should get an appointment I suppose. (student)

Set up the honors option in a better way so that the students know before they register which one is the honor's section. Also get the room and teacher assignments down pat and do everything in your power to prevent any changes. It really fouls up matters. (student)

When I changed my major to CPS in the Fall term of my sophomore year, I wanted to take CPS 301 the next term (Winter). But my advisor said to wait until next Fall and take CPS 311. Had I taken CPS 301 that first Winter term, I would have discovered that Computer Science was not all fun and games; most likely I would have changed my major again. But by next Fall it was too late to change my mind. (student)

Get complete up-to-date course descriptions, not only for engineering, but for all appropriate courses in the University so we could take an elective and have a good idea of what we're getting into. Possibly advisor's could organize a file of past tests and homework for engineering courses within their department. (student)

When I came to MSU I had absolutely no idea of what to take as a major area of engineering. I had a catalog, but after reading it I was still looking for just a general engineering program. Before coming here I had no idea of what courses to take and after I was enrolled I still didn't know what I was doing. For my second term I signed up for courses I learned of through other students in the College. But I still had many questions about my academic program because I never received any specific information about appropriate courses from the freshmen advisement offices. When I most needed help, I got nothing. Instead, the advisement office pressured me and others into choosing a specific engineering major with the rationale that they want to save everyone time and money. What ever happened to the idea of an education for the sake of learning? I asked my freshman advisor that question. He said: "you're being too idealistic." Well excuse me. Apparently my educational idealism has no business being in a four year specialized engineering program. Since I didn't receive any helpful information before orientation, I thought that the advising people couldn't help me either. So I came here with that attitude. It didn't help me at all; this was also the general feeling of some of classmates. That happened over two years ago. I hope things have changed for the incoming student. (student)

Too many advisors treat students like children--you must fill out an information sheet to get your permit to register. And if you didn't pre-enroll, then you must see your appointed advisor (who you already saw a week ago). Next, you have to wait till some busy secretary finds time to type it up. Now I have worked on the registration procedure in several different capacities, and I am annoyed at the silly delays and useless paperwork I meet at the College of engineering. Also the disregard of the arbitrary way people are deleted from some class enrollment lists. There are some people who do need classes or want electives and won't have another chance at them because they get kicked out by a first term junior. (student)

ADVISOR AS COMMUNICATION LINK:

Why not have a coffee room where advisors, students, and faculty can mingle informally and save money by negating the Cross Roads Cafe. Maybe convert the reading room into a coffee room; if people want to study, use the upstairs library. Or maybe open the faculty lounge to engineering students from ten o'clock till noon each day. (student)

Have advisors work with the students collectively and individually to make the professors responsible for their actions. And encourage students to increase their interrelations with the engineering faculty. Stress education as being more efficient as a team effort. (student)

CAREER RELATED:

Ask potential employers to comment about our engineering programs and offer suggestions about required courses, electives, and options. This could keep some areas more up-to-date than they are now with slow changes largely determined by administrators. (student)

I would like to see definite job titles, activities, and salaries current in any particular engineering field. Too much information is old hat. I would like to be given help in finding a job that interests me and about which I could construct a tailor-made engineering program. Can you think of a better way to lick the motivation problem? (student)

I think more information should be given about what is involved in the day-to-day work world of an engineering. Also every engineering student should be told about the Occupational Interest Survey tests available at the Student Services Building. It might also be wise to experiment with letting faculty volunteer to advise students, or use upper classmen to work with new students. Either suggestion would help the respective student identify more strongly with engineering. (student)

FACULTY ADVISEMENT:

When faculty work in an advisory capacity, this should be recognized as a valid part of his total teaching commitment. Such recognition should be reflected in the various statistics and records so often quoted about faculty teaching loads, responsibilities, etc. (faculty)

Faculty advisement on anything but a volunteer basis smacks of sheer educational lunacy. Faculty members have enough problems being competent at teaching and research. The only alternative I would consider is that of a combination of full-time paid advisors plus enough volunteer faculty. The full-time advisor is likely to give more attention to the progress of students, and a good advisor will be able to build pathways to the people in power in order to reduce the bureaucratic red-tape. Anyone who advises should be there to help, but under no circumstances should students be forced to deal with an assigned person. (student)

I think that faculty advisors in our department must change their attitude. The student isn't here just to get a diploma by meeting requirements. He's here to learn how he can fit into the outside world while performing a service to his fellow man that can also be personally fulfilling. Thus the academic advisor should use his knowledge of the outside world to guide students in the right direction. He is like a short-cut to experience. If the advisor doesn't have this knowledge about non-academic life, nor the time to share what he does know, then he should not be an advisor! (student)

Advising should be considered part of the ordinary teaching responsibility, and proper administrative credit should be given to those faculty who serve as advisors. (faculty)

Allowances in teaching should be given to faculty who regularly advise students. (faculty)

MISCELLANEOUS REMARKS:

This questionnaire is excellent, a real step forward. Thanks for letting me make my views known where they might do some good. (student)

Please don't be afraid to make some changes around this place. (student)

Whatever happens from this survey don't let them institute a total system of drop-in business only. At least in the freshman office you may get a different advisor each time you come in. Too much discontinuity is very bad. (student)

I see the advisor as a reference text to which I can turn when I have a question about my academic program, career, graduate school, etc.--not as a pseudo-parent who must "motivate me toward a rewarding career." (student)

The whole advisement program is well structured and has been both effective and helpful to students and faculty. (faculty)

I would like to be able to pick my own advisor. I had a poor advisor my freshman year. When I needed help, he did not deliver. (student)

The full-time advisor I am most acquainted with has done a good job in our department, and he is constantly trying to improve the service he provides to both students and faculty. (faculty)

APPENDIX K

JOURNALS RELATED TO ACADEMIC ADVISING

(NOTE: This appendix contains a partial listing of various journals that may be helpful in providing desired information. Journals are grouped into quarterlies and non-quarterlies.)

APPENDIX K

JOURNALS RELATED TO ACADEMIC ADVISING

Quarterlies

AAUW JOURNAL

(American Association of University Women)
2401 Virginia Avenue N.W.
Washington, D.C. 20037

ADMINISTRATIVE SCIENCE QUARTERLY

Cornell University
Ithaca, New York 14850

AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS

1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036

AMERICAN EDUCATIONAL RESEARCH JOURNAL

1201 Sixteenth St., N.W.
Washington, D.C. 20036

BEHAVIORAL SCIENCE

Mental Health Research Institute
University of Michigan
Ann Arbor, Michigan 48104

CARNEGIE CORPORATION OF NEW YORK QUARTERLY

New York, New York 10001

COLLEGE AND UNIVERSITY

450 Ahnaip Street
Menasha, Wisconsin 54952

COLLEGE BOARD REVIEW

College Entrance Examination Board
475 Riverside Drive
New York, New York 10027

COLLEGE STUDENT PERSONNEL ABSTRACTS
165 East 10th Street
Claremont, California 91711

COUNSELOR EDUCATION AND SUPERVISION
1605 New Hampshire Avenue, N.W.
Washington, D.C. 20009

EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT
Box 6907
College Station
Durham, North Carolina 27708

THE EDUCATIONAL RECORD
American Council on Education
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036

EDUCATIONAL THEORY
105 Gregory Hall
University of Illinois
Urbana, Illinois 61822

HARVARD EDUCATIONAL REVIEW
Longfellow Hall
13 Appian Way
Cambridge, Massachusetts 02138

HUMAN RELATIONS
Group Dynamics Research Center
University of Michigan
Ann Arbor, Michigan 48104

IMPROVING COLLEGE AND UNIVERSITY TEACHING
10 Commerce Hall
Oregon State University
Corvallis, Oregon 97331

JOURNAL OF APPLIED BEHAVIORAL SCIENCE
c/o Goodwin Watson, Editor
Kirby Lane North
Rye, New York 10580

JOURNAL OF COLLEGE PLACEMENT
35 East Elizabeth Avenue
Bethlehem, Pennsylvania 18018

JOURNAL OF COLLEGE STUDENT PERSONNEL
220 Parker Hall
University of Missouri
Columbia, Missouri 65202

JOURNAL OF COUNSELING PSYCHOLOGY
Ohio State University
1945 North High Street
Columbus, Ohio 43210

JOURNAL OF EXPERIMENTAL EDUCATION
University of Arkansas
College of Education
Fayetteville, Arkansas 72701

THE JOURNAL OF GENERAL EDUCATION
Pennsylvania State University Press
University Park, Pennsylvania 16802

JOURNAL OF GENETIC PSYCHOLOGY
2 Commercial Street
Provincetown, Massachusetts 02657

JOURNAL OF HUMAN RELATIONS
Central State College
Wilberforce, Ohio 45384

JOURNAL OF THE NATIONAL ASSOCIATION OF WOMEN DEANS
AND COUNSELORS
National Education Association
1201 16th Street, N.W.
Washington, D.C. 20036

JOURNAL OF NEGRO EDUCATION
Howard University
Washington, D.C. 20001

JOURNAL OF PERSONALITY
Department of Psychology
Duke University
Durham, North Carolina 27706

LIBERAL EDUCATION
Association of American Colleges
1818 R Street, N.W.
Washington, D.C. 20009

MERRILL-PALMER QUARTERLY OF BEHAVIOR AND DEVELOPMENT
71 East Ferry Avenue
Detroit, Michigan 48202

NORTH CENTRAL ASSOCIATION QUARTERLY
5454 South Shore Drive
Chicago, Illinois 60615

PERSONNEL PSYCHOLOGY

P. O. Box 6965
College Station
Durham, North Carolina 27708

PSYCHOLOGICAL ISSUES

International Universities Press, Inc.
227 West 13th Street
New York, New York 10011

PUBLIC OPINION QUARTERLY

Princeton University Press
Box 231
Princeton, New Jersey 08541

SCHOOL COUNSELOR

American School Counselor Association
1605 New Hampshire Avenue, N.W.
Washington, D.C. 20009

SCHOOL REVIEW

5835 Kimbark Avenue
Chicago, Illinois 60637

SOCIOMETRY

Sociology Department
University of California
Los Angeles, California 90024

STUDENT GOVERNMENT BULLETIN

U.S. National Student Association
3457 Chestnut Street
Philadelphia, Pennsylvania 19104

UNIVERSITIES QUARTERLY

10 Great Turnstile
London W.C. 1, England

VOCATIONAL GUIDANCE QUARTERLY

1605 New Hampshire Avenue, N.W.
Washington, D.C. 20009

Non-Quarterlies

AMERICAN EDUCATION
U.S. Office of Education
Washington, D.C. 20202

AMERICAN JOURNAL OF SOCIOLOGY
1130 East 59th Street
University of Chicago
Chicago, Illinois 60637

AMERICAN PSYCHOLOGIST
1200 17th Street, N.W.
Washington, D.C. 20036

AMERICAN SOCIOLOGICAL REVIEW
206 South Hall
University of California
Berkeley, California 94720

CALIFORNIA JOURNAL OF EDUCATIONAL RESEARCH
1705 Murchison Drive
Burlingame, California 94010

CATHOLIC EDUCATIONAL REVIEW
Catholic University of America Press
620 Michigan Avenue, N.E.
Washington, D.C. 20017

CHANGING TIMES
The Kiplinger Magazine
1729 H Street, N.W.
Washington, D.C. 20006

CHANGE
59 East 54 Street
New York, New York 10022

COLLEGE AND UNIVERSITY BULLETIN
1201 16th Street, N.W.
Washington, D.C. 20036

COLLEGE AND UNIVERSITY BUSINESS
500 Fifth Avenue
New York, New York 10036

CURRENT ISSUES IN HIGHER EDUCATION (annually)
1201 16th Street, N.W.
Washington, D.C. 20036

EXPANDING OPPORTUNITIES

American Council on Education
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036

FINANCIAL AID NEWS

475 Riverside Drive
New York, New York 10027

FUTURIST

World Future Society (nonprofit organization)
P. O. Box 19285
Washington, D.C. 20036

JOURNAL OF EDUCATIONAL MEASUREMENT

Michigan State University
East Lansing, Michigan 48824

JOURNAL OF EDUCATIONAL RESEARCH

P. O. Box 1148
Madison, Wisconsin 53701

JOURNAL OF HIGHER EDUCATION

Ohio State University Press
Columbus, Ohio 43210

JUNIOR COLLEGE JOURNAL

Association of American Junior Colleges
One Dupont Circle, N.W.
Washington, D.C. 20036

PERSONNEL AND GUIDANCE JOURNAL

1605 New Hampshire Avenue, N.W.
Washington, D.C. 20009

PERSONNEL JOURNAL

100 Park Avenue
Swarthmore, Pennsylvania 19081

PHI DELTA KAPPAN

Eighth Street and Union Avenue
Bloomington, Indiana 47401

PSYCHOLOGY TODAY

P. O. Box 60407, Terminal Annex
Los Angeles, California 90060

REVIEW OF EDUCATIONAL RESEARCH
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

TEACHERS COLLEGE RECORD
Columbia University
525 West 120th Street
New York, New York 10027

APPENDIX L

ADDITIONAL READING LIST

(NOTE: This additional reading list is offered for the benefit of the reader. Most of the articles proved to be helpful as a background for this study.)

APPENDIX L

ADDITIONAL READING LIST

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