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Lehigh University undergraduate information system

Gordon H. Bradley
Lehigh University

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LEHIGH UNIVERSITY
UNDERGRADUATE INFORMATION SYSTEM

by
Gordon Hoover Bradley

A Thesis

Presented to the Graduate Faculty

of Lehigh University

in Candidacy for the Degree of

Master of Science in Industrial Engineering

Lehigh University

1964

This thesis is accepted and approved in partial fulfillment
of the requirements for the degree of Master of Science in
Industrial Engineering.

March 20, 1964
J

Sutton Mounro
Professor in charge

A. J. Gould
Head of the Department

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ABSTRACT

The thesis describes the information system the University maintains to gather, use, and store data on the undergraduates and boys who apply for admission to the undergraduate colleges. The following offices were surveyed: Admissions Office, Health Center, Counseling and Testing Service, Residence Halls Office, Undergraduate Financial Aid Office, Office of the Dean of Students, Office of the Registrar, Student Activities Office, and the Reading and Study Clinic. The information collected by each office is classified by the document on which it appears.

The first part of the thesis is a description of each document stating when it is filled in, who fills it in, what use is made of the information on the document, how the document is stored, and when the document is destroyed. The second part of the thesis is an outline of the information that is gathered by the nine offices, noting on which document(s) the information appears. The final part of the thesis is the author's comments and evaluation of the system followed by five proposals for improvements to the system.

The information system is characterized by a lack of centralized control; each office has complete freedom in deciding what data to collect. The offices do not have to justify their choice of information so they have the power to do as they wish without informing anyone else on campus.

It is possible for a student to withdraw from the University without anyone asking him why he is leaving. In view of the investment the University makes in each student, the author makes several

proposals to assure that the student is leaving for valid reasons, and proposes several steps to gather information about the students who withdraw in order to minimize the withdrawals in the future.

The author proposes that the faculty members get a report of the grades they issued to their students as a check against errors. If the University's G.E. 225 were used to print the reports, valuable course statistics could be gathered.

The author discusses the security and use of information since the advent of large computers. The responsibility of the University to protect the student against the misuse of information has increased greatly in the last few years. A reappraisal of policies about the release of information is in order.

Although the University gives tests to identify poor readers, it may be weeks or months, if ever, before the student is told that he is a poor reader. The University maintains a Reading and Study Clinic for poor readers, but the clinic is voluntary. The author proposes that the poor readers be identified as soon as possible and be required to attend the Reading and Study Clinic until they obtain a satisfactory reading level.

Misconceptions about the objectives of the Counseling and Testing Service point out the lack of control that permits the objectives of the offices to change without permission from above. The freedom to gather any information makes this shift of objectives possible.

Description of the Documents

Each document in the thesis is described stating when the document is filled in, who fills it in, what use is made of the information on the document, how the document is stored, and when the document is destroyed. Twenty-five documents are included in the study; several documents that have very limited usage are not included. The documents not included are mentioned in the discussions of the various offices. Only primary documents are included in the study; copies of the documents are mentioned but not treated as separate documents.

Copies of the documents are in a separate appendix that is available in the Industrial Engineering Office.

The reader is referred to the glossary, page 87, for the definition of several widely used terms. The summary of documents and symbols, page 85, gives an outline of the twenty-five documents.

The study was conducted from October 1963 to May 1964. The author believes the thesis is an accurate description of the information system as it was May 1964.

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Admissions Office

The Admissions Office develops a file on each applicant for admission to Lehigh. This file consists of the application, the secondary school record, College Board scores, and all correspondence with or about the candidate. If the boy visits campus, additional information as well as comments by the interviewer are included in the file. The file contains the information that is the basis for admission or rejection of the candidate. For the candidates who matriculate at Lehigh, their files are sent to the Registrar and the Dean of Students for incorporation into their records. The files of all other candidates are kept for five years.¹ Then they are destroyed.

Each candidate's College Board scores are received from the Educational Testing Service. The small score sheet is glued to the back of an interoffice document. For this reason the score sheet is not treated as a separate document.

To aid in the evaluation of the candidates, the Admissions Office computes a predicted freshman year cumulative average for each candidate. The predicted average is a linear function of the student's SAT verbal score, SAT mathematics score, and his converted class rank.² The constants for the equation are calculated by doing a regression on the freshman year cumulative average of a previous freshman class. The constants are calculated separately for arts,

1. As required by the Pennsylvania Fair Educational Opportunities Act
2. See page 8 for determination of converted secondary school class rank.

arts-engineering, business, and engineering students. Thus, since the predicted average is a function of proposed curriculum choice, the decision to accept or reject a candidate can be influenced by his choice of curriculum.

Application for Admission to the Freshman Class (A 1)

The application for admission is filled out by all candidates applying for admission to the freshman class. The application is for admission beginning with the fall semester; normally no freshmen are admitted to begin work the spring semester. The applications are first released during the September one year prior to matriculation. Approximately 9000 applications are requested with about 2700 completed forms being returned each year. The candidate is told to return the application "during the fall semester of the senior year and definitely not later than March first. In practice the University is frequently forced to limit applications after January first."³ Approximately 700 completed applications are received each month during October, November, and December; almost all of the remainder are received prior to March first.

The application consists of two $8\frac{1}{2}$ inch by 11 inch sheets joined at the top. The candidate detaches the two sheets. The first sheet is torn into three sections. One section is directions to the candidate, one section is a mailing label to request the secondary school record, and the third section is information to be filled in by the student. This third section is used as a source document for keypunching the Personal Data Card;⁴ it is then placed in a geographic file for reference to by anyone wishing to know who has applied for admission from any given geographical area. In future reference this sheet shall be

3. Undergraduate Announcement and Career Guide 1964 p.78

4. Details on this card below.

called the geographic file sheet. When available, the converted secondary school rank and the College Board scores are added to this sheet. The information on the geographic file sheet is a duplication of information on the second sheet of the application. The geographic file sheets are destroyed at the end of the school year. The second sheet of the application is referred to as "the application".

As soon as the completed application is received, the Admissions Office requests the secondary school record. After the secondary school record is returned, the class rank is added to the application. The College Board scores are also added to the application.

The applications of the candidates who accept admission are sent to the Registrar during the summer preceding matriculation. The application becomes part of the student's permanent record. The applications of all other candidates are kept in the candidates files for five years, and then they are destroyed.

The information from the application that is kept on punched cards⁵ is readily accessible for data analysis. The application form has often changed, but the information requested has remained substantially the same for many years.

5. See page 14.

Secondary School Record (A 2)

The secondary school record form is sent to the candidate's school after the receipt of the completed application. The first side of the $8\frac{1}{2}$ inch by 11 inch record is a standardized form with spaces for the complete school record.⁶ The second side contains several questions concerning the candidate's school record and a request for comments or recommendations. After the completed record is returned, the school is sent a form to supply the first semester senior year grades. For the candidates that accept admission, a record of the second semester senior year is requested to complete the records.

The secondary school class rank is entered on the application. The class rank is normalized for use in the predicted average equation by means of a chart supplied by the Educational Testing Service.⁷ The converted class rank is recorded on the application card.

The secondary school records of the candidates who accept admission are sent to the Registrar during the summer preceding matriculation. The secondary school units for all subjects are transferred to the student's official transcript. The secondary school record then becomes a part of the student's permanent record. The records of all other candidates are kept in the candidate's files for five years, and then they are destroyed.

The only part of the secondary school record that gets wide

6. The Joint Committee on School-College Relations of the National Association of Secondary-School Principals (NASSP) and American Association of Collegiate Registrars and Admissions Officers (AACRAO)

7. Normalized from 20 to 80, mean of 50, standard deviation of 10

distribution is the class rank and the converted class rank which appear on the application and the personal data card respectively.

Group Conference Interview Form (A 3)

All the candidates or prospective candidates that visit the Admissions Office are given either a group or a personal interview. During the peak visiting periods (summer vacation and school holidays) nearly every visitor participates in a group interview with four to eight other visitors. The interview is lead by an Admissions Office staff member. Approximately 1000 visitors participate in these interviews each year.

At the beginning of each interview the boys are ask to fill out the interview form. The interviewer collects the forms and spreads them on the table for reference to during the rest of the interview. Since most boys have interviews prior to filing of an application, the form gives advanced information on the candidates. All införmation on the form is duplicated on the application or on the secondary school record.⁸

The group interview forms of the candidates who accept admission are sent to the Dean of Students during the summer preceding matriculation. The forms of all other candidates are kept for five years in their files, and then they are destroyed.

8. The information on the application and the secondary school record is probably more accurate since the student has no advance knowledge that he will be asked to fill out the group conference interview form.

Application Card (A-4)

The application card is filled out by the Admissions Office staff for internal office use. It contains a short record of the candidate including College Board scores and high school rank. The card is used to follow-up students who matriculated. The staff enters the semester average of the student for each semester he is at Lehigh.

The card is 4" x 6" with information on one side only. The card form allows easy access. If the candidate matriculates, the card is saved. At present, there is a twelve year file of the cards. If the candidate does not matriculate, the card is destroyed after five years.

Transfer Application (A 5)

Boys who have been enrolled in other colleges, junior colleges, or universities must fill out a transfer application when applying for transfer to Lehigh. Normally no transfer student is allowed to enter Lehigh as a freshman. Every year 100 to 150 students apply for transfer to Lehigh; approximately 25 are admitted.

The application consists of two $8\frac{1}{2}$ " x 11" sheets joined at the top. One sheet, entitled "Recommendation for Transfer Admission", is detached by the student and given to his dean or appropriate officer to complete and return to Lehigh. This form requests information about disciplinary action and the class rank as well as any comments regarding the student's candidacy for admission. The second sheet is an abbreviated application for admission.

Personal Data Card (A 6)

For each candidate the Admissions Office punches a standard size IBM card. The source document for the card is the geographic file sheet.⁹ The decision to accept or reject the candidate and also whether the accepted candidate accepted or rejected the offer of admission is added.

The card is used for 1) easy reference on the candidates, 2) aid in processing applications if the number of applications made manual processing difficult, and 3) printing of rosters of matriculating students with College Board scores and predicted average for distribution to various offices on campus.

With the data processing facilities available on campus the Admissions Office information on the card is the most accessible for data analysis. After one year the cards of all candidates are destroyed.

9. See page 7.

Health Center

The University Health Center maintains a medical record for each undergraduate. The Health Center requests a complete medical history from each incoming freshman. During Freshman Week, each freshman is given a chest x-ray. The medical history and the x-ray results are the start of the student's medical file. The file also contains a treatment card to record each visit to the Health Center. More treatment cards are added to the file as needed. The file is a $6\frac{1}{2}$ inch by $9\frac{1}{2}$ inch heavy envelope.

Each time a student visits the Health Center, the receptionist retrieves his file and stamps the time and date on the treatment card. The receptionist gives the file to a nurse who asks the student what is wrong. The nurse writes this on the treatment card and usually takes and notes the student's temperature. The nurse gives the file to one of the doctors who then treats the student. The doctor writes any further details of the illness and then writes what medication or treatment he prescribes. The doctor has at all times the medical history sheet and a record of all treatment prescribed at Lehigh. When the doctor is done, the file is returned to the nurse who gives the student any drugs or supplies prescribed by the doctor.¹⁰

The Health Center has retained all the files of students treated since the new Health Center opened. Inquiries by insurance companies

10. This is only common drugs like cold pills; other drugs are obtained through drug stores by prescription.

and the armed forces are answered using these files. The files will be retained at least as long as the statute of limitations on malpractice is in force.

The medical file is strictly confidential and is open only to the professional staff of the Health Center.

Report of Medical History (H 1)

During the summer preceding matriculation, each incoming freshman receives a report of medical history to be filled in by the student and his physician. The form is comprised of two $8\frac{1}{2}$ " x 11" sheets joined at the top. The student fills in the first sheet (two sides) with a complete record of all illness he has had, any disabilities he has, and a short family history with emphasis on hereditary diseases. There are several questions concerning the student's mental health.

The second sheet (two sides) is filled in by the physician. It is a complete physical check-up plus comment on all health problems noted by the student or revealed in the examination. The physician is asked for recommendations for further treatment and is asked to list sports or activities in which the student should not participate.

Upon receipt, each record is read completely by one of the staff physicians. All students who have had serious illness or disabilities or who require further treatment are examined by the staff at the beginning of the school year. All students whose physicians recommended they not take physical education are examined by the Health Center staff and exemptions from physical education or limitations on participation in physical education are based solely on the result of this examination.

The medical history report is included in the student's medical file and therefore is in the hands of the examining physician during all medical treatment. The medical history record is saved with the student's medical file after he leaves Lehigh.

The Counseling and Testing Service

The Counseling and Testing Service seeks "to aid the student to gain a better understanding of himself and how his personal characteristics bear on his present and future adjustments".¹¹ The main service of the Counseling and Testing Service is to give vocational guidance to the undergraduates. The staff gives advice on study habits and personal problems, but the great majority of students who come to the office seek vocational advice.

During Freshman Week the staff administers a series of tests to all the freshmen. The Strong Vocational Interest Test for Men, the Guilford-Zimmerman Temperament Survey, and the Nelson-Denny Reading Test are given. The tests are graded¹² and the results are recorded on various forms. The College Board Scores are added with Lehigh and national norms.

After the test results are available, a freshman can schedule an interview to receive and discuss his test results. The boy has a choice of an individual or group interview; the scheduling is crowded and group interviews can be had sooner. The request to see the results is entirely voluntary; the staff tells the freshman while he is taking the tests when results will first be available; they do not follow-up on boys who don't request their test results. Residence Halls counselors and the Dean of Students Office may urge a boy to get his results, but the boy does not have to.

11. University Catalog, March 1964, page 342.

12. Machine graded, results are available 1 to 2 weeks after the tests are given.

The interview, which is exactly the same for group or individual interviews, emphasizes self-knowledge. The student is given the test record profile sheet, the Strong Vocational Interest Report, and the Temperament Survey Sheet. The interviewer explains the tests and the score profile and answers any questions.

Only 80% of the freshmen come in to receive their test results. About 50% come in the first semester and 30% the second semester. Demand is highest right after the first round of hour tests, after "valentines", and after the fall semester grades are released.

The Counseling and Testing Service maintains a file on each undergraduate. The file is begun with a thermofax copy of the front page of the application for admission. To this is added the results of the Freshman Week tests and the questionnaire filled out by each student during Freshmen Week. Also added to the file are notes on counseling by the staff, letters from parents forwarded from the academic deans, and memos from other offices on campus concerning the student. The files are retained for ten years after the student graduates and then are destroyed.

About 90% of the efforts of the staff is directed toward vocational counseling. The staff seeks to give the student all possible information about himself and about various vocations in order that the student can make the best possible vocational choice. The staff also gives counseling about study habits and curriculum choice; this accounts for less than 10% of the staff efforts. Dealing with psychologically disturbed students accounts for a very small fraction of staff time. Most students who have emotional problems are referred to medical and

psychiatric help outside the University.

In the area of personal problems, the staff draws the line between problems directly related to academic performance at Lehigh and those problems not directly related. Although it is very hard to make this distinction, in practice the staff works only with problems that have a clear and direct bearing on academic problems. In general, personal problems of the students are not handled by the staff.

Student Information Questionnaire (C 1)

The Counseling and Testing staff requests that each freshman fill out a questionnaire during the Freshman Week test sessions. The questionnaire requests information about the student's family, his educational and occupational objectives, his hobbies and interests, and his own feelings about himself. The questionnaire states that the aim is to provide "meaningful background for interpreting the tests". The counselor reads over the questionnaire to familiarize himself with the student's academic and vocational objectives prior to any interviews with the student.

The questionnaire is two $8\frac{1}{2}$ " x 11" sheets with blanks to be filled in. The questionnaire states that all information provided is "strictly confidential". The questionnaire is kept for ten years after the student graduates, and then it is destroyed.

Test Record and Profile Chart (C 2)

The Test Record and Profile Chart is a summary of the tests given by the Counseling and Testing Office and the College Board Tests. The results are given on a standard score and percentile scale. The College Board scores are recorded on a nation and Lehigh norm scale. The reverse side of the 8 1/2" x 11" sheet is an explanation of the profile. The Strong Vocational Interest Test and the Guilford-Zimmerman Temperament Survey results are given on separate profiles.

The profile gives the student a good idea where he stands in the class at Lehigh. The Nelson-Denny Reading test is a measure of reading ability. If the reading test results are considerably below the other test scores, a reading handicap is evident. The Counseling Service estimates that 15% of the incoming class has a reading handicap. The staff suggests to these students that they should consult the Reading and Study Clinic. The student is not forced to go to the Reading and Study Clinic; the testing service does not check whether the student does go.

The student is given a copy of the profile to keep, the original goes into the records of the Counseling and Testing Service. The office copy is held for ten years after the student graduates, and then it is destroyed.

Report on Vocational Interest Test for Men (C 3)

The Strong Vocational Interest Test compares the interests of the student with the interests of men successfully engaged in several occupations. The 400 question test gives a score for the student in each of 45 different occupations which are divided into eleven categories. The occupations within a single group all correlate highly to one another. For instance, all the occupations within the physical science group (mathematicians, physicists, engineers, and chemists) are inter-related.

The scale indicates to what degree the freshman's interests coincide with those of successful men in a given occupation. The Counseling and Testing Service has found that the results of the test and the freshman's curriculum choice agree in 60% of the cases. This agreement increases to 70% by the time the students become seniors. About 10% of the students are surprised by the results; that is, the test results don't agree with what they consider their interests to be.

One side of the 8½" x 11" sheet is a chart of the score for each occupation. The reverse side is an explanation of the test results. The student is given one copy, the student's academic dean is sent a copy, and the original is retained for Counseling and Testing records. The office copy is held for ten years after the student graduates and then is destroyed.

Profile Chart for Guilford-Zimmerman Temperament Survey (C 4)

The Guilford-Zimmerman Temperament test consists of 300 questions to be answered "yes", "no", or "?". The profile sheet is divided into ten categories; each category has a 0 to 30 score. Each score is related to a percentile rank. The categories are labeled on both ends of the scale. For instance, one category is labeled "general activity, energy" on one end and "inactivity, slowness" on the other end of the scale.

The profile gives the student some insight into his own temperament compared to other people. The temperament test is particularly useful if the Strong Vocational Test is inconclusive. The test is to give the student insight on his own personality. The test was not designed, or is it used, to single out psychologically disturbed students.

The profile is an 8 $\frac{1}{2}$ " x 11" sheet. No written explanation of the test is included. A copy is given to the student, the original is retained for Counseling and Testing records. The form is kept for ten years after the student graduates, then it is destroyed.

Residence Halls Office

The Residence Halls Office has responsibility for the undergraduates in the residence halls system. All freshmen not commuting from home must live in the freshman residence halls, segregated from upperclassmen. There are 714 freshmen and 422 upperclassmen in the residence halls.¹²

The residence halls are divided into sections with 15 to 50 men in each section. The upperclass sections are run by section officers. Each freshman section has one or more freshman counselors who are responsible for the welfare of the freshmen. Freshman sections also have section officers. All the residence halls sections are united politically in the Residence Halls Council.

The freshman counseling program is headed by the Associate Dean of residence halls and is staffed by the freshman counselors. The counselors are paid upperclassmen who live in the freshmen residence halls.¹³ There are presently 48 counselors spread around the freshman residence halls. The counselors help the freshmen adjust to college life and try to help them solve all personal or academic problems.

The Residence Halls Office begins a file on each freshman in the residence halls. The file consists of the freshman log and any notes or memos by the staff about the student. The notes and memos might include disciplinary information, academic reports by counselors, and

12. 1963-64 figures

13. The freshman counseling program is synonymous with the Gryphon Society, a university living group. Counselors are prohibited from associating themselves with any other university living group

personal counseling notes by the staff. The file is kept open while the student is at Lehigh, even if the student leaves the residence halls. After four or five years the files are moved to storage.

Freshman Log (RH 1)

Each counselor maintains a log on each freshman in his section. The log is a running record on the freshman's academic and social progress. The printed two page log details the minimum information on each freshman. The counselor's job is done partially through personal interviews spaced throughout the year to guarantee at least minimum information about the freshman.

The log has spaces for the counselor's comments on each interview. There is an initial Freshman week interview, an October follow-up, a fall mid-semester interview, a February interview, a spring mid-semester interview, and year-end comments. The initial interview is a "get acquainted" talk, the others are concerned with academic progress and general adjustment. Any other significant information that comes from interviews, talking, or just daily observation by the counselor is entered in the log.

The counselors have a monthly meeting with the Associate Dean or his assistant to go over and discuss the logs. After the freshman year the logs go into the Residence Halls Office files.

Undergraduate Financial Aid

The Undergraduate Financial Aid Office coordinates all scholarships, loans, and a substantial portion of the undergraduate jobs on campus. The office comes under the Admissions Office; the head is the Executive Secretary to the Faculty Committee on Undergraduate Financial Aid.

All candidates applying for financial aid must fill out the Parents' Confidential Statement form from the College Scholarship Service, a part of the Educational Testing Service. The form is filed with the College Scholarship Service with a copy being sent to Lehigh. These forms must be submitted before January 15. No other application need be sent; the candidate is then eligible for scholarships, loans, or work opportunity awards.¹⁴ Awards are made in March. For the freshman class entering September 1962:

"932 applied for aid
 250 were awarded aid
 136 accepted awards (total amount including
 NDEA loan funds \$133, 985)
 38 enrolled with outside awards (total
 amount \$26,266)
 177 of those who applied for aid enrolled
 without assistance" ¹⁵

Undergraduates applying for financial aid for the next year must submit an application for financial aid and their parents must submit a statement of the family's financial status. A statement

14. A promise to supply a job that will pay a specified amount.
 15. To Secondary School Principals and Guidance Officers, September 1962,
 page 3, Admissions Office Publication.

that family finances have not changed is all that is necessary for an applicant who is reapplying for the same amount of aid as he held last year. The parents of all other applicants must fill out a Parents' Confidential Statement that is similar to the College Scholarship Service form.

The office maintains a file on every undergraduate who applies for aid. The file contains all the forms submitted by students and parents. The file also contains faculty comments as requested by some scholarship donors, comments by the staff resulting from interviews with scholarship holders, and copies of letters to financial aid donors about the recipients of their scholarships. The files are kept for one or two years after the student graduates; the files are then destroyed.

Some forms used by the office have not been included in this thesis. Some of these are: short term loan request, request for special schedule because of employment, and statement of employment form.

Employment Card (S 1)

Each semester each undergraduate fills out an employment card. The card lists all employment for "last semester", "summer vacation", and "proposed this semester". This information is used to check scholarship applicants. This is the only source of information on undergraduate employment which totals over \$350,000 per academic year.

The card also requests details on all financial aid including loans and veteran benefits. This is the only source of information on financial aid that is not awarded by or through Lehigh; this outside aid amounts to almost \$200,000 per year. The Undergraduate Financial Aid Office likes to provide reports to donors on scholarship students even if the awards are not made through the Financial Aid Office.

After the information is taken from the card, the card is destroyed.

Parents' Confidential Statement--College Scholarship Service (S 2)

The Parents' Confidential Statement is a complete financial report submitted through the Educational Testing Service as an application for freshman financial aid. The original is filed with the Educational Testing Service with a copy being sent to Lehigh. The form is due prior to January 15 for consideration for financial aid for the freshman year.

The form covers parents' income, expenses, assets, and liabilities, and the student's own assets. There is also a space for any special circumstances the college should know about.

Undergraduates applying for aid who have not previously held awards must have their parents submit the Parents' Confidential Statement. Undergraduates who are applying for renewal of an award need submit the Parents' Confidential Statement only if the amount of aid requested is changed from the previous year.

All Confidential Statements are kept in the student's file. They are destroyed one to two years after the boy leaves Lehigh.

Application for Financial Aid (S 3)

Every undergraduate applying for aid or the renewal of an award must fill out an application for financial aid. This application is due March first. The student fills in details on his activities, employment, and semester grades. He also must fill out a detailed budget for the next year.

The applications are kept in the student's file. They are destroyed one to two years after the student graduates.

Office of the Dean of Students

The Office of the Dean of Students maintains a file on each undergraduate. During the summer prior to matriculation, the file is started by putting the student's name on a personal data sheet. To this file is added information from the student's Admissions Office file such as all Admissions Office confidential memos concerning the student, any significant letters to the boy from the Admissions Office concerning the granting or denying of financial aid, any letters written to the Admissions Office in support of the boy's admission, any evaluation of the boy by the Admissions Office, and a thermofax copy of the first page of the application. During a student's Lehigh career "valentines", section 3 reports, and any correspondence with the boy, his parents, and any company or organization requesting information about the boy are added to the file as well as comments on the Personal Data Sheet. When a student graduates, withdraws, or is dropped from the University, his file is moved to the inactive section. After five years the files of all graduates are sent to the Registrar's Office where all unique information is incorporated into the student's permanent file. Most information is thrown away because it can be duplicated by reference to Discipline Committee minutes, official transcripts, etc. The files of non-graduates are held for ten years before being incorporated into the Registrar's permanent files. It is necessary to hold non-graduate files longer because they may return.

Personal Data Sheet (D 1)

The personal data sheet is a list of entries made by the staff of the Office of the Dean of Students. The entries, each numbered, dated, and initialed, cover the student's whole Lehigh career. An entry is always made whenever :

1. The student goes on scholastic probation.
2. The student is in the "deficient zone" ; that is, the boy is not on probation but his cumulative average is below the 1.5 required for graduation. (can only apply to freshmen and sophomores)
3. The student is on the Dean's list or earns Freshman or Sophomore Honors.
4. There are any significant conversations with any staff member.
5. There is any disciplinary action taken.
6. Any significant information is received from the Health Center, local hospitals, or the student's doctor concerning the student's health.
7. There is any phone communications with the student's parents.
8. The student receives a "Section 3" .
9. There is an inquiry about the boy from companies, schools, the Armed Forces, etc. Any comments made about the boy in reply are recorded.
10. The student is dropped for poor scholarship.

11. Any miscellaneous information or news clippings about the student comes to the attention of the staff.
12. The student comes to the Dean's Office and tells a member of the staff that he plans to withdraw from the University.¹⁶

16. The office will also distribute a "Not-Return Notice" (see below) to various campus offices. If the student does not inform the office of his intentions of not returning, when he fails to register for the next semester his file will be moved from the "active" to the "inactive" section of the files.

Letters from Freshman Parents (D 2)

After fall registration, the Dean of Students writes a letter to the parents of each freshman inviting the parents to cooperate in helping Lehigh to advise and counsel their son. The parents are asked: "If your son has specific strengths or weaknesses or if there are any other factors to write me (Dean of Students) about them "¹⁷ The parent is told the letter is confidential and will be shared only with the Dean's staff and the boy's academic advisor.

The letters are sent out at a rate of 200 per week for the first four weeks after fall registration. Approximately 375 parents replied in 1963.¹⁸ The letters from parents of boys in Arts, Arts-Engineering, and Business are answered by the Assistant Dean of Students. The letters are then forwarded to the deans of the boy's college. The letters from parents of boys in engineering are only acknowledged by the Assistant Dean; the letters are then forwarded to the Dean of Engineering. Copies of the replies or acknowledgements sent by the Assistant Dean are placed in the student's file.

17. From 1963 letter, third paragraph

18. Slightly fewer than previous years due to a rewording that indicated that replies were necessary only if the parents had some definite comment.

Not Returning Notice (D 3)

If a student informs the Dean of Students' Office that he does not plan to attend Lehigh the next semester, a "Not Returning Notice" is issued. The student is asked why he will not attend the next semester and he is asked when or if he plans to return to Lehigh. The "Not Returning Notice" contains the unfinished sentence: "His return at a later date is..." The original copy of the notice is put in the boy's file with copies being sent to "Bursar, Academic Dean or Enrolling Officer, Registrar, Residence Halls Office, Financial Aid Office".

If a student withdraws from the university without notifying the Dean's Office in advance, his file is moved into the inactive section when the absence of an emergency information-activities card (D 4) indicates he has failed to register for the new semester. At that time no attempt is made to determine why the student has failed to register for the new semester.

Emergency Information - Activities Card (D 4)

Each semester each undergraduate fills out an IBM punch card for the Dean of Students. The card contains the name and address of the student and his parents or guardian, as well as information about whom to notify in case of serious accident or illness. The card also contains a list of all extracurricular activities in which the student participates, including the student's living group. The card is used to determine the student's living group and to supply information about the student's extracurricular activities to any interested party.¹⁹

Since the card is filled out as a part of registration, the absence of a card indicates that the student is no longer attending Lehigh; his file is then moved from the "active" to the "inactive" section of the files with no further note of his action being taken.

The cards are kept on file in the Dean's Office for use by the staff. After the semester ends, the cards are destroyed.

19. Mainly companies or the Armed Services writing for information about the student.

Office of the Registrar

The Registrar has charge of the University's official records on students. A permanent file is maintained on every student who has ever matriculated since the founding of the University. The student's permanent file is begun when his application and secondary school record are received from the Admissions Office during the summer prior to matriculation. The permanent file is used to collect all office forms and memos from the Registrar's Office that accumulate over the student's Lehigh career. Five years after a student graduates his file from the Dean of Students' Office is sent to the Registrar. Most of the information in the Dean's file is thrown away; anything deemed important is transferred to the student's permanent file. For non-graduates the same procedure is followed ten years after the boy leaves Lehigh.

The Registrar also maintains the official record of all courses and grades for each student. The official record begins with the copying of the credits from the secondary school record. The official record is a large sheet that is suitable for easy reproduction to produce the student's transcript. Each semester the grades are copied from the grade sheets to the official record.

The Registrar is also responsible for the registration and scheduling of all classes. Several weeks before the end of each semester, all students must pre-register for the next semester.²⁰ After grades are in for the semester, the actual scheduling of each student for

20. Only students who plan to attend the next semester.

his courses can begin. The form for pre-registration is not included as a document in this thesis. A copy of the schedule for the new semester for each student is available in the Registrar's Office and the office of the student's curriculum director.

Lehigh University Personal Data Card (R 1)

Every undergraduate fills out a personal data card each semester. The student is asked for his name, address, and phone number; his parents' names, parents' marital status, student's draft status, and various other pieces of personal information. The card is used by the staff of the Registrar's Office to compile statistics on the student body. The Registrar also uses it for reference when talking with students.

✓ The card is a standard IBM punch card. The Registrar's Office saves the cards indefinitely for reference in compiling class statistics.

Grade Card (R 2)

The grades are sent from the faculty member to the Registrar's Office on the grade card. Each faculty member receives a card for each student in his class. The faculty member writes the grade in a box on the card, signs the card, and sends it to the Registrar.

The grade card is a standard IBM punch card, prepunched with details about the student and the course. The grade is punched onto the card. The card is then used to generate the grade reports. The faculty member gets no check on the accuracy of the grades sent to the student. Grades are copied onto the official record by hand from a copy of the individual student's grade report.

The grade cards are kept ten years and then they are destroyed.

Address Card (R 3)

Every undergraduate fills out an address card each semester. The address card contains the student's home and local address and his home and local phone number.

The card is a standard IBM punch card. Each semester the staff compares the address card with the punched card in their address file; if a change is noted, a new card is punched for their file. The cards that agree with their file are destroyed.

Persistence Card (R 4)

The staff of the Registrar's Office punches a Persistence card for each student who matriculates at Lehigh. The card is a standard plain white IBM card.

The card is used to accumulate data on the students, particularly for the purpose of determining how many students eventually receive a Lehigh degree. The card also contains other information to be used in computing student statistics. The card is punched with the student's semester by semester cumulative average, hours of advanced standing, if on probation, if dropped for poor scholarship, if withdrew and reason for withdrawal (taken from Not Return Notice D 3), date graduated, etc.

The cards were begun with the freshman class that entered in September 1958. The cards will be kept indefinitely.

Student Activities Office

The Student Activities Office gathers no data on undergraduates for its own use. The staff does make use of information obtained by other campus offices. As a service to the fraternities and to freshmen the office distributes a fraternity questionnaire, but the staff makes no use of this information.

Fraternity Questionnaire (SA 1)

Prior to the beginning of fraternity contacting, each freshman is asked to fill out a fraternity questionnaire. The questionnaire is "designed to familiarize fraternities with the members of the freshman (class) who wish to be rushed". All freshmen are urged to complete the questionnaire regardless of their interests in fraternities. The freshmen are specifically asked if they are interested in being contacted by fraternities. They are also asked to list their personal interests, Lehigh activities, high school activities, and names of Lehigh relatives and Lehigh fraternity member relatives.

The questionnaire is returned to the Student Activities Office. Approximately 725 questionnaires were returned for 1963-64 fraternity rushing. The questionnaires are alphabetized and then placed in several large binders. Fraternity members (or anyone interested) are free to look through the binders. After fraternity rushing is completed the questionnaires are destroyed.

Reading and Study Clinic

The Reading and Study Clinic helps the student develop satisfactory reading and study habits. The clinic conducts sessions to 1) improve reading speed and comprehension, 2) increase the student's vocabulary, and 3) improve the student's organization and study habits. The reading course is offered six times per year; each course meets for one hour three times per week for four weeks.

The Reading and Study Clinic is completely voluntary. No student is ever told to go to the clinic and the clinic never contacts a student. The clinic charges \$12.50 for the four week session. After paying for the initial session the student is entitled to take the course as many more times as he likes for no additional charge. Once he has signed for the course, attendance at the scheduled classes is voluntary. The student schedules classes in his free class time. He may have to schedule his classes at different hours on different days and so may not have the same teacher for all three sessions.

Before the course starts, a reading counselor gives each student a battery of four diagnostic tests. The tests are: 1) Diagnostic Reading Test to determine reading speed and comprehension, 2) the vocabulary part of the Cooperative English Test, 3) the organization part of the Spitzer Study Skills Test, and 4) a study habit questionnaire. As indicated, only parts of each test are used; the total test time is approximately one hour.

When the student comes back to get his test results he is shown the "analysis data and conclusion sheet". Using the test results, the

reading counselor tells the student how he should divide his class time between the three areas of study (reading, vocabulary, and study habits). Each student in the reading course works at his own pace on his own individual program. The test result sheet is put into a folder with the student's name on it. Each time the student comes to class he gets his folder.

All written work done by the student is put into his folder. Each class period he takes short quizzes; he puts the quiz results into his folder. At the end of the course the student retakes the diagnostic tests given at the beginning of the course. The student's folder is kept on file so that if he takes another reading session he may pick up where he left off with his program. After the student graduates, his file is destroyed.

Each class period the student plots the results of a reading speed and a reading comprehension test. The student can follow his improvement during the course. The staff of the clinic does not follow up graduates to determine the long range academic or even reading benefits of the reading course.

About 200 students per year enroll in at least one of the six reading courses. This varies from nearly 100 in the first session of the academic year to 25 in the last session. Attendance averages about 80% of the students present for each class. Attendance varies from nearly 100% at the beginning of the year to 50% near the end of the year.

If a student seems to have emotional problems beyond his reading and study problems, the counselor administers the Minnesota Multi-

Phasic Personality Test. The counselor sends the results of the test to the Counseling and Testing Service. This is the only test given on campus that is designed to identify students who are emotionally unstable. This test is used very rarely.

Analysis Data and Conclusions (RS 1)

The reading counselor records the test results and his recommendations for a program of study on the analysis data and conclusions sheet. The student is shown how he should use his class time to best improve his reading and study habits. /

The sheet is put in the boy's folder. Each time the boy comes to class he gets the folder. There is only one copy of the sheet; it remains in the boy's file while the boy is at Lehigh. After the boy graduates, the sheet is destroyed with the rest of the file.

Outline of the Information

The following is an outline of the information that appears on the 25 documents included in the thesis. Beside each item is the number of the document(s) on which the information appears. Where possible, the information description is a direct quote from one of the documents.

The information is divided into five basic areas; 1) Identity, identifying information about the boy; 2) Achievement, what the boy has done; 3) Aptitude, what the boy can do; 4) Background, what the boy is; and 5) Interests, what the boy would like to become. Refer to the document description to determine when the document is filled in and who fills it in.

IDENTITY

I. Full name of student	all
A. Nickname	A1
B. Student's number	D4, R2, R4
II. Home address	A1, A2, A3, A4, A5, H1, RH1, S2, R1, R3, SA1
A. Home phone number	H1, RH1, R1, R3, D4
III. Local address	H1, RH1, S1, S3, D4, R1, R3, SA1
A. Local phone number	S1, D4, R1, R3
IV. Curriculum and class	A1, A3, A4, A5, A6, H1, C1, RH1, S3, D1, D4, R1, R2, R4, SA1
V. Personal Data	
A. Sex	A2, H1, S2
B. Height	A1, H1
C. Weight	A1, H1
D. Race	H1
E. Physical build	H1
F. Color of hair and eyes	H1
G. Marital status	A1, A5, S2, R1, SA1
1. Plans to marry before graduation	S3
2. Date of marriage	S3
3. Number of children	S3, R1
VI. Living group	D4
A. Fraternity membership	D4, S3, R1

VII. Birth Date	A1, A2, A5, H1, S2, R1
A. Birth place	H1, R1, SA1
B. Birthday	RH1
C. Country of citizenship	A1, R1, SA1
D. Age	C3, SA1
VIII. Military service	A5, SA1
A. Draft classification	R1
B. Number and address of draft board	R1
C. Selective Service number	R1
IX. Names of both parents or guardians	A1, A2, A4, A5, RH1, D4, R1
A. Address of parents or guardians	A1, A4, A5, D4, R1
B. Relationship to the boy	A1, A4, A5
X. Who to call in case of accident or illness.	
A. Name	H1, D4
B. Relationship to the boy	H1, D4
C. Address	H1, D4
D. Phone Number	H1, D4
XI. Motor vehicle operated at Lehigh	
A. License number, make, year	D4, S3
B. Purchase price and justification	S3
XII. Name of Freshman Residence Halls counselor	RH1

ACHIEVEMENT

I. Secondary school academic record	A2
A. Semester grades of all courses ninth through twelfth grades	A2, A3
B. Results of standardized tests given in conjunction with courses in A. above	A2
C. Exact or approximate class rank and size of class	A1, A2
D. Converted class rank	A6
E. Secondary school subjects taken and presently being taken	A1
F. Scholastic average, year prior to application for admission	A1, A3
1. On honor roll that year	A1
G. Hours of advanced standing	R4
II. Secondary school academic honors	A1, SA1
III. Secondary school activities and athletics	A1, A3, SA1
A. Number of years participation	A1
B. Special positions, team captaincies, etc.	A1, SA1
IV. Outside interests while in secondary school	A1, A3
V. Non-scholastic skills that have been developed	C1
VI. Grades at Lehigh	
A. Individual freshman year test and theme grades	RH1
B. Strong and weak subjects on October 15 of freshman year	RH1

C. Valentines	RH1, D1
1. Reason for valentine (freshman year)	RH1
D. Final grade in each course	R2
E. Grade point average semester by semester	A4, S3, R4
VII. Lehigh extracurricular activities and offices held	S3, D4, SA1
VIII. Employment	
A. Employer, type of job, dates worked, hours per week, rate of pay, and total amount earned for:	
1. Last summer	S1, S3
2. Last semester	S1, S3
3. Proposed this semester	S1, S3
B. Work full time, part time, or not at all	R1
IX. Name of scholarship or subsidy received while at Lehigh	S1
A. Duration of the award	S1
B. Amount of the award	S1
X. Reason for withdrawing from the University	D3, R4
A. If and when expect to return to the University	D3
XI. Semester went on probation	R4
XII. Date of graduation from Lehigh	R4

APTITUDE

I. College Board Tests	
A. Preliminary SAT - Verbal	A2, A3, A4
B. Preliminary SAT - Mathematics	A2, A3, A4
C. SAT - Verbal	A1, A2, A3, A4, A6, C2, RH1
D. SAT - Mathematics	A1, A2, A3, A4, A6, C2, RH1
E. English Composition Test	A1, A2, A3, A4, A6, C2
F. Two Achievement Tests	A1, A2, A3, A4, A6, C2
1. Science, engineering, and arts-engineering students	
a. Advanced Mathematics	
b. Chemistry or Physics	
2. Business and non-science arts students	
a. Advanced or Intermediate Mathematics	
b. Optional	
II. Miscellaneous secondary school tests	
A. Name and interpretation of the tests	A2
III. College Board scores normed to Lehigh	
A. SAT - Verbal	C2
B. SAT - Mathematics	C2
C. Advanced Mathematics Achievement Test	C2
IV. Predicted Average	A4, A6

V. Reading tests

A. Nelson Denny Reading Test

- | | |
|---------------|----|
| 1. Vocabulary | C2 |
| 2. Paragraph | C2 |

B. Reading and Study Clinic tests

- | | |
|-----------------------------|-----|
| 1. Diagnostic Reading Test | RS1 |
| 2. Cooperative English Test | RS1 |
| 3. Spizer Study Skills Test | RS1 |

BACKGROUND

I. Family

A. Father

- | | |
|---|----------------|
| 1. Name | A1, S2 |
| 2. Occupation (or deceased) | A1, A5, C1, S2 |
| 3. Colleges or universities attended | A1 |
| 4. Lehigh graduate | A1 |
| 5. Brief description of duties of job | C1, S2 |
| 6. Age | H1, C1, S2 |
| 7. Education | C1 |
| 8. State of health | H1 |
| 9. If dead, cause of death and age at death | H1 |

B. Mother

- | | |
|---|------------|
| 1. Name | A1, S2 |
| 2. Occupation (or deceased) | A1, C1, S2 |
| 3. Colleges or universities attended | A1 |
| 4. Age | H1, C1, S2 |
| 5. Education | C1 |
| 6. State of health | H1 |
| 7. If dead, cause of death and age at death | H1 |

C. Brothers and sisters

- | | |
|-------------------------------|----|
| 1. Number of older brothers | A1 |
| 2. Number of younger brothers | A1 |
| 3. Number of older sisters | A1 |
| 4. Number of younger sisters | A1 |

5. For each brother and sister
- a. Name S2
 - b. Age H1, C1, S2
 - c. Colleges and universities attended A1
 - d. Education C1, S2
 - e. Occupation C1, S2
 - f. State of health H1
 - g. If dead, cause of death and age at death H1
- D. Parents' marital status C1, S2, R1
- 1. If divorced or remarried whom does student live with C1
- E. Spouse of student
- 1. State of health H1
 - 2. If dead, cause of death and age at death H1
- F. Children of student
- 1. Number of children S3, R1
 - 2. State of health H1
 - 3. If dead, cause of death and age at death H1
- II. Name and address of secondary school A1, A2, A3, A4, A5
- A. List of all secondary school attended and dates of attendance A1, A5, SA1
 - B. Date graduated, withdrew, or will graduate from secondary school A1, A2, A3
 - C. Secondary school graduated from A2, A5, R1
 - D. Ever expelled, suspended, or ask to withdraw from a secondary school A1

- E. Comments by headmaster, principal, or counselor of secondary school
1. Explanation of any serious disciplinary action A2
 2. Explanation of any character delinquencies A2
 3. Explanation of any unusual emotional instability A2
 4. Considerations due to home conditions, part time work, or absences A2
 5. Comments or recommendations of the boy including judgment of traits and abilities, strengths and weaknesses A2
- F. Secondary school number A6
- III. Other colleges attended A5, R1, SA1
- IV. Names of close Lehigh relatives and relationship SA1, A1, A5
- A. Fraternities they belonged to SA1
- V. Health record supplied by student H1
- A. Statement of health H1
 - B. List of medical troubles (34 questions) H1
 - C. Depression or excessive worry, attempted suicide H1
 - D. Excessive drinking habit H1
 - E. Any drug or narcotic habit H1
 - F. Homosexual tendencies H1
 - G. Difficulty with school studies or teachers H1
 - H. Have seen or have been advised to see a psychiatrist H1

VI. Health record and medical examination supplied by student's physician	HI
A. Physical examination	HI
B. Comments on record supplied by student	HI
C. Recommendations for further treatment	HI
D. List of sports and activities in which the student should not participate	HI
E. Physician's address	HI
VII. Blood relatives who have had:	
A. Tuberculosis, diabetes, cancer, kidney trouble, heart trouble, stomach trouble, rheumatism, and epilepsy	HI
B. Syphilis	HI
C. Committed suicide, insanity	HI
VIII. Parents' Confidential Financial Statement	S2
A. Estimate for year of application and actual figures for two previous years of:	
1. Salary and wages of father	S2
2. Salary and wages of mother	S2
3. Other income	S2
4. Business expenses	S2
5. Federal income tax paid	S2
6. Tax exemptions claimed	S2
7. Annual home expenses	S2
8. Uninsured medical expenses	S2
9. Other extraordinary expenses	S2

B. Assets and Liabilities	
1. Life insurance	S2
2. Home	S2
3. Other real estate	S2
4. Dollar value of share of business or farm	S2
5. Bank accounts	S2
6. Other investments	S2
7. Indebtedness	S2
C. Make, year, and indebtedness of family cars	S2
D. List of other children in family and their secondary school or college tuition and fees	S2
IX. Comments by Freshman Residence Halls counselor	
A. Trouble areas, Freshman Week interview	RH1
B. General adjustment	RH1
C. Reasons for valentines	RH1
D. Student's attitude toward his mid-term grades	RH1
E. Year end comments	RH1
X. Letters from parents to the Dean of Students	D2
XI. Student's description of himself (shy, determined, etc.)	C1
XII. Guilford - Zimmerman Temperament Test	C4
XIII. Information from current college of transfer applicant	
A. Subject to any formal disciplinary action	A5
B. College rank (quintiles)	A5
C. Comments	A5

INTERESTS

- | | |
|---|-----|
| I. How and why interested in attending Lehigh | A1 |
| II. Educational and vocational objectives | C1 |
| A. What influenced these choices | C1 |
| III. Three most liked and three least liked secondary school subjects | C1 |
| IV. Enthusiasms, hobbies, and special interests | C1 |
| V. Strong Vocational Interest Test for Men | C2 |
| VI. Activities or sports you would like to participate in at Lehigh | SA1 |
| VII. Interested in being contacted by Lehigh social fraternities | SA1 |

Comments on the Information System

The most evident feature of the University's information system is the lack of centralized control. Each office determines what information it wants, designs its own forms, and in most cases collects the actual information. The forms vary from printed forms and mimeographed sheets to IBM punch cards. The only centralization of data collection is the cards made out at registration time; the Registrar collects cards for the Dean's Office and for the Undergraduate Financial Aid Office in addition to the cards for the Registrar's Office.

There is very little electronic data processing done. The data that is on punched cards is just used for copying information²¹ or the gathering of simple statistics.²² No real analysis of data is done within the information system. Even the predicted average is calculated after all the data is transformed from sheets to paper tape. It is particularly surprising that the Counseling and Testing Service and the Reading and Study Clinic do not analyze the relationship of their standard tests to the Lehigh student body. Neither office collects data on student grades, and no information is in a form suitable for computer processing. Dealing with such a selective student body, one wonders if national tests based on average populations have much meaning. Also, the Admissions Office relates its predicted average only to SAT verbal and SAT mathematics scores and the secondary school class rank; there is no analysis to see if other factors are significant. The

21. Admission Office's Personal Data Card used to print various freshman class rosters; Registrar's Office printing grades.

22. Registrar's Office.

Admissions Office gathers many bits of information about the candidate, but does no scientific analysis of the information. With the computers on campus, periodic data analysis would seem to be worthwhile in many areas.

There is not much duplication of information across campus. Each office gathers fairly specialized information for its own use. There is duplication of information that is gathered each semester; unchanging information like birth date, secondary school graduated from,²³ etc. is asked for each semester. A more efficient method would be to only ask for changes in the information, not ask that all the information be duplicated each semester. The duplication of information is shown clearly by the outline on page 50.

Almost all of the information gathered, especially after a student begins work at Lehigh, is very specific questions. That is, there is no place for comments. There is no suggestion, gripe, or comment flexibility in the information system. Hence the system gives no information on student attitudes or thinking.

There is no information about the student's knowledge in absolute terms. The Admissions Office is mainly interested in the results of aptitude tests and the relative place of the student in his secondary school class. With no knowledge of what the student knows it would seem hard to decide what to teach the student. With no absolute measure after one, two, three, or four years it is impossible to determine how much Lehigh has taught the student. There seems to be a need for data to

measure the effect of Lehigh on the student.

The most impressive part of the information system is the Health Center. The staff reads completely each medical record; they act immediately on all recommendations from the boy's doctor. They verify for themselves by means of examination all the recommendations from other doctors. In short, they gather up every bit of information they can about the boy's health. They then use this information; the boy's complete file is in the doctor's hands during all examinations. Each doctor carefully documents each treatment so the student can be seen by any doctor on a subsequent visit.

There is definitely a "professional attitude" at work. There is no question as to the objectives, limitations, or responsibility of the office. It is true that the medical profession and state laws are largely responsible for the professionalism. Still the other offices on campus could benefit from this professional outlook. Definite objectives, pressure to obey higher authority (mostly state laws), and a rigid information system in no way hinders the Health Center or its staff. Other campus offices would also benefit from a clear definition of objectives and responsibility and from firm control from above.

The other offices on campus don't make total use of the information they have. The Admissions Office suppresses almost all the information it gathers; predicted average, College Board scores, secondary school recommendations, interview evaluations, etc, are all denied to the faculty. Counseling and Testing releases no information about which students are unhappy in their curriculum. In all the other offices

there is not the free exchange of counseling information as there is of medical information within the Health Center.

9 The other offices on campus would do well to consider "professional attitudes" in their relation with other offices and their responsibility toward the student.

Handling of Students Who Withdraw

One disturbing gap in the information system is the lack of information on students who withdraw from the University. Each semester ten to fifteen students fail to return to Lehigh. The present information system may or may not note the reason or even the fact that a student has withdrawn. If a student, on his own initiative, walks into the Office of the Dean of Students and tells someone that he does not plan to return for the next semester, a "Not-Returning Notice" is issued to various campus offices stating the reason for the withdrawal and whether the student plans to return.²⁴ If the student does not take the initiative to tell the Dean's Office, no one knows of his withdrawal until he fails to register for the next semester. At that time, that is, after the withdrawal is a fact, no attempt is made to determine why he has withdrawn or if or when he plans to return.

Within the University's information system there are two indications that a student may be preparing to withdraw. If a student fails to pre-register for the next semester, he is probably not planning to return. The forwarding of transcripts to other schools by an underclassman usually indicates a potential transfer student. The formal information system makes no note of either indicator, although the Registrar does keep an informal list of transcripts sent to other schools by underclassmen. These two indicators probably would find only a part of the potential withdrawals even if checks for them were

24. See page 36.

to be incorporated into the information system.

Even if the student goes to the Dean's Office, the resulting conversation is hardly an exit interview. The only information noted is the reason for withdrawal and whether the student plans to return to Lehigh. The reasons specified, like "going into the service", "transferring to X College", or "academic immaturity", are certainly explanatory but offer no chance for analysis as to why the Marines are better than Lehigh, or what makes a student immature by Lehigh standards. The "Not-Returning Notice" is a statement, it is in no sense an explanation or an analysis.

There is only one University publication that makes any suggestion to a student planning to withdraw from the University. The Lehigh University Handbook For Students, first published the fall of 1963, says, "Any student contemplating voluntary withdrawal from the University is advised to speak first with the Dean of Students".²⁵

Since the tuition charges cover only about 50% of the cost of a Lehigh education, the University is investing approximately \$1500 per year in each student. Every student who withdraws represents a potential loss of thousands of dollars of University money. Aside from the human loss, it seems to be bad business not to investigate bad investments. The human loss is large (and largely unmeasurable) in terms of a boy who withdraws without a degree, and in terms of other boys denied admission because of the place taken by the boy who withdraws without a degree.

It should be understood that many good students withdraw, even Dean's List students. Although many are on scholastic probation or are about to flunk out, the group includes many students of the caliber Lehigh can hardly afford to lose. Transfer students in particular are usually in good academic standing, many having top grades.

The thinking and reasoning behind a plan to withdraw surely runs from the profound to the haphazard. There is value to be gained from looking at both. The careful, mature student has weighed and evaluated the University as few other undergraduates have. In particular the boy who has been successful at Lehigh must have reasons that would be thought-provoking to many people on campus. The University should be just as interested in the reasons and thinking of the ill-advised boy. If the plan to withdraw is motivated by misconceptions of his own ability, erroneous impressions of University X, financial or personal problems that could be solved by some clearer thinking, or poor perspective of what not being pledged to a fraternity means to his college career, then a few minutes or hours of accurate information and advice may avoid a hasty withdrawal. Either way, much is to be gained; the boy can point out problems he finds in the University and the University can point out some of the boy's problems that can be solved.

If the avenue for discussing withdrawal from the University was well known, it might attract dissatisfied boys long before they came to the point where withdrawal seemed the best solution. Although it may seem wasteful to attempt to channel all dissatisfied boys through

one person or one office, the advantage of one person having a perspective on the problems that prompt boys to quit Lehigh seems worth while.

The gap in the information system could be filled by formalizing an exit procedure that would assure that proper attention would be given to students who withdraw. Such a procedure should have the following characteristics: 1) An exit interview with one or more University personnel should be arranged for each student who plans to or who actually withdraws from the University. A detailed questionnaire should be filled out by the interviewer after the interview;²⁶ the questionnaire would specify the minimum information to be gained about each student. If appropriate, interviews could also be set up with the Admissions Office, Financial Aid Office, etc. 2) There should be follow-up letters or phone calls to the parents to clarify, verify, or discuss the student's withdrawal. 3) An increased effort to discover potential withdrawal students before they leave could include follow-up on students who don't pre-register, contact with freshman counselors or upperclass living group presidents inquiring if anyone in their group plans to withdraw, etc. This should reduce the number of students who withdraw without telling any University staff member. 4) There should also be a systematic follow-up on the students who leave. This is especially true of students who have stated that they plan to return after a specified length of time; these students represent an investment of the University that can be realized if the boy returns and gets his degree.

26. Not the student!

The most crucial part of any proposal to add more information to the system is the question of the use to be made of such information. Since it would be easy to initiate procedures to gain data on drop-outs, it would appear the reason no data is gathered now is that no one is interested in such data. The present system does not contain any direct data on the reasons for withdrawing, so it would appear that no one is presently studying the problem in any great depth. Any proposal for gathering information would have to include proposals for feed-back of the insights gained from such a study to the Admissions Office, Counseling and Testing Service, the Freshman Counseling Program, and to the faculty. The person(s) responsible for gathering the data would have to take the responsibility of making sure the results were forwarded to the people on campus who are in the position to act on any insights gained from the data.

Grade Card Procedures

The information system provides no check with the faculty member about the grades issued to the student. The faculty member writes the grade on the grade card and sends the grade cards to the Registrar's Office. The grades are gang punched into the grade cards. The cards are sorted by individual student and the grade sheet is printed. The grades are recorded onto the student's permanent record from the grade sheets. Mistakes can occur when the faculty member writes the grade on the grade card and, when the grade is punched into the card.²⁷ The faculty member gets no check that the student receives the grade intended.

A report of the grade given to each student in his class could be printed for each faculty member. After the grade sheet for each student was printed, the grade cards could be sorted by course and section and the faculty report could be printed on the data processing machinery in the Registrar's Office.

An alternate procedure would be to use the University's G.E. 225 to print the report to the faculty. This would add a sound check to the information system at no added inconvenience to the Registrar's staff. There would be other advantages to use the G.E. 225. The huge internal memory could be used to gather statistics while the grade reports were being printed. For instance, cards could be punched for each course and section recording the number of A's, B's, etc. in

27. The grade recorded on the grade sheet is the grade punched into the grade card, not the grade written on the card.

in the course, the number of students from each curriculum in the class, and the average grade of the class. All the cards could be easily written on magnetic tape for later, more detailed, analysis. The G.E. 225 could print the report, compile the statistics, and write all the grade cards on magnetic tape more quickly than the machines in the Registrar's Office could just print the report. The cards could be processed at rates in excess of 100 cards per minute.

The Registrar's Office could use the statistics cards generated by the G.E. 225 to compute such things as: 1) the grade distribution for each course, 2) the grade distribution for each teacher, and 3) the number of students of other departments taught in each course. The use of the G.E. 225 would provide an accuracy check of the grades and an increase in valuable course statistics.

The Security and Use of Information

The various offices on campus have in total a tremendous amount of information about every student. Much of this data is of a personal and confidential nature. With this much information goes tremendous power over the student. This is power to do good for the student and of course, power to do harm if misused. The University must accept the responsibility for this power it has over the students and alumni.

The nature of this responsibility has changed greatly over the last few years with the widespread use of computers. Before the advent of large computers, it was impossible to analyze large masses of data. The availability of large computers no longer limits the analysis of large volumes of data; also the computers permit almost anyone to run sophisticated statistical tests. Analysis of variance and multiple regressions can be run on large amounts of data by anyone who can punch the data onto IBM cards. Intelligent analysis is limited to experts, but anyone can draw conclusions from the statistical tests. For example, an analysis of grades at Lehigh might show that redheads don't do as well as other students. The untrained analyst may bar all redheads from admission, while the real reason for the poor grades might be several faculty members, who hate redheads. Anyone could discover that hair color affected grades, but only the sophisticated analyst could find the real problem.²⁸ The computer has given anyone

28. Even the best of analysts make mistakes, but the chances are less than in the case of the inexperienced. The expert is also much more likely to recognize a situation that he does not fully understand and

with access to information about people the potential for vast power over those people. This is in no way to imply that analysis should not be done, it just means that there is increased responsibility on any person or organization that possesses information. The computer holds great promise for the valuable analysis of information, but with the increased power to do good goes the increased potential to do harm. The University administration must make sure that any data analysis is carried out intelligently and that all conclusions are checked and rechecked before unwise (though well intentioned) decisions are made.

The age of computers also brings increased responsibility in the area of information released to companies and organizations outside the University. In the past companies and government organizations didn't request large amounts of information on the students as they do now. Requests for official transcripts has greatly increased in the last few years. With the computer it is now possible to evaluate and use large amounts of data gathered about employees. A company or government agency does not have the best interests of the individual as a goal as does the University. The goal of companies and other organizations is to make the best use of their employees, this goal may be at odds with the best interests of the individual. I think the University would not be facing up to its responsibility if it did not try to protect the student against the release of information the University has gathered. The University should reappraise its policy of releasing official transcripts without the student's knowledge be more cautious about drawing conclusions.

ledge or permission.²⁹ I think the practice of widespread distribution of transcripts should be discouraged. The Placement Office could tell companies that it is University policy to issue transcripts only under special circumstances. The grade sheets issued by the Placement Office should be sufficient.³⁰ The individual student looking for a job is almost powerless to protect his record, the University should act to safeguard the student and itself against the increasing outward flood of official transcripts.

The University knows more about a student than any employer will probably ever learn. University paid counselors even live with the students during their freshman year. I predict the University will come under increasing, but subtle, pressures to release more and more information about the students and alumni. The policy on release of grades, writing of recommendations, and faculty interviews with recruiters must be reviewed, because the age of computers has arrived.

The duplication of basic information over campus suggests that a centralized integrated information system would produce savings in time and money as well as administrative control.³¹ With an integrated system would go increased responsibility for data security and protection against unskilled and unwise data analysis. The problem of security and the concept of protection of the privacy of the students and alumni would have to be carefully studied if such a system were to be instituted.

29. It is not inconceivable that credit agencies or employment bureaus might try to obtain information under false pretenses.

30. Released without the student's permission.

31. See page 84.

I think campus security of information is good. Security against students having opportunities to alter their records or to view the records of other students seems particularly good. The only students who even work within the information system are the undergraduates who work for the Registrar at registration time. The only exception seems to be the request for a transcript; when a transcript is requested, no check is made to see if a student is requesting his own or someone else's transcript. Anyone can go into the Registrar's Office and print the name of a student on the transcript request and have a transcript mailed out. The showing of an ID card for undergraduates or a signature on requests from alumni should be a requirement. It is possible that a transcript has never been illegally obtained, but the chance for abuse of this kind seems much more likely in the future in our information hungry society.

Inter-office security is also effective; the only significant information flow is through formal channels. Staff members seem to have no direct access to the information in other offices. In fact, most staff members don't even seem to have a good idea of what information is available in other offices.

The proper use of information is a difficult question. Some offices are gathering information that they have no apparent use for; the information seems inappropriate for the objectives and goals of the office. Some of this information is not used, but most of this information is used by the office for purposes that they do not state. The lack of control from above is evident, offices are allowed to gather what data they choose and they do not have to justify their use

of the data. If each office were asked to justify their use of each bit of data, it would become evident which data was not used and also which data was used for purposes other than the stated objectives of the office. If offices are permitted to decide what data to gather, they are given the power to do as they wish without informing anyone else on campus. If the goal setting and policy making are to be centralized, each office must be forced to state for what purpose they gather their data. A tight control on data gathering would help assure that higher authority knew what each office was doing.

A particularly disturbing point is the change of personnel on campus. The office staffs are so small that one or two retirements or resignations can bring entirely new and untried people into possession of large amounts of information on students and alumni. The fact that this thesis is needed to describe the data system indicates that a blank check for power is sometimes handed into untested hands as office personnel change. The need for controls and checks from above is obvious.

Poor Readers

Some Lehigh students have a reading handicap that prevents them from realizing their full academic potential. Such students usually can not read and retain the amount of knowledge expected by the Lehigh faculty. The University has established the Reading and Study Clinic to help these poor readers.

The Counseling and Testing Service administers a reading test during Freshman Week to identify the poor readers. Approximately 15% of the freshman class need remedial reading help. But some poor readers may not be told about their handicap. The 20% of the freshman class who don't go to the Counseling and Testing Service never get their test results. Only 50% of the class get their results the first semester. It may be weeks or months, if at all, before the poor reader is told he needs help. The Counseling and Testing Service makes no attempt to contact any of the poor readers, even if they never come for their test results.

Since the University identifies the poor readers and has established a clinic to help them, the students who are poor readers should be told as soon as possible that they need reading help. It may take weeks or months of professional reading help until the student can study efficiently; so he should be told as quickly as possible in order not to jeopardize his Lehigh career.

It is possible to identify students who need reading and study help even sooner from the results of the verbal SAT test. In the freshman class that entered in September 1962, 103 boys out of 745

had verbal scores below 500, while only 5 boys had SAT mathematics scores below 500. Any boy with a verbal score below 500 needs reading, vocabulary, and study organization help from the Reading and Study Clinic. These students could be singled out as soon as they accept admission, and could receive help as early as Freshman Week.

The University should demand at least the minimum learning skills from all students. Therefore, the present voluntary enrollment and voluntary class attendance for the reading course should be made mandatory for the students identified as poor readers. All poor readers should be required to attend the reading classes until they obtain a minimum reading skill.

There are opportunities on campus for valuable reading analysis. A follow-up study on the reading ability and grades of boys who have taken the reading course could quantify the value of the Reading and Study Clinic. The study might show that some "brush-up" course taken every year or so would be extremely valuable in making the effect of the reading course permanent. A study of the effect of reading on grades could be carried out with historical data. If reading and study skills were shown to be a main factor in influencing grades and the Reading and Study Clinic was proven to improve these skills, the way would be cleared to eliminate the SAT verbal score as a criteria for admission. The Admissions Office could search for high ability, eager boys ignoring verbal skills; the Reading and Study Clinic could then remove any reading or study skills "blocks" that would prevent the boys from realizing their potential. There is little competition for high ability high school students who have

poor verbal skills.³² Therefore with the Reading and Study Clinic operating on a mandatory basis, Lehigh might successfully tap new sources of good students.

32. Low verbal skills particularly applies to bright boys from low income homes.

Misconceptions About the Counseling and Testing Service

In my interviews, I noted that many University staff members had misconceptions about the objectives and the function of the Counseling and Testing Service. Dr. Vernon Williams, acting supervisor of the Counseling and Testing Service, agreed with my observation; he said his office has been trying to correct the situation by means of notes and memos to various campus offices stating his views on the role of the Counseling and Testing Service.

The Counseling and Testing Service is primarily interested in vocational counseling; about 90% of the staff's time is spent in vocational guidance. The Freshman Week tests are used to give the student knowledge about his own interests and abilities so that he may make the best possible vocational choice. The Freshman Week vocational interest test covers broad vocational areas like "engineer". Related vocations like "engineer", "physicist", "chemist", and "mathematician" are highly correlated to each other. Therefore this test has little meaning when trying to help a boy decide between the various science or engineering curricula. The interest test is of most use when helping a boy decide among arts, business, and engineering. The counselors therefore avoid specific curriculum advice and usually give advice only with respect to choice of college within the University.

There is an area of student problems that could be loosely called "academic problems". This would be any "block" that prevents the student from realizing his full academic potential. Some examples would be: adjustment to college life, adjustment to college academic work, homesickness, troubles with specific courses or teachers,

personal problems (home, girlfriend, roommate), etc. The Counseling and Testing Service will help a student if he seeks advice about "academic problems", but the counselors feel that this type of problem does not come under their objective of vocational guidance. They do not feel that they should do personal counseling or deal with problems that cover all areas of campus life.

The other offices on campus don't seem to realize that the counselors consider themselves as primarily vocational specialists. There seems to be a tendency to refer students with broad "academic problems" to the Counseling and Testing Service. The real problem is that the offices like the Reading and Study Clinic, the Financial Aid Office, the Counseling and Testing Service, and the Dean of Students Office are specialists in one particular area of student problems; students with "academic problems" simply fall between the various specialities.

The tendency seems to be, when in doubt, send the student to the Counseling and Testing Service. The gap for "academic problems" appears to have been filled in the past by one of the specialists, Dr. Andrew Edmiston who was supervisor of the Counseling and Testing Service until June 1963. He helped students who had all kinds of "academic problems". His departure has left a gap his successors have not tried to fill. The referring of "academic problems" to the University's vocational specialists seems to be a lag in other offices realizing that the objectives of the Counseling and Testing Service have changed.

There is no clear definition of what are the objectives and limitations of each office. The role of each specialist is not understood;

there is confusion as to what to do with or where to send the student whose problem does not coincide with the objectives of one of the campus specialists. In such a situation it was possible for one office to quietly broaden its objectives to include a large part of the "academic problems".

There is a definite need for a higher level of administration to establish the objectives of each office and to clearly define the role each office shall have in handling student problems. I am sure that such a job definition would uncover vast areas of student problems that would not be covered by any office. Permanent checks should be set up to insure that the scope and objectives of any office does not change without approval from above. One such effective check would be to control the information each office gathered; this would assure that the office wasn't gathering information for purposes other than to fulfill the objectives of the office.

SUMMARY OF DOCUMENTS AND SYMBOLS

Admissions Office (A)

Application for Admission to the Freshman Class (A 1)

Secondary School Record (A 2)

Group Conference Interview Form (A 3)

Application Card (A 4)

Transfer Application (A 5)

Personal Data Card (A 6)

Health Center (H)

Report of Medical History (H 1)

Counseling and Testing Service (C)

Student Information Questionnaire (C 1)

Test Record and Profile Chart (C 2)

Report on Strong Vocational Interest Test for Men (C 3)

Profile Chart for Guilford-Zimmerman Temperament Survey (C 4)

Residence Halls Office (RH)

Freshman Log (RH 1)

Undergraduate Financial Aid (S)

Employment Card (S 1)

Parents' Confidential Statement - College Scholarship Service (S 2)

Application for Financial Aid (S 3)

Office of the Dean of Students (D)

Personal Data Sheet (D 1)

Letters from Freshman Parents (D 2)

Not Returning Notice (D 3)

Emergency Information - Activities Card (D 4)

Office of the Registrar (R)

Lehigh University Personal Data Card (R 1)

Grade Card (R 2)

Address Card (R 3)

Persistence Card (R 4)

Student Activities Office (SA)

Fraternity Questionnaire (SA 1)

Reading and Study Clinic (RS)

Analysis Data and Conclusions (RS 1)

GLOSSARY

prospective candidate - A boy who has expressed interest in attending Lehigh, but who has not submitted an application. This would include boys who have requested applications but have not returned the completed application.

candidate - A boy who has submitted an application for admission. Boys who accept admission are considered candidates until they matriculate.

student - Any undergraduate from the time he matriculates until he graduates or withdraws from the University.

SAT - The Scholastic Aptitude Tests as administered by the Educational Testing Service. There is a mathematics test and a verbal test.

INTERVIEWS

- Dean Clarence B. Campbell; Associate Dean of Students, Director of Residence Halls
- Mr. Theron L. Kropp; Executive Secretary, Committee on Undergraduate Financial Aid, Assistant Director of Admission
- Dr. George W. McCoy, Jr; Director, University Health Service
- Mr. Andre T. Meade, Instructor in Education, Reading and Study Clinic counselor
- Mr. Samuel H. Missimer; Director of Admission
- Dean Preston Parr; Associate Dean of Students, Student Activities
- Dean William L. Quay; Assistant Dean of Students
- Dean Howard C. Troy; Assistant Dean of Students
- Mr. James H. Wagner; Registrar
- Dr. Vernon G. Williams, Jr.; Counselor and Acting Supervisor, Counseling and Testing Service

BIBLIOGRAPHY

Books

Lehigh University, Handbook for Students, September 1963, issued by
the Student Activities Office

Lehigh University, Undergraduate Announcement and Career Guide 1964,
Volume 37, Number 5

Lehigh University, University Catalog, March 1964, Volume 37, Number 2

Reports

Lehigh University Admissions Office, To Secondary School Principals
and Guidance Officers January 1961, a report about Lehigh
giving freshman class statistics

Lehigh University Admissions Office, To Secondary School Principals
and Guidance Officers September 1962, a report giving Lehigh
freshman class statistics and scholarship statistics

Interviews

See list of interviews page 88.

VITA

Gordon Hoover Bradley born March 5, 1940 in Altoona, Pennsylvania to Eleanor W. Bradley and Theodore C. Bradley ; Bachelor of Science in Mechanical Engineering with High Honors from Lehigh University June 1962 ; computer programming jobs with Lehigh University Computer Laboratory July 1962 to June 1963 and Air Products and Chemicals Inc. June 1963 to September 1963 ; full time teaching assistantship Industrial Engineering Department Lehigh University February 1964 to June 1964 ; Charles W. Parkhurst Fellow in Industrial Engineering Lehigh University September 1963 to January 1964 ; member Tau Beta Pi and Pi Tau Sigma .