

Sparks.

The College Student *

by

K. Patricia Cross

I am quite ^{phased} ~~flattered~~ and honored to be asked to talk about the college student tonight and, of course, I always enjoy a visit back to Cornell; but I must confess that as I was trying to pull together a coherent picture of the college student I began to wonder just how I could have had the temerity to accept such an assignment. When I was on this campus as Dean of Students one of the questions I ~~used~~ ^{used} to deal with most uncomfortably was that perennial request from students to describe the administration's view ~~and~~ ^{or} the faculty attitude on a given issue. If they just knew how the faculty felt, students would tell me, they would know better how to deal with the situation. I might have been tempted to present a lucid picture of the Cornell faculty member--except for the ~~saving~~ fact that usually when this question arose I had just come from a faculty committee meeting in which it was all too apparent that there was a wide range of faculty opinion on almost any given topic. With all of this experience behind me to demonstrate the folly of describing groups, I find it a bit incredible to be attempting to describe to a group of potential faculty members the college student.

I suppose the saving grace of this assignment is that the student has been a terribly interesting object of study--especially over the last decade--and I come to this assignment tonight armed with a staggering array of facts.

① [There are many reasons for the vigorous activity in research on the college student in the past ten years. One would certainly point to the growing sophistication in the research methodologies of the social sciences as one major factor contributing to our knowledge. In addition, technological

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innovations such as the high speed computers have made it possible to conduct national studies of thousands of students with a realistic hope of analyzing the data before they become obsolete. We should also recognize, of course, that government and foundation funds have supported studies of a magnitude undreamed of twenty years ago.

All of these conditions have made possible the kind of research we're doing today, but the real ^{impetus} ~~emphasis~~ is the almost pressing need to know--about students, about colleges, about what education is doing and could be doing. I'm sure some of the research is stimulated by the dyed-in-the-wool researcher who studies students because they are there; but there are also certain very practical needs in higher education today which demand greater knowledge about students. Let me give an example, for a number of years now, selective colleges have managed to keep from growing too big too fast by the stop-gap measure of simply raising admission standards, and for a while it appeared that they were simply getting better and better students. ^{IVY LEAGUE - More homo IQ - Less Socio-Econ.} But the highly selective colleges have about reached their limit of selecting on the basis of intellectual ability. Some colleges, after all, already have a whole class of entering freshmen whose mean SAT score is in the top ^{5%} ~~1%~~ of the college-going population. It hardly seems tenable to claim ^{that aptitude is primary} ~~any real difference~~ ~~of ability to profit from educ. offerings when we're talking about~~ ~~in the learning capacity of a student scoring 700 and one scoring 800 on~~ ~~aptitude in the top 1% for the total population.~~ ~~the college boards.~~ But how else does one select who might best profit from an education at their institutions? To answer this question, one really needs to be able to identify some other characteristics that correlate with academic and career success. ^{with} And so ~~although~~ knowledge and measurement of the intellectual characteristics have ¹⁰⁰ a good 50-year head start on the identification of the non-cognitive characteristics, there is an understandable urgency about getting a fuller picture of the student and the impact of

higher education upon him. We now have, I think, a ~~good~~ start on rounding out the picture of the college student by being able to talk about both cognitive and non-cognitive characteristics.

Let me start tonight with the intellectual ability since this is rightfully a major concern of anyone teaching or planning to teach at the college level. It is also a good starting point since we have more experience in this area, and I'm able to present information that has had the benefit of repeated confirmation from a variety of studies.

The one fact that stands out above all others is that higher education is dealing with an all but overwhelming diversity in the academic potential of its students. There are accredited colleges with student bodies whose mean score on the College Boards is in the lowest 2% for college students throughout the country; there may be 1% or 2% of the students at such colleges who score as high as the average college student. On the other hand, there are colleges who have no students scoring as low as the national average. The mean SAT scores at more than one college this year stood at the ⁹⁵~~99~~th percentile. In other words, at some colleges the educational program and classroom instruction must be geared for the lowest ⁵~~1~~% of the college-going population; in others it must be designed for the top ⁵~~1~~% in ability. And ~~at still others~~ ^{the vast majority} it must cover the entire range. At many of the State universities, students' abilities run the full gamut; and the professor may have in a single class students with roughly a 50 point differential in I.Q.

Although these are the extremes, both between and within colleges, they do exist. In actual practice a number of factors operate to narrow the range of abilities which ~~a given professor faces in his~~ ^{might appear in a given} particular classroom. There is an ordering of abilities by region of the country, for example. If one simply lumps all students in a geographic section and compares the

on academic aptitude tests

mean scores, colleges in the northeast have, on the average, a more able student body than colleges in the south. When colleges are grouped according to the level of instruction offered, one finds undergraduate students attending institutions offering the doctor's degree scoring higher than those offering the master's, who in turn score higher than students at bachelor's granting institutions who have higher mean scores than those attending two-year colleges.

→ If one wishes to group colleges according to type of control, their entering classes would show private colleges at the top, public institutions at the bottom, and church related (both Roman Catholic and Protestant) in the middle.

Let me be very careful to point out, however, that while the mean scores on various aptitude tests tend to fall into these patterns with some consistency, the differences between groups is small; whereas the difference between individual colleges in a given group may be very large indeed. For example, in the single geographical region of the state of California, institutional means range over a full 3 standard deviations--or from about the 5th to the 95th percentiles. The difference between California colleges and Mississippi colleges would not be nearly that great. [Nevertheless, the chances are pretty good that the students at a private northeastern university granting the doctor's degree have greater academic ability than the students in a public Junior college in the south.

^{The}
~~Your~~ field of academic specialization will also have some influence on the general level of ability showing up in ^{the} ~~your~~ classroom. The findings from a variety of studies are remarkably consistent: the average intelligence test scores of major groups fall regularly into an order with the Physical Sciences, Engineering, and Mathematics at the top, followed by Literature and the Social Sciences, with the applied fields--agriculture, business, home economics, and education at the lower end of the scale.

Again though, the old cautions--there are extremely bright students in every major.

Furthermore, there are other factors which come into play in the choice of a major. Sex is a notable example. ^{insert A} In a recent study of National Merit Scholars, Thistlethwaite found that after three years in college, 52% of these highly talented students were in the Natural Sciences, 18% were in the Social Sciences, and 20% in the Arts and Humanities. But if separate distributions are made for men and women, we find a different pattern. Whereas 63% of the male scholars were in the Natural Sciences, only 32% of the female scholars chose the Sciences. Humanities with 35% was actually a little ahead of the Sciences for gifted women.

There may be many reasons for these general findings, and you may rest assured that the Social Scientists noting their not too enviable position in the middle of the scale will pursue the answers.

I present these rather global statistics about the intellectual abilities of students not so much as an interesting curiosity but because there is, I think, a reason why college faculties should be aware of the relative abilities of the students with whom they are working.

The National Opinion Research Center (NORC) recently conducted a nationwide survey of the career plans of some 35,000 graduating seniors. One part of the study dealt with the factors influencing students to continue their study of science in graduate school. The most startling discovery was that National Merit scholars who attended high-prestige, intellectually-elite colleges were considerably less likely to go on to graduate study in the sciences than their counterparts who attended less selective colleges. Upon further analysis, it was found that the encouragement received from faculty members played a major role in a student's decision to pursue graduate study.

Not too surprisingly, faculty members tend to encourage their A students. The NORC study, however, revealed that many National Merit scholars attending highly selective colleges received grades of B's, C's, or worse; whereas scholars attending more heterogeneous institutions tended to receive A's and also to receive faculty encouragement for graduate study. Actually, the C student at Swarthmore, for example, may well be in the top 3% in both ability and performance; and yet both he and his instructors tend to view his performance relative only to Swarthmore students. This situation has led some responsible educators to propose a national grading system as well as local grades--so that even if a student is average at Swarthmore, he would at least know (and so would his professors) that he was an A student nationally; and such knowledge might influence the professors' encouragement as well as to give the student a more realistic evaluation of his academic potential.

CCT The differences in academic accomplishment from college to college were quite vividly brought to my attention last year in connection with some norming studies we were doing on a chemistry test. The test was constructed by a national committee of college chemistry teachers and covered what they thought a student having one year of college chemistry should know. To get norms for the test we administered it to college classes in Chemistry at some 30 colleges and also obtained the final grade which the student had received in his college course. With all college classes combined we found a very good relationship between test performance and final grade---A students as a group scoring higher than B students, etc. But in looking at the distribution for individual classes, I found 2 colleges where there was no overlap at all on test scores, i.e., students receiving F's in Chemistry at one college knew more Chemistry, as measured by the test, than A students at the other college. It's highly probable that the input in the colleges

differed as much as the output; and the question of greater educational significance perhaps is what are colleges doing with what they have? This question needs much more study than we have given it to date.

In any case, a definition of the college experience in the limited terms of either test scores or grades would satisfy few educators. Leaders in education are making it quite clear that the educated man is something more than a trained brain. Faculty members who maintain that their sole responsibility is ~~the intellectual development of the student~~ *to teach the accumulated wisdom of their subject field* are likely to find themselves out of step with the goals of the leading colleges of today. Listen to this summary of remarks made by college presidents to their entering classes this fall. On October 2, TIME wrote as follows:

"Brainy college freshmen under the impression that their next four years would be spent as assembly-line workers in ivy-covered fact factories got a sharp jolt last week. 'You demand facts, facts, facts,' Guest Speaker A. L. Sachar, president of Brandeis, told the entering class at the University of Illinois. What they need just as much, he insisted, is values to serve 'in a world where the harsh voice of unreason cries down the generous passions,' and 'the elasticity of your minds will be a shield.' On campuses across the U.S., college presidents were playing up the value of values.

"Yale President Kingman Brewster, Jr., said that although freshmen were picked for their intellectual ability, their 'moral capacity' had also been taken into account. Success at Kenyon, said Dean Bruce Haywood, ultimately depends on a student's 'individual taste and moral judgment.' 'The collection of knowledge is only the starting point,' echoed Curtis Tarr, president of Lawrence University of Appleton, Wis. At Pomona College, one of the six associated Claremont Colleges of California, President E. Wilson Lyons also greeted freshmen with a call to use knowledge for moral ends.

"The most fervent plea for a 'moral quest' came from Princeton's Robert F. Goheen. He told bright Tiger cubs that if they expected 'only to accumulate knowledge, I would advise you to begin negotiations with another institution where you can attach yourself to a pipeline of inanimate learning and become full, like a storage tank, sealed by a diploma and otherwise useless.'"

If these are in fact goals of higher education, where are we in assessing our progress toward them? In all honesty, we're only starting, but I

think there is no more exciting or promising area for research. We have hoped and assumed that college will make a difference, but we have very little evidence that it does. Within the next few years, ETS and other educational research agencies will be devoting major energies to these questions. The greatest need is for longitudinal studies. What is the impact of college on the student? The now-famous Jacob report of 1957 concluded that, with the exception of a few colleges with a "peculiar potency", the student emerged from four years with the same attitudes and values with which he entered. Recent research has shown, however, that things are not as gloomy as Jacob's then shocking report indicated.

The ways in which one can describe some of these more elusive characteristics of students are almost unlimited, but it appears that every social science that has a methodology has brought it to bear on the student.

At one extreme are the clinical descriptions in which a single observer studies a few subjects in depth. In contrast to this are the nationwide questionnaire studies which analyze the responses of literally thousands of students. And somewhere in between these extremes are the approaches which attempt to handle large number of students by establishing groups or types which can then be described in terms of common characteristics. In my overview tonight I would like to give examples of these approaches and to summarize briefly for you their findings.

Roy Heath's very readable little book entitled The Reasonable Adventurer makes a good starting point for describing the college student. Heath is a clinical psychologist who wrote a summary of his observations of 36 Princeton undergraduates as he followed them through four years of college. S

Dr. Heath served as a faculty advisor to these men with the special assignment to devote his full time to "observe, ponder, and if possible,

formulate the impact of (Princeton) upon the lives of these men." He concluded that Princeton encouraged the development of Reasonable Adventurers-- individuals marked by a kind of openness to experience and a spontaneity of reaction combined with good judgment--hence the name Reasonable Adventurer. In his group of 36 advisees, he found three types of students, each moving toward the Reasonable Adventurer via a different route. He identified the three types as non-committers, hustlers, and plungers.

The non-committer is restrained, polite, and reacts to life and learning by waiting for leads from others. He avoids entangling involvements, watches attentively but reveals little of himself.

The hustler is distinguished by his drive to achieve tangible rewards. He is an activist, competitive, tough, and assertive. He thrives on activity, but it is purposeful. He rarely gambles unless he has carefully calculated that the odds are in his favor. He likes to think of himself as objective, realistic, and above sentimentality. The hustler usually avoids the Humanities and is found most frequently majoring in the Social or Natural Sciences.

The plunger is also known as a roller-boy by Heath. He rolls from one subject to another without apparent connection. His actions are guided by internal criteria, and he often plunges ahead with total disregard for propriety. His moods are at the mercy of his feelings. Where the non-committer is an under-reactor and the hustler controls and counteracts his feelings, the plunger is an over-reactor. Plungers at Princeton tended to be interested in Philosophy and the theater.

Aside from Heath's observations regarding the attitudes of his advisees toward the learning process, the book is interesting for its description of one man's idea of the effects college should have on students. The Reasonable Adventurer is Heath's idea of the educated man--one who develops

an orientation to learning experiences in which control and impulse strike a reasonable balance. The Reasonable Adventurer is willing to take chances and to open himself up to new experiences, but he is not compelled to take chances (plunger) nor to avoid them (non-committer).

This clinical study has one further implication for education, and that is that by the senior year Heath's advisees had taken a disproportionate share of both academic and non-academic honors at Princeton. Heath's group showed greater leadership in studies, in dramatics, in athletics, and in class affairs generally than a matched control group who proceeded through Princeton without, as Reisman puts it, Heath's "benign intervention".

In the popular press at least, a good deal of the blame for the Berkeley riots has been attributed to the students dissatisfaction and frustrations over their impersonal relationships with faculty. ^{STANFORD} Heath's study apparently demonstrates ^{some} ~~the~~ desirable educational effects to be gained by the personal interest of a faculty advisor. At any rate, this depth study of a few students is one useful approach to the understanding of college students. If you haven't read The Reasonable Adventurer, I commend it to you.

Another way to describe students is illustrated by a typology which has been proposed by sociologists Burton Clark and Martin Trow of the University of California. They classified students in terms of their orientation to their education, and came up with four major sub-cultures which are found in varying proportions at colleges throughout the country. According to this typology, there are four student types--the academic, the vocational, the collegiate, and the non-conformist. These sub-cultures may be placed along two axes in terms of (1) their involvement with ideas, and (2) their identification with their colleges.

Involvement with ideas

+

-

Identification +
with
College -

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NON-C	VOC.

ETS has over the past several years developed an institutional research instrument for describing students called the College Student Questionnaire or CSQ. The Clarke-Trow sub-cultures are included in this questionnaire by asking the student to check which of four statements most accurately describes his own philosophy of higher education. When we ~~advertised~~^{administered} the questionnaire to some 13,000 entering freshmen at 23 colleges and universities, we got some fascinating results. Let me take a few minutes to read the statements to you along with the percentages of students giving each response. The vocationally oriented student would be illustrated by this statement:

"This philosophy emphasizes education essentially as preparation for an occupational future. Social or purely intellectual phases of campus life are relatively less important, although certainly not ignored. Concern with extra-curricular activities and college traditions is relatively small. Persons holding this philosophy are usually quite committed to particular fields of study and are in college primarily to obtain training for careers in their chosen fields."

In our sample 27% of the students felt that this statement best described their reasons for attending college.

The academically oriented student checked this description:

"This philosophy, while it does not ignore career preparation, assigns greatest importance to scholarly pursuit of knowledge and understanding, wherever the pursuit may lead. This philosophy entails serious involvement in course work or independent study beyond the minimum required. Social life and organized extra-curricular activities are relatively unimportant. Thus, while

other aspects of college life are not to be forsaken, this philosophy attaches greatest importance to interest in ideas, pursuit of knowledge, and cultivation of the intellect."

Only 19% of the students were primarily interested in this more academic picture of college.

By far the most popular response in our sample was the collegiate. It was given by 51% of the students, and reads as follows:

"This philosophy holds that besides occupational training and/or scholarly endeavor, an important part of college life exists outside the classroom, laboratory, and library. Extra-curricular activities, living group functions, athletics, social life, rewarding friendships, and loyalty to college traditions are important elements in one's college experience and necessary to the cultivation of the well-rounded person. Thus, while not excluding academic activities, this philosophy emphasizes the importance of the extra-curricular side of college life."

The non-conformist statement was given by only 4% of the total sample--but at one independent Liberal Arts college for women over 30% of the students checked it as the most accurate description of their motivation for college. It reads as follows:

"This is a philosophy held by the student who either consciously rejects commonly held value orientations in favor of his own, or who has not really decided what is to be valued and is, in a sense, searching for meaning in life. There is often deep involvement with ideas and art forms both in the classroom and in sources (often highly original and individualistic) in the wider society. There is little interest in business or professional careers, in fact, there may be a definite rejection of this kind of aspiration. Many facets of the college--organized extra-curricular activities, athletics, traditions, the college administration--are ignored or viewed with disdain. In short, this philosophy may emphasize individualistic interests and styles, concern for personal identity, and, often, contempt for many aspects of organized society.

Although these statements are couched in rather reasonable and unextreme terms, it is clear that to the majority of students, college extends beyond the classroom and beyond the pursuit of knowledge. In fact, one may as well face it--the collegiate and vocational orientations are considerably stronger than the academic.

In a study I did last year involving sophomores from 180 colleges, I found a surprisingly heavy emphasis upon vocational preparation--50% of the sophomores stated that their chief reason for attending college was to obtain the college degree that was necessary to enter the profession of their choice. The next most popular response was the 24% who stated that they were attending college primarily to prepare themselves for a better paying job than they would otherwise be able to get. Thus, almost 75% of these college sophomores saw college in largely vocational terms. As in the Clark-Trow typology, I found about 1/5 of the students stating that they were attending college primarily to increase their general knowledge. Rather significantly, I think, the students having this more academic orientation to college made higher achievement test scores than any other group. The students in my sophomore sample who were attending college primarily to make social contacts and improve their social skills were, I hope, more successful in their socializing than they were in their academic work. They were the low scorers in every area on achievement tests of general knowledge about English, Mathematics, Natural Sciences, Social Sciences, and Humanities.

While this overview gives a global picture of student's orientation toward their college experiences, these data are more meaningful when analyzed college by college. Schools differ greatly in the proportion of students of various sub-cultures which are present on their campus. For example, we selected ^{three} ~~four~~ different types of institutions and tabulated student responses to the Clark-Trow sub-cultures. The largest sub-culture at a technical institute was of vocationally oriented students--48%, with 34% collegiate, 14% academic, and 2% nonconformist:

TABLE I

	Total Sample (N=12,949)	Technical Institute (N=236)	State College (N=727)	Independent Liberal Arts Womens Coll. (N=110)
Vocational	27	48	21	7
Academic	19	14	12	47
Collegiate	51	34	64	15
Nonconformist	4	2	2	31

Contrast these figures with the pattern for an independent Liberal Arts college for women where 47% were academically oriented, 31% non-conformist, 15% collegiate, and only 7% vocational. The predominant sub-culture in a State college was collegiate--64% of the students compared with 12% with an academic orientation.

Among the ~~9,000~~ undergraduates of the Berkeley campus, all of the sub-cultures are represented with perhaps the collegiate being somewhat dominant. At the equally large San Francisco State College, the collegiate sub-culture is almost wholly absent, and the academic and non-conformist sub-cultures are weak compared with the dominant "consumer-vocational" orientation of the great majority. At some of the prestige institutions such as Reed and ~~Swarthmore~~ ^{Antioch}, the academic sub-culture is dominant and the nonconformist is clearly visible, but vocational and collegiate are relatively weak. To date it appears that the sub-cultures represented on college campuses correspond rather well with the stereotypes we tend to build up. Junior colleges and community colleges with large numbers of adult and commuting students are typified by their vocational orientation; State universities with their fraternities and football teams have clearly dominant collegiate sub-cultures; private Liberal Arts colleges appear highly academically

oriented and frequently the nonconformist culture is also clearly visible.

Although it may appear that the private liberal arts colleges are more likely to have academic sub-cultures predominating because they attract the more able students, this is at best only part of the story.

It is not necessarily true that high ability students are academically oriented. The National Merit studies are about the only ones to date which have a built-in control on intellectual ability, so I lean heavily on them to support statements about non-cognitive differences among students of similar academic abilities. They found that among students with the same academic potential, 50% of the scholars attending public colleges were vocationally oriented; whereas only 25% of those entering private institutions expressed vocational goals as primary. Only 38% of the National Merit Scholars who chose public colleges thought the ideal college should stress intellectual values, whereas 60% of those entering private colleges considered intellectual objectives paramount.

The natural accompaniment to the research demonstrating the diversity of students from campus to campus is the research analyzing the personality of colleges. There is now a concerted effort to provide students with more complete descriptions of colleges so that students' selections of colleges will not be quite so random. Nationally this is illustrated by publications such as CEEB's Freshman Class Profile which is essentially a Handbook for high school guidance counselors giving statistical information about the entering classes of member colleges. The college furnishes data such as mean test scores, rank in high school class of the students who applied and of those who were accepted, the geographical areas from which students come, financial aid granted, etc.

More controversial because the information is not necessarily furnished by the college are publications such as A Comprehensive Guide to American

Colleges by Cass & Birnbaum. They attempt to go beyond objective statistical information and to reveal the more intangible "climate" or environment of colleges. In the introduction to their Guide, Cass and Birnbaum state that "...Colleges vary almost as widely as do students--in size, in quality, in character, and in personality." The purpose of their book is "...to provide... the kind of analytical and comparative data about individual colleges that will provide a sound basis for college selection." For better or for worse, the statements from the book such as the following about Sarah Lawrence will have an influence on which students apply for admission:

"...most students come from well-to-do families. Sarah Lawrence has...been criticized for its emphasis on individual development of students to the exclusion of any vocational training..."

One would assume that a vocationally-oriented student would not apply to Sarah Lawrence regardless of her academic ability; and, if this statement is correct, I suspect Sarah Lawrence would be just as happy not to have her.

While there is a student pressure for more information about colleges, there are many colleges eager to establish an "image" which will attract certain kinds of students and discourage others. The ¹⁹⁶⁵ ~~new~~ catalogue of Antioch College, for example, devotes 4 pages to the description of their "climate" as it is revealed by the College and University Environment Scales by Robert Pace.

This is, as the name implies, an instrument which attempts to describe the campus environment. It does this by presenting to the student certain statements that may be an accurate description of their college. The statements may be such things as, "Class discussions are frequently vigorous and intense," "Students must have a written excuse for absence from class," "Student organizations are closely supervised to guard against mistakes," etc. The statement is assumed characteristic of the college if 2/3 of the

students agree, and the college thus receives a score on one of the 5 CUES scales.

Antioch reports themselves as high on academic environment, high on the community scale which means that students see the campus as a friendly, cohesive group-oriented place. On the awareness scale, students saw Antioch as placing considerable emphasis on self-understanding, personal identity, and a wide range of appreciation and personal involvement in the world's problems. On practicality--the degree to which practical benefits are emphasized--Antioch was very low, and on propriety they were about average, implying that only moderate emphasis was placed on politeness, protocol, and consideration of others.

Reed College has long made it a point to establish a vivid image of themselves, and apparently a very high degree of self-selection to Reed exists. Their freshmen score extremely high on admissions tests, and 95% of the freshmen graduated in the top 1/4 of the high school class; and yet Reed has not been able to exercise much direct selection; i.e., in 1958 4 out of 5 students who applied were accepted, but primarily bright, academically-oriented students who want an avant-garde kind of institution apply for admission to Reed. The actions of Reed faculty, administration, and students are frequently "far out" enough to attract considerable press attention. This kind of publicity has undoubtedly confirmed the conviction of some students and parents that "the college is crazy" while stimulating great admiration on the part of others.

Other types of colleges too are making an effort to attract students with specific orientations to college. There is a new community college being established in my area of New Jersey that is devoting considerable effort to establishing their image in the local papers as a community college

concerned primarily with vocational training. One can easily infer that they are not interested in students who would like to take the first 2 years of college locally, moving later to a 4-year college. We would expect this student body to be quite homogeneous in their orientation to education.

Thus, this might be another way to describe students--the probability is that your students will be more like you than unlike you. The kind of students you have in your classroom will depend in large measure on the kind of institution in which you teach. Furthermore, to the extent that you are able to choose the college where you teach and to the extent that you are attracted by the image and overall purposes of the college and not by salary, teaching loads, research opportunities, or other such benefits, the greater the likelihood of your students being like you in their orientation to education.

The Jacob Report of 1957 concluded that by and large colleges changed their students very little. One chapter of his book, however, was entitled "The Peculiar Potency of Some Colleges," and there was evidence that these colleges--ordinarily small colleges with a vivid image--did indeed have an impact on the attitudes and values of their students. Recent research has focused on the importance of the interrelationships of the many aspects of the college. Although class size, teaching methods, counseling facilities, experimental programs, honors, independent study opportunities, etc., may all be important in their own right, their real significance for educational impact on the student seems to lie in their interrelationships. Do they add up to a perceived total direction for the college?--Or are they simply isolated efforts without reinforcement from the rest of the college environment? To date, certainly, the "peculiar potency" of some colleges seems to be

related to a clear image of educational purpose. Policies and practices are not an unrelated assortment of acts, but rather they seem to push in a united direction and their influence on the student appears considerable.

Now let me move on to another way to describe students. Perhaps the most popular of all methods of describing the college student is to collect statistics from him or about him. This may be anything from the Bureau of the Census data to the administration of a questionnaire to a large number of students with a simple tabulation of their responses.

The material one could report from this method is virtually unlimited. I could probably stand here for the next hour or so flinging statistics and percentages at you regarding everything from the number of books in the student's home to his attitudes on capital punishment. We know his father's income, whether or not his mother works and when she started, we know how many close friends the student has on campus, how often he goes to church, whether his parents approve of his choice of a major, how much time he spends in extra-curricular activities, and whether or not he enjoys reading poetry. All of these statistics are probably more or less relevant to understanding the student, but their significance for education lies primarily in focusing the data on a particular problem. For example, for an English instructor having difficulty teaching poetry in a State college, it might be of interest to know that 41% of the entering students in his college state that they either dislike poetry or don't like it very much, whereas at a private Liberal Arts college for women, 94% of the freshmen state that they either like poetry or like it very much. The two colleges most certainly reflect a difference in the literary backgrounds of their students, and as such the statistics have educational relevance.

A. For our purposes this evening, however, it seems preferable to assure you that if you have a question about students, someone, somewhere has

Items contribute to scale - Poetry & cultural soph.
as an item contributes to a scale, it is not an isolated fact, but a contribution toward describing the characteristics of student population.

^{usually}
~~Frequently~~, however, the significance of ^{apparently} isolated items lies in their contribution to a more general scale describing student groups. The poetry item, for example, contributes to the cultural sophistication scale of the CSQ--and colleges vary considerably in the extent to which this characteristic appears in student bodies. It will be even more interesting to observe on a single campus any changes occurring in this scale from the freshman to the senior year. On what kinds of campuses does the greatest growth in knowledge and appreciation of cultural events take place? What effect does major field of study have on this dimension of education? What are the intellectual and non-intellectual characteristics of the students who change or fail to change in cultural sophistication? By next year at this time, we will have a good beginning on ^{some answers to} ~~this~~ kinds of question.

~~Not as a commercial but~~ ^{as} an example of how very rapidly college research has developed in the past several years, ETS will have available next fall three research instruments that may be used by individual colleges to gain a better understanding of their students and their institutions. The CUES will provide a description of the college as the students perceive it; the CSQ will provide descriptions of the non-intellectual characteristics of the student body; and the CCT or the GRE will provide indices of academic achievement. One may hope that the availability of such instruments will focus some long-needed attention on longitudinal studies of the effects of the college education on the intellectual and non-intellectual characteristics of students.

So much for the promises of educational research. Now I'd like to end this overview by citing a few statistics from the third way of describing students--the questionnaire responses of students as they graduate from college.

probably already put it in a questionnaire and has tabulated the responses. Excellent instruments are being developed, and individual colleges will be able to collect a great variety of information about their students with assurance that data exist for comparison with other colleges or with national norms. *insert B*

~~A few percentages from nationally administered questionnaires may be of general interest to this group, and I think it might be appropriate to end this ^{overview} ~~description~~ ^{third way to describe students} via the ~~questionnaire~~ ^{the} responses of the student as he graduates from college.~~

Despite the harsh criticism of higher education, from within and from without, there seems little doubt that the customers--the students--are enthusiastic. In a study of 35,000 seniors graduating in 1961, 32% stated that they have a very strong attachment to their college, and another 43% liked it but not strongly--only 6% disliked their college. In the minds of students, the college professor has a far more favorable image than the business executive, the doctor, the engineer, the high school teacher, or the research chemist. 42% feel that the work of a college professor would be very interesting, and almost 30% claim a college professor as a personal friend.

As a career choice, the field of education attracts more students than it loses as students proceed through college. 25% of the freshmen enter college with the intention of teaching, 4% shift out of education, but 12% shift into it during four years of college; and we find 33% of the seniors selecting education as a career field.

Perhaps the greatest compliment that the graduating seniors pay to higher education is that they want more of it. 76% plan to go on to graduate school with 20% already accepted for the following fall. As a matter of fact--and this has widespread implication for education in the United States--

a college graduate is actually more likely to anticipate graduate school than a high school senior is to anticipate college. The college years are indeed becoming more and more to be viewed as a preparation for graduate studies.

Popular magazines and books to the contrary, security and money do not seem to be among the important values of the college graduate. Far and away the most important considerations for picking a job are the opportunity to be helpful to others and useful to society (65%), the opportunity to work with people rather than things (56%), and the opportunity to be original and creative (51%). Almost 40% are sufficiently impressed with their academic experiences to feel that it is important to live and work in the world of ideas. Only about 1/4 of the students feel that making a lot of money would be very important in selecting a career, and 1/3 of them would prefer a career which offered steady progress to one which has a chance of extreme success or failure.

The Wall Street Journal reported recently that business careers are losing prestige among college graduates. Amherst College says that 1/2 of its alumni are businessmen, but only 1/5 of the recent graduates have been entering business. Only 14% of last year's Harvard graduates plan business careers, whereas a mere 5 years ago it was 39%. At Harvard 31 men in the class of 1964 enrolled in the Peace Corps--only nine fewer than the number who went directly into business. Teaching was the leading career choice, drawing 20% of Harvard's last year's graduating class.

I promised not to regale you with statistics this evening. Sometimes, though, statistics appear to be the most effective way of putting down the voices of doom that arise as older generations view the oncoming generation.

~~If I have lost you in a maze of facts and figures, you might return now for about a two-minute summary of the college student, remembering that~~

Responses such as these indicate that the college graduate is caught up in the major enterprise of higher education. He likes his college, admires his professors, espouses the values of the educational community; and some of our brightest and most able students are attracted to the academic life as a career--which speaks well for the past and for the future of higher education.