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TNI Study Reveal Black Colleges Important National Resource

By DR. WILLIAM MCARTHUR

One of the great challenges facing the predominantly black colleges is the compilation and analysis of a solid base of specific information on all aspects of black college education. In accepting this challenge, the research project, "An Interdisciplinary Assessment of Traditionally Negro Institutions' Capabilities," was initiated.

Faculty and administrators of several black colleges, while attending an Oak Ridge Associated University Summer Workshop (1970), perceived as a major concern the need to assess the role of the black institutions of higher learning in light of evolving needs and hopes of black students, faculty, administrators and of society. Our main thrust has been to establish a firm data base through careful studies of institutional capabilities in the natural and physical sciences and the social sciences.

Our data support the following: the need of traditionally black institutions continued existence and their future expansion; the value of the black colleges as a national resource; and a critical need for substantial support from federal, state, and local funding agencies as well as from provate foundations and corporations in order to effect continued growth and innovation.

Traditionally, black colleges and universities founded for black Americans face tremendous problems of expanding enrollments and offerings with limited resources. They also face special problems that arise from their unique history, from racial discrimination, and from abrupt changes in their relations to their traditional constituents and to other colleges and universities. (Carnegie Commission report, 1971). 1

It is a well-known fact that for a time, more black people, African, and Caribbean were educated in black colleges of the United States than in the rest of the world combined (Daedalus, Summer, 1971).2

INTRODUCTION

Purpose and Scope of Project

At the national level, a large amount of data of a general nature has been gathered on historical black colleges. Vehicles for gathering the data have been the Higher Education General Institution Survey (HEGIS), Management Information System (MIS), questionnaire of Institute Service to Education (ISE), United Negro College Fund (UNCF) questionnaire, and staff.

When one examines the nature of the data gathered, it becomes quite apparent that very little specific information is available at the departmental level on a college campus. Thus, this study was designed to alleviate this lack of information on the colleges. To get comprehensive data on all departments would have been too complex and difficult. Therefore, it was decided the focus would be on the Natural and Physical Sciences and the Social Science Divisions the first period, Humanities and Education Division the second period, professional areas--engineering, allied health, technology, agriculture--the third period. The work presented here represents, in part,the first phase of a study that should be continued. The first period represents two years of work. Should this study becontinued the author would estimate that one-half as much time will be required of each of the other periods.

A proposal was written by the principal investigator in the fall of 1971 to assess black college capabilities. It was funded in the spring of 1972. The project was structured as follows: an advisory committee of 18 administrators and faculty from predominantly black colleges, a principal investigator, secretary, students and consulting agency (ISE).

Advosory committee--consisted of faculty members and administrators representing 10 different traditionally Negro institutions.

Principal investigator--Dr. William McArthur, Professor of Biology, Knoxville College Knoxville, Tennessee.

Secretary--Functioned in the capacity of setting up office, securing of supplies, and typing of manuscripts and general secretarial duties.

Consultant Agency--Institute for Services to Education, Washington, D.C., with Dr. Frederick Humphries, Vice-President of the Institute, serving as the chief consultant.

Data collection instruments consisted of two questionnaires developed with the aid of the Advosory Committee and ISE. The first questionnaire was an eight-page instrument designed to sample and project relevant areas for further analysis. It was distributed to 125 predominantly black colleges. The second questionnaire was concerned with perceptions of white colleges with respect to TNI. It was sent to 20 colleges picked at random. The response rate was 50 percent for each of these questionnaires.

The third questionnaire was more comprehensive and was distributed in the spring of 1972. It was a 23-page instument and had five major sections as follows :

I--Attitude Toward Curricular Development, Teaching and Objectives of the Department
II--Faculty Data
III--Departmental Budget
IV--Student Data
V--Grants, Research, Study Leave, Space and Departmental Support and Staff Data

Twelve copies of the questionnaire were sent to the presidents of all predominantly black institutions. Subsequently, follow-up calls were made and, at times, additional copies of the instruments were mailed to the office of the dean of institutional research and of development. Visits to many of the colleges were made at different levels within the institution. Despite these efforts, only 70 of the schools responded to the questionnaire. Of the 70, 54 of the institutions had useable data. The list of the schools is found in the appendix (107 historically black colleges including 86 four-year schools, 50 private, 36 public and 21 junior colleges). Response to the third questionnaire was 65 percent.

These 107 colleges are diverse. Some are public, some are private, some are church-related, some are not; some have high academic standards, many have comparatively low standards--yet these institutions with low standards reach and do much for groups of students which otherwise would be untouched by higher education; some of these institutions are liberal arts and teachers colleges. They have little in common except their past dedication to educational opportunities for members of the black community and their current need of transition in an integrating society.

Public Four-Year Colleges

Bowie State College, Central State University, Mississippi Valley State College, Elizabeth City State University, N.C. A&T State University, Alcorn A&M College, Langston University, Grambling College, Albany State College, S.C. State College, West Virginia State College, Kentucky State College, N.C. Central University, Cheyney State College, Tennessee State University, Alabama State Univeristy, Jackson State University, and Norfolk State University.

Private Four-Year Colleges

Edward Waters

Edward Waters College, Huston Tillotson College, Wiblerforce University, Lane College, Morehouse College, Bishop College, Barber-Scotia College, Rust College, Liningstone College, Wiley College, Miles College, Howard University, Voorhees University, Hampton Institute, Saint Augustine College, Paul Quinn College, Benedict College, Stillman College, Knoxville College, Bethune Cookman College, Claflin College, Atlanta University, Bennett College, Clark College, Morris Brown College, and Shaw University.

Public and Private Two-Year Colleges

Utica College, Washington Technical Institute, T.A. Lawson Junior College, Daniel Payne Junior College, Alabama Lutheran Academy and College, Coahoma Junior College, St. Philit's College, and Friendship Junior College.

Please turn to page 2

WHITE COLLEGES' PERCEPTIONS OF TRADITIONALLY BLACK COLLEGES

In an attempt to assess white colleges' perceptions of the black college in their vicinity, a random number of traditionally white colleges were asked to respond to a carefully worded questionnaire. A total of 20 white institutions received questionnaires and of these, 10 responded, 5 declined, and 5 did not respond. The five schools that declined indicated that they felt inadequate to rate a sister institution, that it would be presumptive on their part to attempt such.

The following schools received questionnaires: University of Birmingham, University of Arkansas at Little Rock, West Los Angeles College, Wesley College, American University, Daytona Beach Community College, Georgia State University, University of Chicago, Transylvania University, Loyola University, John Hopkins University, University of Detroit, Millsap College, Meredity College, Immaculata College, Columbia College, The University of Tennessee-Knoxville, Vanderbilt University, University of Dallas, and Thomas Nelson Community College.

Our sister institutions see us in this light with respect to community image. The range is from poor due to management deficiencies and poor financial support to very good where there were no major disruptions over the past several years, Indications are that the black colleges have very sincere and dedicated faculty, staff and students. Teacher qualifications range is quite wide; most agreed that the teachers qualify as good, this may be due in part to the fact that the pay scale is high in some instances. The quality of instruction at the TNI is an asset to the community. Moreover, the TNI should definietly be perpetuated. Most of the smaller colleges agreed that degree standards at TNI are lower than the local white school. The bigger universities indicated standards were basically the same.

All of the white institutions had a good general knowledge of the black institutions and the various working levels and all agreed there should be more interaction with the TNI.

Suggestions for better relationships between the white and black institutions were as follows: Exchange of teachers; Joint seminars; Exchange graduate programs; More interaction as it provides the best and quickest means for interracial experience for white colleges; Development of more cooperative programs; Establish an all-urban college council to facilitate communication and better understanding about goals, objectives, and implementation procedures; Interact on a very basic level; Increase the volume of student exchange; Increase the number and range of joint appointments; Increase cooperation in program development; Standardize registration procedures and information systems; Increase interinstitutional relationships through participation of the larger university in TNI cluster groups.

The TNI is an asset to the community in the following ways: It offers blacks a real opportunity for an education; It is a major source of black graduate students and professionals; It has a stable atmosphere; It provides a program of education for students whose needs are not met by other institutions in the area; It provides for interracial exchange; Faculty and staff participate actively and positively in community activities; It provides a center of culture and identity for the minority population which it primarily serves.

Cooperative education programs in existence with black colleges are: Third World, Frankfort Internship, Interuniversity Urban Cooperative, Urban Observatory, Course Credit Exchange, Vanderbilt Program in Afro-American Studies, Psychology Consortia, Fine Arts Festivals, and Faculty Exchange, Library Exchange, and Student Exchange.

PERCEPTIONS

Changes in Pedagogy and Content in the Last Five Years

In higher education it is generally assumed that the service course is not considered or handled with the same care as the departmental major courses. In order to determine whether this speculation is true or not, two approaches were used in this questionnaire. In the first approach, each institution was asked to respomd to a series of statements by indicating one of the categories "substantial," "moderate," "slight," or "none." Each division had to respond to the statement for service course and courses for majors. The results are indicated in Table I where the percentage figure indicated for each statem nt represents the sum of the percentage response to substantial and moderate.

All areas, as indicated by the combined percentages for moderate/substantial, rely heavily on lectures and classroom discussions. Since the response rate is approximately equal, the author is not certain to what extent each is used. Students are encouraged to approach problems in their own way in both the service and major courses to approximately the same extent. Laboratory or field work is stressed more in the major courses than in the service courses with the greater distinction occurring in the social sciences. However, all areas are using this form of instruction rather extensively. Open-ended experiments are utilized more in major courses than in service courses with science indicating the greatest use. The data also indicate that fewer schools are using this form of instruction. The research facility of the community are not being used well at all, but social science does make better use of such facilities than the natural and physical sciences and the major course more so than the service courses.

Teachers are spending more time outside of class discussing important and contemporary issues. More after-class activities occur as a result of major courses rather than in service courses. The division indicated still a strong dependence upon textbooks and other standard curricula materials for the courses they service as majors. A rather significant number of the institutions are using materials developed by individual teachers and teachers cooperating with others. Instructors participating substantially in workshops appear to develop materials equally suitable to service courses as well as major courses.

In the second approach, each department in each division was asked to indicate the changes in pedagogy and content for service course and major courses by indicating one of the categories of stbstantial, moderate, slight, or none. The data for the natural and physical science division are displayed in Figure 1.

There is very little difference noted in the perceptions of the departments with respect to the amount of changes introduced in the service courses as compared to the major courses; 82 percent believe moderate to substantial changes had occurred in the major area as compared to 59 percent for the service courses. It is worth noting that the biology department respondents indicate greater participation in change than the other departments in this area with the exception noted.

Goals of Academic Departments

Five possible goals were stated in a questionnaire which could have been representative of a department's efforts.

These possible goals were: 1) Provide undergraduates with a broad, liberal education; 2) Prepare undergraduates for their chosen life occupation; 3) Prepare undergraduates to engage in community leadership roles; 4) Prepare undergraduates to attend graduate school; 5) Provide undergraduates with a broad perspective of black studies.

Each department was asked to indicate the extent to which they felt the goals applied to them by circling one of the responses to "generally false," "more false than true," and "generally false." In Figure 3, the results are indicated in percentages for each goal for each department in the natural and physical sciences. In general, the departments unanimously agree the (1) one goal is to provide undergraduates with a broad liberal education, and (2) a second goal is to prepare undergraduates for their chosen life occupation. All departments make a significant effort to prepare undergraduates to attend graduate school and to engage in community leadership roles. It is quite clear that the total to provide undergraduates with a broad perspective of Black Studies is not a goal of the natural and physical sciences department.

Corresponding data for the social sciences are presented in Figure 4. A large percentage of social science faculty feel that black colleges provide undergraduates with a broad liberal arts education and prepare undergraduates for their chosen life occupations.

The social science faculty feels strongly that the traditionally black college prepares the under graduate to attend graduate school; moreover, the social science teachers--like the natural and physical science faculty, but to a greater degree--strongly suggest that the black colleges prepare the undergraduate to engage in community leadership roles. Finally the social science faculty strongly fuggest the black colleges provide the undergraduate with a broad perspective of blcck studies. (See Figure 4).

It is interesting to note that not all of the colleges offer a degree in the social science disciplines. See the MIS/TACTICS/OAPNC' NAFEO and UNCF Fall 1972 Report--Table II.

Two-year institutions show fewer changes in terms of the number of changes than the four-year institutions. Usually those changes requiring additional financial resources to implement were omitted--such as not adding new degree programs or exploring opportunities for talented students. Course offerings were decreased more so than at the four-year institutions.

FACULTY DESCRIPTION

Table III displays data on departmental size changes in faculty for the division of natural and physical sciences for the period 1971 through 1973. The biology department was staffed to the greatest extent with full time faculty members, followed by mathematics, chemistry, physics, others and computer science. It is apparent that the full time faculty in computer science was the most rapidly growing group, followed by chemistry, physics or others, and biological science. The mathematics departments actually decreased in size with respect to percentage of full time faculty in the natural and physical science division.

Analogous data on the social science division are presented in Table IV. The largest percentage of full time faculty was found in the history department which was followed by sociology, others, economics and political science. It is apparent that the economics department experienced the most rapid growth with respect to the percentage of full time faculty in the social science division. Others, sociology, and religion had slight increases while political science remained the same in size. Philosophy experienced a precipitous decrease in size of 34%, while history showed a slight decline of 1%.

A somewhat surprising observation on the data is the fact that out of 34 institutions responding to the questionnaire on the economics department 21 indicate that they have major programs in ecomonics.

PERCENTAGE OF DEGREE WITHIN EACH RANK

Table V presents data on percentage of faculty by degree within each rank for the natural and social sciences. At the rank of instructor, it is worth noting that only biology, chemistry and physics in the division of natural sciences have terminal degree holders while only economics, history, political science and sociology have terminal degree holders in the division of social sciences. No department within these two divisions have instructors with terminal degrees beyond 26%. At the assistant professor rank, without chemistry in the departmental data, in social sciences and natural sciences, we do not have 45% of the faculty at this rank with terminal degrees.

It is significant to note that particularly when one looks at the salaries within these two divisions, in this report that these are the two areas in which the schools are found to the weakest. Thus, terminal degree holders are least likely to be hired at the rank of assistant professor or as instructor but rather at the rank of associate professor. More competitive salary structure might redress the capital of the institution of high degree holders as indicated by these data in these two ranks and consequently improve the picture as presented in this table in the future.

It should be pointed out in these data that within the division of physical and natural sciences 46% of all teachers hold the Ph.D. degree or its equivalent in historically black colleges and universities. Sixty six percent (66%) of all chemistry teachers hold the Ph.D degree. Whereas, corresponding figures for biology, mathematics, and physics are 49%, 40% and 48%, respectively. Moreover, 88% of all professors and 53% of all associate professors hold a terminal degree. However, no department within the division has less than 91% terminal degree holders at the rank of professor except for computer science.

It has been observed by most faculty and administrators and other educational personnel who frequent the predominantly black institutions that the composition of the faculty at the predominantly black institutions was undergoing considerable change in light of the integrating forces operating in higher education. It was important to this study to get more definitive information on what changes have really occurred with respect to racial composition of the faculty in historically black institutions.

RACIAL COMPOSITION OF FACULTY

Tables VI and VII present data on the racial percentage of faculty for the two divisions. In this study the overall compositional fact of percentages for the faculty in the division of natural science in 1971-72 were black, 54%, 28% white and 14% Indian. Within the various departments of the division, biology holds the highest percentage of blacks in the college–70% black, 15% white and 13% Indian. On the other hand, computer science has 45% white, 45% black and 10 % Indian composition among its faculty. The range for the composition of the individual departments varied from 70% black in the biological science department to 31% black in the physics department. The white faculty composition ranged from 45% in computer science to 15% in the biologic-al science department. For Indian-Asian, the percentage ranged from 20% in physics to 10% in mathematics.

Similar data on the social science division indicate that 44% of all teachers hold the terminal degree. Philosophy has the highest percentage of terminal degree holders (56%), followed closely by political science and economics with 54% and 46%, respectively. Sociology and history have usually low percentages of terminal degree holders at 38% and 40%, respectively. Moreover, all socialscience departments have at least 82% terminal degree holders at the rank of professor except history and sociology.

In looking at the trend of data for the year 1972-73, the greatest changes have occurred in the areas of physics and chemistry. In both disciplines the percentages of blacks decreased in 1972-73. There were 56% black chemistry teachers in 1971-72 and only 48 % for 1972-73. In every case with respect to department with the exception of computer science, the percentage of blacks decreased over the period of 1971-72 to 1972-73. In computer science there was a slight increase in blacks from 45% to 48%. Almost in every case within the departmental structure of the division of natural science with the exception of computer science, either the white faculty percentage increased or remained the same. In the case of computer science, the white faculty composition decreased from 45% to 25%. On the other hand, a corresponding increase was noted in that particular area for Indian- Asian faculty member.

In the division of social sciences the breakdownn terms of faculty composition for total division shows that of the total faculty in this division within the black colleges 52% are black, 39% white and 5% Indian.

For 1971-72 for the various departments shown in Table VI, sociology had the largest percentage of black faculty which is 68%. Philosophy had the lowest percentage of black faculty with 29%. The department with the largest portion of white faculty is philosophy at 71% and the department with the lowest white faculty is sociology with 26%. The Indian- Asian is the third composition of faculty on black campuses in sizeable numbers; the political science department had the largest concentration of Indian-Asian which has 13% down to 0% for the philosophy department. The data tends to dispel the notion that in the political science areas this would not ordinarily be considered by many. Given the emphasis on black studies, it is rather surprising that an overall 26% of the faculty of the social science division is white.

Looking at the trends for 1971-72 compared with 1972-73 for the most part departments tend to have a slight increase in their percentage of blacks within their department. The overall figures for the division of social sciences in 1972-73 which is 52% black, 39% white, 5% Indian, on a departmental basis, show a slight increase in the number of blacks within the various departments of the division. All the departments tended to increase the number of blacks within their departments except for economics, religion and political science which decreased or remained the same.

RANGE OF FACULTY BY DEPARTMENT

Table VIII presents data on the range of faculty by department for the natural and social sciences, among other data. In the natural and physical science division for 1971-72, full time faculty member for the large schools reporting in the questionnaire indicate the largest faculty–17 for biological science, 18 for chemistry, 6 for computer science, 24 for mathematics, 17 for physics, and 13 for others. On the other hand, some of the smaller historically black colleges reporting have only one full time faculty member in a particular.department. Thus, the range of full time faculty is quite wide and diverse. All departments had a slight increase in range in 1972-73 except for physics and others.

Analogous data for the social science division are also presented. The largest full time faculty in 1971-72 was found in the history department which had a range of 1 to 21. Sociology, others and political science follow closely with ranges of 1 to 20, 1 to 17, and 1 to 14, respectively. In 1972-73, the range of the history department increased by 20% while all other departments had slight increases or remained the same.

GENERAL FACULTY STATISTICS

Tables IX and X present data on faculty teaching loads, publication trends and full-time equivalent faculty for the natural and social science divisions of traditionally black colleges and universities. In the division of natural and physical sciences, as reflected in Table IX, professors in the departments tend to have the lowest assignable credit hours which turn s out an average of 8 credit hours per semester. The chemistry department overall, across all ranks, has the lowest average assignment of credit hours varying from a low of 6 for professors to a high of 9 for an assistant professor. The computer science department has the highest assignment of credit hours varying from an average of 12 credit hours for a professor to 26 credit hours for an instructor. With the exception of the computer science department, the data tend to indicate that faculty members are generally assigned only 2-3 courses per semester in these departments. These data are suggestive of this especially in light of the fact that most science courses carry 4 hours credit. Unfortunately, this report does not get at the average number of hours spent in laboratory instruction in the various departments.

It is normally expressed by members of the science department the notion that faculty members are required to teach many more hours than other faculty members in the institution. This report cannot legitimate that statement inasmuch as no data was collected on laboratory instruction.

It is interesting to note that the chemistry department, as indicated in Table IX under the column "Average Number of Papers Published," publishes more research papers than that of other departments. Again, the order in terms of average number of papers published is chemistry, biology, computer science, physics, then mathematics. This order correlates well with the credentials of the faculty. The range of papers as indicated in the designated column is presented to indicate the variation in productivity of the various ranks in each department. In biology within the professional rank the maximum was 95 papers published at a given college and varied to a minimum of 0. At the associate level, 28 papers were the maximum number of papers published by that level and varied to a minimum of 0. In general, the professors had published more than associate professors, associate professors more than assistant professors and assistant professors more than instructors as expected if rank is associated with publishing.

Another trend as indicated in Table IX in the more established departments of chemistry and physics, professors outnumber associate professors, assistant professors, and instructors. In chemistry associate professors outnumber assistant professors and instructors but in biology assistant professors outnumber associate professors (80 to 71) but associate professors outnumber instructors. In the newly emerging department of cumputer science; however, assistant professors were more numerous than associate professors or professors. This was also true in mathematics. The order seems to have been in the ranks of assistant professor, associate professor and professor–assistant professor greater than associate professor and associate professor greater than professor.

In the division of social science, with the exception of philosophy and religion, professors had the least teaching load with respect to the number of credit hours taught. However, in philosophy and religion professors had the largest teaching loads. The data indicated in Table X show that for most ranks in the various departments of the division of social sciences that the average teaching load was 14 credit hours or less. However, in history, the associate professor level had assigned an average of 24 hours and assistant professor an average of 15 credit hours taught. In all of the departments, the ranks of associate professor and professor thend to have published more on the average than did lower rands although there is no consistent pattern as observed in the division of natural and physical sciences. The average number of papers published by rank in the division of social sciences tends to be less than that published by the same rank in the division of natural and physical sciences. In fact, the range of papers published overall is far less in the division of social sciences. The maximum number of papers published by various ranks of given departments is far less than that observed in the same ranks of the natural and physical science division.

The full-time equivalent faculty for the various departments of the social science division tend, however, to be slightly smaller than the full-time equivalent faculty in the natural and physical science division. Though this fact might tend to account for part of the differences in various ranks it does not explain completely the differences observed in the productivity of papers published between the two divisions. There does not appear to be a correlation between the average number of credit hours taught and the number of papers published in the division of social sciences. Form the data presented in this table it does not appear that there is an excessive requirement in terms of average number of credit hours taught of the faculty in these departments.

AVERAGE FACULTY SALARY

Presented in Table XI are data on average faculty salaries per nine months in 1971-72. In the natural and physical sciences, average compensation for a professor's salary was 52% over $15,000 and 43% between $12,000 and $15,000. An associate professor's salary was 56% of rank between $12,000 and $15,000 and 33% between $10,000 and $12,000. The salary range for assistant professors was 50% between $9,000 and $11,000; 40% with salaries over $11,000. While instructors salaries were 47% between $7,500 and $9,000; 40% between $9,000 and $11,000.

Similar data are also presented for the social science division. The average salary for a professor in public four year colleges was 49% over $15,000 and 44% in the range $12,000 to $15,000. An associate professor's salary scale was 49% in the range $12,000 to $15,000 and 29% between $10,000 and $12,000. The average salary for assistant professors was 48% with salaries in the range $9,000 to $12,000 and 42% over $11,000. Whereas, instructors' salaries were 56% in the range $7,500 to $9,000 and 27% in the range $9,000 to $11,000.

It is apparent from these data that the salary differential between rpofessors and associate professors is not very large and is atypical when compared with the majority of institutions of higher learning. Indeed, the salary range at the rank of professor is significantly below the national average. Obviously, improved compensation of faculty constututes one of the most critical needs of traditionally black colleges in attracting and maintaining high credential faculties.

STUDENT DATA

DEPARTMENTAL SIZE CHANGES IN MAJORS

Tables XII and XIII present data on departmental size changes in majors for 1971-72 and 1972-73. Data in Table XII clearly indicate that the biological science department had the highest percentage of majors in the natural and physical science division over this period. Mathematics, chemistry, others, computer science and physics followed in the order given. In 1972-73, the biological science department had 52% of all students in the division of natural and physical sciences, mathematics had 24.6% while physics had the lowest percentage of majors at 2,7%.

With respect to the growth of the departments in terms of the number of majors serviced during this period, computer science was the most outstanding with an increase of 108% over this two-year period. Biological science or others, physics and chemistry increased by 15%, 9% and 2%, respectively. Whereas, mathematics had a slight decrease in majors of 4% relative to 1971-72.

Table XIII displays similar data for the social science division. It is apparent that the sociology department had the largest percentage of majors within the division at 44% and 40% for 1971-72 and 1972-73, respectively.. The rank order of the other departments in the division for 1972-73 were others, history, political science, economics, religion and philosophy.

With respect to the percentage change in majors for the two year period, others had the most significant increase, followed by political science, economics or philosophy, history and sociology. Religion had a slight decrease in its major of 1%.

RANGE OF MAJORS BY DEPARTMENT

Table VIII presents data on the range of majors by department for the natural and social sciences for 1971-72 and 1972-73. In the division of natural and physical sciences, the biological science department had the largest range of majors, 1 to 183, in 1971-72. Mathematics and computer science ranked second and third, respectively, with ranges of 10 to 163 and 7 to 125. In 1972-73, the range of majors in biological science and computer science increased significantly relative to 1971-72 values and

thereby changed the rank order of departments as follows: biological science, 1 to 218; computer science, 13 to 179; and mathematics, 8 to 166.

In the social science division for 1971-72, the range of majors was by far the greatest in sociology, 1 to 500, which was followed by others, history, economics and political science with respective ranges of 8 to 300 1 to 281, 2 to 260, and 10 to 230. Religion and philosophy had considerably smaller ranges. In 1972-73, all ranges increased slightly except for history and religion which had slight decreases.

STUDENT TO FACULTY RATIOS

Two approaches were used to determine student to faculty ratios (S/F) at historically black colleges and universities in order to: (1) ascertain comparative information on the largest schools and average size schools responding to our questionnaire, and (2) compile a data source for comparision with other institutions of higher learning. In the first approach, the number of majors per department and the number of full-time faculty members per department were used to calculate S/F ratios as given in Table XIV.

These data reveal that the S/F ratio for the division of natural and physical sciences increased from an average of 5.7 to 6.2 during the period 1971-72 and 1972-73. This 8% increase in student to faculty ratio probably represents a conscious and determined effort on the part of traditionally black colleges and universities to decrease the cost of academic programs and thereby increase the cost effectiveness of their operational budgets. Analogous data for the social sciences give S/F ratios of 12.4 and 17.4 for 1971-72 and 1972-73, respectively. This amounts to a striking increase of 40% over a two-year period. Certainly, this gives credence to the assumption made regarding the slight increase observed for the natural and physical science division.

With respect to the S/F ratios for specific disciplines within the division of natural and physical sciences, it is apparent from the data for 1972-73 that computer science and biological science had the most favorable values at 16.7 and 10.3, respectively. Physics, chemistry and others had values of 5.1, 3.5 and 1.6, respectively. Whereas, corresponding data on the social sciences give a rank order of sociology (30.4), political science (23.2), others (18.7), economics (11.0), history (9.1), religion (4.2), and philosophy (2.0).

In the second approach, S/F ratios were computed from the values given in Table VIII for the largest schools responding to our questionnaire. Table XV presents the results of these computation. In the natural and physical science division, the student/faculty ratios for the largest schools were significantly higher than corresponding values for the average size schools. Specifically, the former had S/F ratios of 8.4 and 9.0 for 1971-72 and 1972-73, respectively, while the latter had corresponding values of 5.7 and 6.2. However, the differences in the S/F ratios for the social science division appears to be opposite to those found for the natural and physical sciences. Thus, the average size schools had S/F ratios of 12.4 and 17.4 for 1971-72 and 1972-73, respectively. Whereas, the largest schools had corresponding values of 14.4 and 14.6. This may be suggestive of a trend for the larger schools to have average S/F ratios approaching 15 to 1.

RACIAL COMPOSITION OF STUDENT BODY

Data on the racial composition of the student body in fifty-four historically black colleges, as measured in terms of students majoring in the natural and social sciences, are presented in tables XVI and XVII. Table XVI contains data on actual numbers and racial classification of students on a per discipline basis for the natural and social sciences. It also contains figures for the percentage population change per racial group per discipline and percentage population change per racial group per division.

The data for 1971-72 clearly indicate that the chemistry department had the largest number of non-black majors, followed by biological science, physics, mathematics and computer science. Whereas, in 1972-73, biological science had the largest number of non-black mojors, followed by chemistry, mathematics and physics. With respect to the percentage population change per racial group per discipline for the period 1971-72 to 1972-73, it is apparent with a 50% increase in white students and a 59% increase in others. Computer science had the largest increase in black students at 372%. The racial compositionof the division per se was 93% black, 2.8% white and 4.2% others (non-black and non-white); these figures did not change over the two-year period.

Analogous data on the social sciences are also presented in Table XVI. For the period 1971-72 to 1972-73, history had the largest number of non-black students, followed by political science, sociology and others. Whereas, sociology had the largest number of black students, followed by others, history, political science and economics. With respect to the percentage population change per racial group per discipline, economics had the largest increase in non-black students with a 750% increase in white students and a 20% increase in others. Religion, others and sociology also had significantly increased in the percentage of white students at 67%, 66% and 58%, respectively.

In 1971-72 the racial composition of the social science division was 87.1% black, 10.5% white and 2.4% others. These figures changed to 87.3% black, 11.1% black, and 1.6% others in 1972-73. It is apparent that this change is in contrast with the static situation observed for the natural and physical science division.

Table XVII presents data on the percentage of students by race per discipline within the natural and social sciences for the period 1971-72 to 1972-73. In the division of natural and physical sciences for 1971-72, chemistry was outstnading in terms of its percentage of non-black majors, with 73.8% black, 13.1% white, and 13.1% others. Physics and biological science ranked second and third in percentage of non-black majors with 20.5% and 4.4%, respectively. During 1972-73, physics had the highest percentage of non-black majors at 24.6%, followed by chemistry with 19.8% and biological science with 4.8%. Chemistry had the largest percentage increase in black students over this two-year period and the largest percentage decrease in non-black students. Whereas, physics had the largest decrease in the percentage of non-black students.

Analogous data are also presented for the social sciences. In 1971-72, the political science department was outstanding in terms of the percentage of non-black majors, with 75.6% black, 24% white and 0.4% others. History, others and sociology had 18.6% 9.6% and 7.6% non-black majors, respectively. The rank order with respect to the percentage of non-black majors did not change in 1972-73. However, there were notable increases in percentage of non-black majors, especially for sociology which increased to 9.0% and economics which increased to 6.8%.

With respect to the percentage change by race per discipline for 1971-72 to 1972-73, economics had the largest decrease in blacks at –5% and the greatest increase in non-blacks at 5%. On the average, there was a substantial increase in the percentage of non-black majors and a moderate decrease in the percentage of black majors.

These data strongly suggest that the respective divisions in historically black colleges were making conscious and determined efforts to enhance the percentage of non-black majors during the period of 1971-72 to 1972-73.

FOLLOW-UP ON STUDENTS WHO GRADUATED IN 1971-72

Presented in Tables XVIII and XIX are follow-up data on students who graduated during the 1971-72 school year in the natural and social sciences. These data present information on the total number of 1971-72 graduates, the per departmental total going to graduate school or to professional schools of medicine, law and dentistry, and corresponding percentages per category or discipline.

Table XVIII displays data on the natural and physical sciences. It is quite apparent from the data that biological science, mathematics and chemistry had the largest numbers of graduates who attended graduate school. However, on a percentage basis, physics had the largest number with 35%, followed by computer science (33%), chemistry (29%), others (28%), mathematics (18%) and biological science (16%). With respect to the number of graduates who attended professional schools of medicine, biological science led numerically and percentage-wise with 59 and 12%, respectively. Chemistry and mathematics had 14 (11%) and 5 (2%), respectively. Only physics had an entry into law school. However, professional schools of dentistry received 12 (3%) biological science graduates and 5 (4%) of chemistry graduates.

Similar data are presented for the social sciences in Table XIX. It is apparent that sociology had the largest number of graduates who attended graduate school at 227, followed by political science, history, others, and economics with 88, 87, 54 and 50, respectively. However, the rank order on a percentage basis of students who attended graduate school was philosophy, economics, political science, sociology and history with 33%, 32%, 25%, 20% and 16%, respectively.

With respect to the number and percentage of social science graduates who attended professional schools, it is obvious from the data presented that this group had no tendency to attend medical or dental school, but definitely demonstrated an interest in law school. Thus, political science led in the number and percentage of graduates who chose to attend law school with 55 (16%) of its total graduates for 1971-72. Numerically, history, others, sociology and economics followed with 24, 13, 13 and 6, respectively. However, on a percentage basis, religion, history, economics or philosophy, and others followed with 7%, 5%, 4% and 2%, respectively.

There are several points regarding the data on follow-up studies of 1971-72 graduates of historically black colleges that should be emphasized. First, graduates of the division of natural and physical sciences have a high tendency to attend graduate school, medical and dental schools with a very low interest in attending law school. Whereas, graduates of the social sciences have a high interest in attending graduate schools and law schools with apparently no interest in medical or dental schools.

ASSIGNABLE DEPARTMENTAL SPACE

Division of Natural & Physical Sciences

As is typical in most colleges and universities the assignable space for the natural and physical sciences is much greater than for social sciences. Within the natural and physical sciences, the biology department utilizes the greatest amount of space to carry out its programs of instruction and research. The order in terms of space assignments is biology, chemistry, physics, mathematics, and computer science. The allocation of space as reflected in Table XX and XXI demonstrates that laboratories utilize 43% of the space assigned to the departments. Space used as classrooms takes up approximately 30% of a department's store space allocation. As noted, all departments have reserved space for studying. For the schools reporting in this investigation, study space varied from a low of 75.8 square feet for the computer science department to a high of 1,202 square feet for the mathematics department.

The housing of the administration of the natural and phósical science departments occupies the least amount of space of the department's allocation, except for special facilities. As is expected, since the mathematics department represents the largest staff of the natural and physical scienc e department in terms of sull-time and part-time faculty, the housing for administration accupies the largest amount of space. As is noted in Table XX the space utilized for the administrations of the departments parallel very well the pattern of size of staff in the departments i.e., total faculty-wise the order for departments in natural and physical science division is mathematics, biology, chemistry, physics, and computer science.

Very little space is allocated for special facilities in the natural and physical sciences. Essentially, no space is allocated for special facilities in mathematics as reflected in Tables XX and XXI. On the other hand, on the average, biology has an assignable space for special facilities approximated by three rooms (10 ft. x 10 ft.) which does provide some flexibility in terms of housing special equipment for the department. The size of the average space as indicated in Table XXI set aside for special facilities in the departments of natural and physical science tend to reflect the absense of modern equipment found in themore up-to-date natural and physical science departmentslike nuclear magnetic resonnace spectrometer, electron spin resonnance spectrometer, ultracentrifuge, etc.

In summary, the aberage figures presented in Table XV verify the experience observed on most of the predominantly black college campuses i.e., the natural and physical science departments tend to be housed in the same building and occupy one floor per department in such a building. The data presented in this report tends to substantiate that fact assuming that mathematics and physics of course occupy the same floor.

Division of Social Science

In general the departments in the division of social sciences do not require as much space for their instructional programs and office space. The departments tend to be smaller than the science departments, though their instructional loads tend to be larger. This statement in verified in this report by the number of graduates produced by the natural and physical science departments. Very little space is assigned for laboratories in the social science division. Only the departments of economics and sociology have space assignable for laboratory purposes. Likewise, only those two departments have space assignable for special facilities. In the division of social science, the average assignable square footage for classroom space varies from 2,648 square feet for the history department to 886 square feet for the philosophy department. The assignable square footage for study space varies from an average of 1,411 square feet

for the political science department to an average of 23 feet for the philosophy department. The assignable square footage for administrative purposes varies from an average of 505 sqaure feet for the history department to a low of 1,034 square feet for the philosophy department. The order for assignable square footage in decreasing size is history , sociology , economics, political science, religion, then philosophy. The enrollment pattern though, in terms of the department which has the largest number of students enrolled as majors is sociology, history, political science, economics, philosophy, then religion. Departments in terms of size of facilities, though, are in order history, sociology, political science, economics, philosphy and religion.

Overall the data in Table XX indicates that very few of the departments have assignable classroom space which cannot be accounted for by three (3) classrooms of the size 20 ft. x 30 ft. The data in this report tends to support the generally known fact that greater numbers of students are instructed on much less in social sciences than in the natural and physical sciences.

RESEARCH GRANTS

Division of Natural and Physical Science

134 research grants for a total of $4,683,627, an average of 34,952, per grant were awarded to the departments of the Natural and Physical Sciences. The Chemistry Department was the recipient of 54 grants for a total of $2,100,219 and led all of the departments in this regard. The Biology Department was second with a total of 47 grants for a total sum of $1,817,018. Physics was third with 12 grants, followed by Computer Science with 9 and Mathematics with 4. The average amount of the research grants ranged from a high of $38,893 for Chemistry to a low of $9,794 for Physics. The National Science Foundation granted the highest number of research grants to the departments, the number being granted was 40. The National Institute of Health granted 25 of 124 total research grants. N.I.H. was followed by National Institutes of Mental Health (NIMH) with 18 and National Aeronautic Space Administration (NASA) with 15. The Atomic Energy Commission (AEC) granted 4; The Office of Education (OE) granted 3; OEO granted 1. It is interesting to note that NASA supplied most of the individual research grants to the physics department, 7 of 12. The National Science Foundation (NSF) was the most prolific grantor to the biology department with 24 out of 47 granted. Chemistry was granted an equal number of grants form NIH, NIMH, and NSF, each granted 11.

The state contributed 9 grants out of 134 to the department of the Natural and Physical Sciences. The grants were concentrated in the traditional departments of Chemistry (4), Biology (2), Physics (21) and Mathematics (1). Private sources granted 29 out of 134 grants. Essentially all of the Research Grants in Computer Science came from private sources, 8 our of 9. Again, the remaining grants went to the traditional departments, Biology (8), Chemistry (12), and Physics (1).

On this item, the response rate was very poor. Only 21 institutions responded out of the 54 for Chemistry, 20 out of 54 for Biology, 2 out of 54 for Computer Science, 5 out of 54 for Mathematics, 7 out of 54 for Physics. The rate of response is taken to indicate that non-response is indicative that the colleges and minority are not recipient of research grants. Again, Chemistry, the 3rd largest department in Natural and Physical Sciences Division has the largest number of research grants, and again we point out that this department has the largest percentage of doctorates in the division.

Division of Social Sciences

The Division of Social Sciences was only one-half productive as the Division of Natural Science in procuring research grants. 67 individual research grants for a total of $2,087,808, was funded for the departments of the Social Science Division. The average size of a departmental grant varied from a high of $44,644 for Sociology to a low of $1,950 for Political Science. As was observed in the Division of Natural Science, the department with the highest number of grants also had the highest aberage sized grant of $44,644. History had the second highest number of grants with 13, and Philosophy with 1. Most of the grants to the departments are given by private sources, followed by the state and the Office of Education (OE).

With the exception of History, which received 8 of 13 grants from private sources, the other departments received one, two, or three grants from the various agencies, (NIH, NIMH, OE, NSF, State and Federal). the AEC and NASA made no grants to these departments as would be expected,

The response rate in this section of the questionnaire is again very poor, varying from 8 to 1. The conclusion which is drawn is that a high of 8 out of 54 represent essentially non-support of the colleges in these departments.

The General conslusions drawn from the presentation of these data is that in the area of research grants, the historically black colleges have not begun to be relatively competitive for the billions of dollars allocated for reseach. Only ten-fold increase within the very near future will result in a reasonable competitive record.

America's support of the black college has always been minimal-1970-71, the U.S. Government gave a meager 3.4% of its 125,000,000 dollar higher education budget to TNI's. During that same year contributions from private foundations and from public gifts amounted to 1.5% of black college's income. The traditionally black college was and remains the major force through which a black middle class was created in America.

SUMMARY

1. In the Natural and Physical Sciences and Social Sciences, the instruction and participation of teachers in curriculum development show substantial use of testbooks and others standard materials and substantial to moderate reliance in classroom on lectures in the in the service courses.

2. In the Natural and Physical Sciences in courses for major, substantial use of laboratory or field work takes place. In the Social Sciences and in the Natural Scinces, substantial reliance in use of textbooks is made in courses for the major.

3. Use of curriculum materials developed by teachers individually, use of electives and discussion of germane matters with students outside of regualr classrooms were relied upon moderately in the Natural and Physical Sciences. Whereas in the Social Sciences moderate reliance took place in classroom discussions; students were encouraged to approach problems in their own way and teachers discussed germain matters with students outside of regular class periods.

4. In the Natural and Physical Sciences, content service courses, biological science has has introduced substantial change in the curriculum within the past five years; chemistry is second. In the Social Sciences, history leads and is followed by sociolofy. In Biological Science, history and sociology lead in subtantial changes in pedagogy.

5. In the Natural and Physical Science- substantial changes have been made in content courses for majors in biological ciencesand chemistry; in Social Sciences-history, economics, and sociology. In pedogogy courses for majors in biological sciences and chemistry change is moderate. In the social sciences-other, economics, history, and sociology have introduced substantial change in pedagogy.

6. Data supports the generally well known fact that greater numbers of students get instructed on much less in social science as opposed to the natural and physical sciences program.

7. In the area of research grants, the historically black college has not begun to be relatively competitive for the billions of dollars allocated for research.

8. In the Natural and Physical Sciences, biology department respondents indicate greater participation in change than other departmens within the science division.

9. Research facilities of the community are not being utilized to the greatest extent by the science division. The social sciences tend to make better use of such facilities.

10. Teachers who participate substanially in workshops develop materials equally suitable to service courses as well as mojor courses.

11. Most departments agree that one goal is to provide undergraduates with a broad, liberal education and a second goal is to prepare undergraduates for their chosen life occupation.

12. Best credentialed faculty in the natural and physical sciences are the chemist followed by the biologists.

13. The best credentialed faculty in the Social Sciences are the Political Science followed by the Religion faculty.

14. In the natural and physical sciences, the average professors' salary (for nine months 1971-72) public four year colleges was 52% over $15,000 with 43%-$12,000 to $15,000. An associate professor's salary-56% of faculty between $12,000 and $15,000; 33% 00 $10,000 to $12,000. Instructor 47%--$7,500 to $9,000; 40%-over $11,000.

15. In the Social Sciences-the average professors' salary for nine months public four year colleges was 49%-over $15,000; 44%-$12,000 to $15,000. An associate professor's salary 49% -$12,000 to $15,000; 29$ 0 $10,000 to $12,000.

15. Computer science shows a significant increase in numbers of black students whereas mathematics shows a drop of 3% in black students but a gain of 33% in white students.

17. In the natural and physical sciecns, biological science graduates constitute the largest percentage of students graduated from TBI's in 1972. Also, the largest percentage going to medical and dental schools were biological science students.

18. In the social sciences, among the private colleges, June 1972 graduates accounted for the largest percentage of students attending professional law schools.

19. In the social sciences, with respect to racial composition of student body, there is a significant increase in number of white students in sociology, history, and political science. Among black students, sociology and political science lead.

20. Curriculum evaluation was the major concern among all institutions though to a lesser extent among two year public and private institutions.

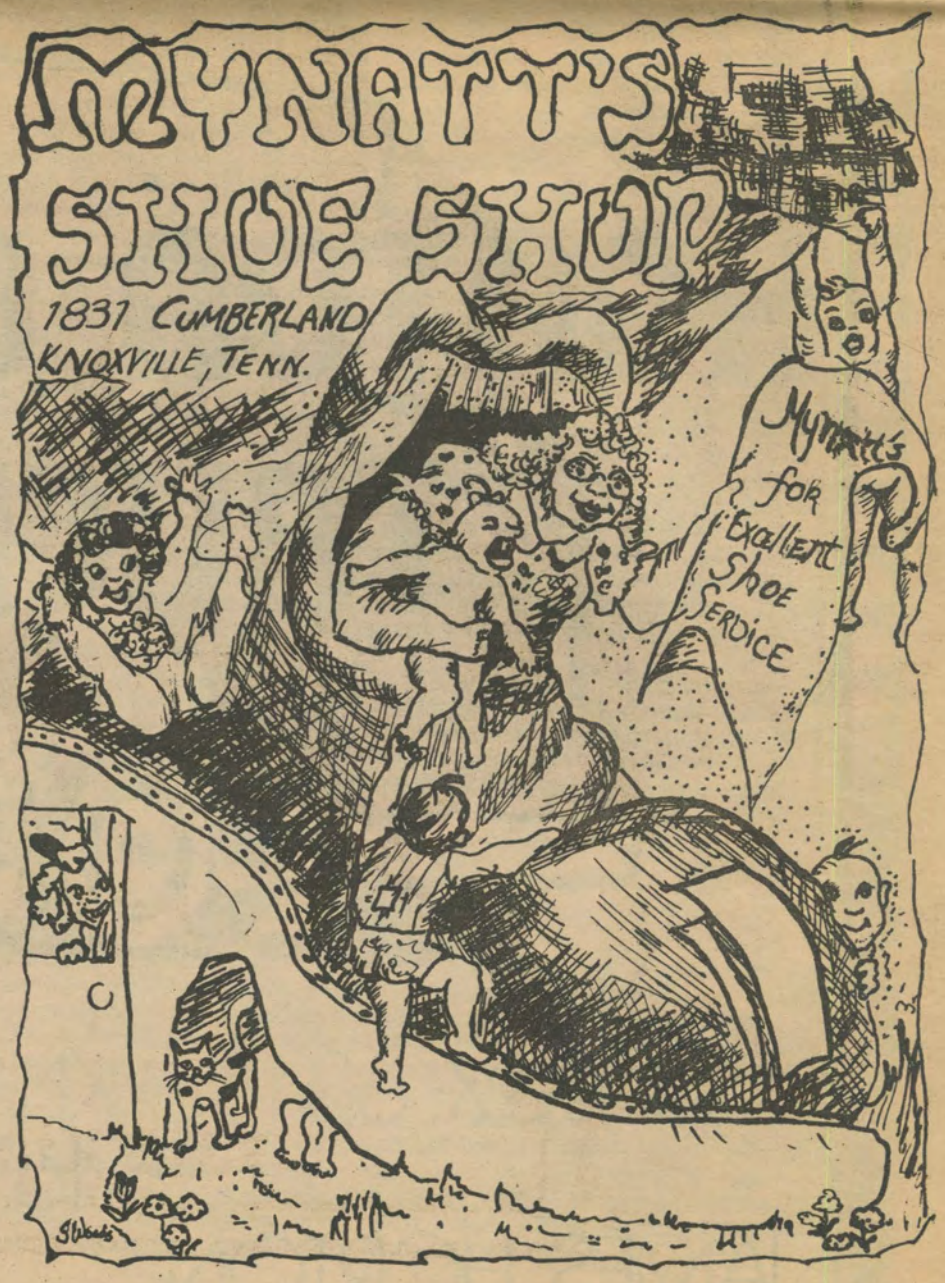
21. White institutions perceptions of black colleges: all agree that TNI should be perpetuated; that there should be more interaction between their institution and the TNI in their vicinity. Most are agreed that the TNI is an asset to the community.

TABLE XIV

STUDENT TO FACULTY RATIOS IN HISTORICALLY BLACK COLLEGES AND UNIVERSITIES
(Calculated from Tables III, IV, XII, and XIII)

Natural and Physical Science Division	1971-72	1972-73
Biological Science	9.02	10.28
Chemistry	3.59	3.49
Computer Science	14.4	16.67
Mathematics	5.26	5.10
Physics	1.48	1.57
Other		

Social Science Division	1971-72	1972-73
Economics	10.62	11.03
History	8.44	9.06
Philosophy	1.16	2.03
Political Science	17.73	23.22
Religion	4.33	4.20
Sociology	30.43	30.45
Other	13.99	18.67



ENTERTAINMENT NIGHTLY :

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●

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Fig. II.

Substantial

Moderate

Economics

History

Philosophy

Pol. Science

Religion

Sociology

Content Pedogogy

Service Courses

Content Pedogogy

Major Courses

Changes Introduced into the Curriculum within the past five years

Economics

History

Philosophy

Political Science

Religion

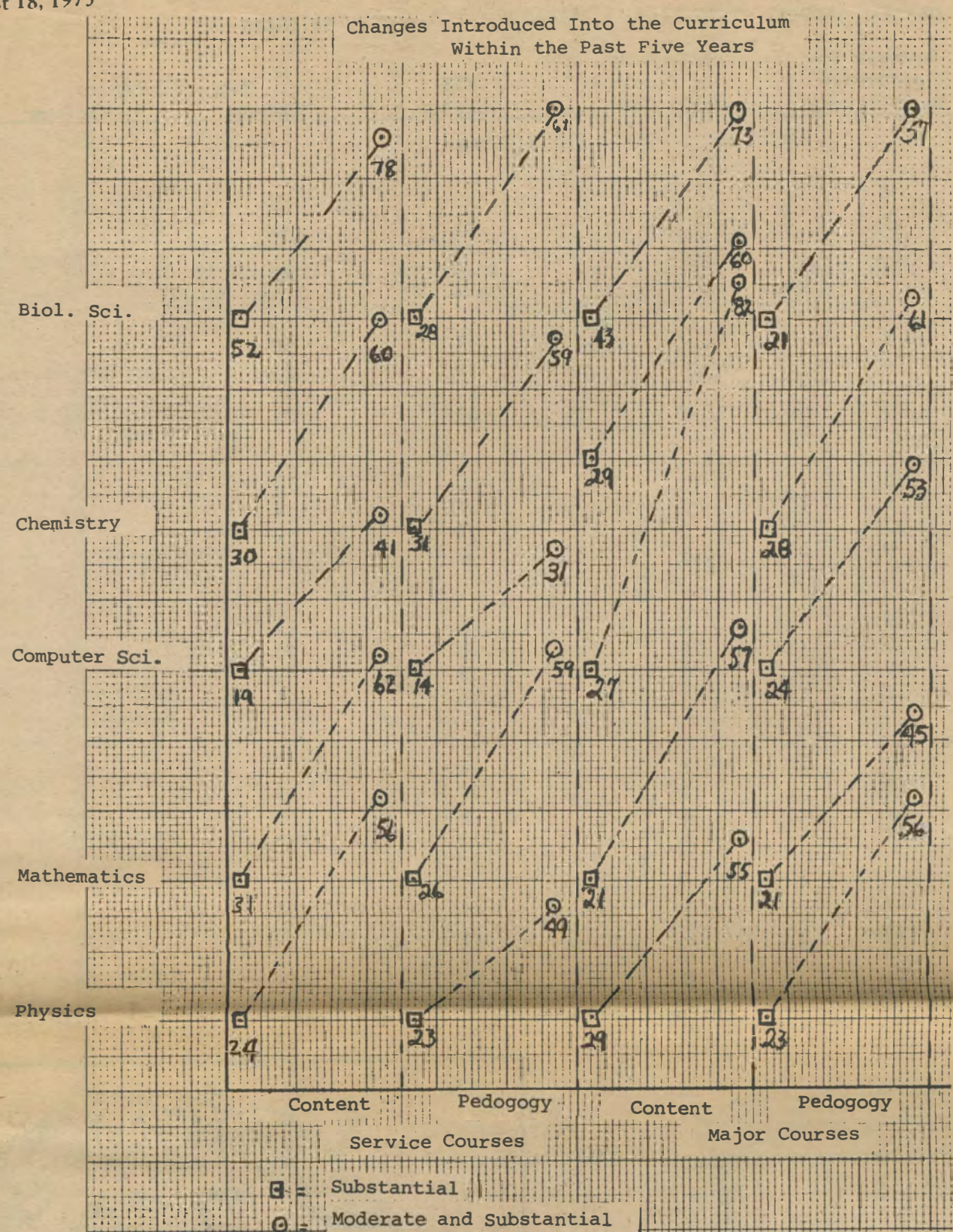
Sociology

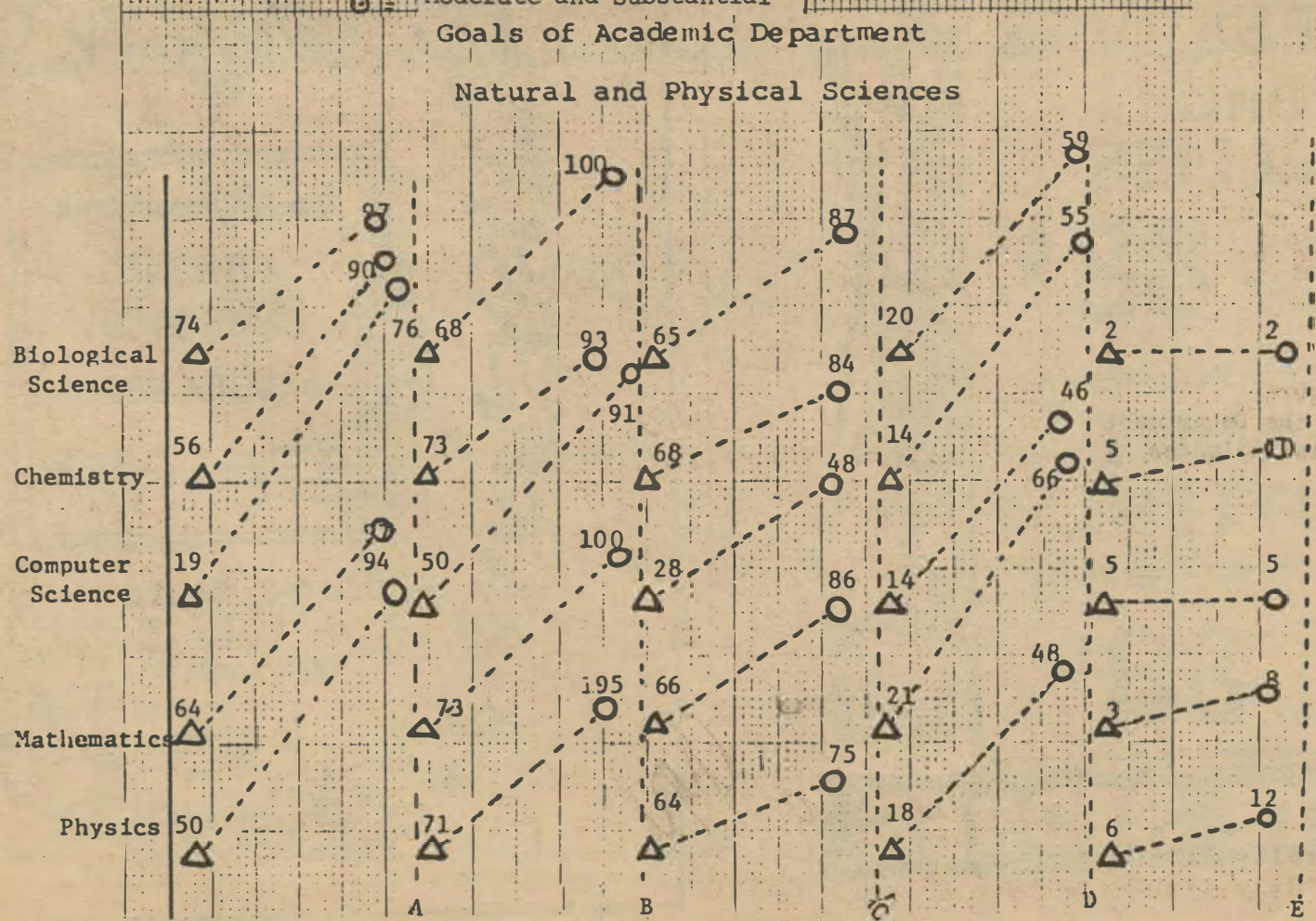
A B C D E

= Generally true

= Generally true/more true than false

Figure 4
Goals for the Department
Social Sciences


Changes Introduced Into the Curriculum
Within the Past Five Years
Biol. Sci.
Chemistry
Computer Sci.
Mathematics
Physics
Content
Pedogogy
Content
Pedogogy
Service Courses
Major Courses
= Substantial
= Moderate and Substantial


Goals of Academic Department
Natural and Physical Sciences
Biological Science
Chemistry
Computer Science
Mathematics
Physics
A
B
C
D
E

GENERAL FACULTY STATISTICS TABLE X SOCIAL SCIENCES

Department	Average No. of Credit Hours Taught	Average No. of Papers Published	FTE Faculty	Range of Papers Maximum	Range of Papers Minimum	Total Responding
Economics						
Professor	8	1	22	8	0	49
Associate Professor	11	2	25	14	0	54
Assistant Professor	12	1	26	8	0	51
Instructor	11	1	35	12	0	53
History						
Professor	9	1	51	10	0	52
Associate Professor	24	1	43	12	0	54
Assistant Professor	15	1	63	25	0	54
Instructor	12	0	67	12	0	54
Philosophy						
Professor	15	1	10	8	0	48
Associate Professor	9	2	10	16	0	47
Assistant Professor	12	1	5	2	0	48
Instructor	9	1	9	12	0	40
Political Science						
Professor	9	2	24	12	0	49
Associate Professor	10	2	23	12	0	50
Assistant Professor	10	0	28	3	0	54
Instructor	12	1	16	12	0	50
Religion						
Professor	18	2	16	20	0	48
Associate Professor	13	1	10	5	0	48
Assistant Professor	17	0	6	0	0	42
Instructor	12	1	12	12	0	47
Sociology						
Professor	9	1	45	16	0	52
Associate Professor	16	1	34	6	0	54
Assistant Professor	13	0	50	3	0	51
Instructor	11	0	61	12	0	52
Other	4	0	68	4	0	43
Grand Total	12	1	759			1244

TABLE IX

GENERAL FACULTY STATISTICS
NATURAL AND PHYSICAL SCIENCES
56 COLLEGES REPORTING

Department	Average No. of Credit Hours Taught	Average No. of Papers Published	FTE Faculty	Range of Papers Maximum	Range of Papers Minimum	Total Responding
Biological Science						
Professor	7	3	91	95	0	53
Associate Professor	9	2	71	28	0	56
Assistant Professor	8	1	80	15	0	56
Instructor	8	0	61	5	0	56
Chemistry						
Professor	6	4	69	220	0	56
Associate Professor	7	3	66	110	0	51
Assistant Professor	9	6	29	110	0	53
Instructor	7	3	14	0	0	55
Computer Science						
Professor	12	3	3	6	0	49
Associate Professor	12	1	5	5	0	51
Assistant Professor	13	1	6	3	0	52
Instructor	26	0	3	0	0	55
Mathematics						
Professor	8	2	37	46	0	52
Associate Professor	8	1	78	15	0	56
Assistant Professor	9	0	104	9	0	56
Instructor	8	0	91	12	0	56
Physics						
Professor	7	2	25	20	0	53
Associate Professor	12	1	25	8	0	52
Assistant Professor	7	1	29	5	0	53
Instructor	9	0	9	2	0	55
Other	4	0	20	9	0	9
Grand Total	8	2	916			1085

TABLE XI

Average Faculty Salary
For 9 Months
1971-72

Natural and Physical Sciences

	Professor	Associate Professor	Assistant Professor	Instructor
Biological Science	$12,000-15,000	$12,000-15,000	$9,000-11,000	$7,500-9,000
Chemistry	12,000-15,000	12,000-15,000 & 10,000-12,000	9,000-11,000	7,500-9,000
Computer Science	12,000-15,000			
Mathematics	over 15,000	12,000-15,000	9,000-11,000	7,500-9,000
Physics	over 15,000	12,000-15,000	over 11,000	7,500-9,000

*Equally divided

Only 4 professors out of 172 in the natural and physical sciences are paid under $10,000 whereas only 44 full time professors and associate professors receive over $15,000 per 9 months.

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TABLE V

PERCENTAGE BY DEGREE WITHIN EACH RANK

Department	Assistant Professors Ph.D.	Assistant Professors MA	Assistant Professors BA	Instructors Ph.D.	Instructors MA	Instructors BA	Total Responding
Natural and Physical Sciences							
Biological Science	35	63	3	6	73	21	47
Chemistry	76	24	0	26	72	2	45
Computer Science	25	50	25	0	86	14	13
Mathematics	27	73	0	0	96	4	40
Physics	24	76	0	9	82	9	34
Other	41	59	0	0	100	0	12
Total	38	60	2	7		9	191
Social Sciences							
Economics	31	69	0	18	82	0	36
History	28	69	3	9	88	2	41
Philosophy	33	67	0	9	100	0	28
Political Science	34	66	0	13	88	0	35
Religion	42	58	0	0	92	8	16
Sociology	19	81	0	9	78	13	44
Other	3	97	0	0	2	98	40
Total	21	79	1	1	7	92	232

TABLE V (Continued)

PERCENTAGE BY DEGREE WITHIN EACH RANK

Department	Professors Ph.D.	Professors MA	Professors BA	Associate Professors Ph.D.	Associate Professors MA	Associate Professors BA	%Ph.D.'s Total
Natural and Physical Sciences				44% of all teachers in Social Science division have Ph.D. degrees.			
Biological Science	95	5	0	61	39	0	49%
Chemistry	96	4	0	66	31	3	
Computer Science	50	50	0	25	75	0	
Mathematics	91	9	0	43	57	0	40%
Physics	96	4	0	64	33	3	48%
Other	100	0	0	60	40	0	50%
Total	88	12	0	53	42	1	
Social Sciences	46% of all teachers in Natural Science division hold Ph.D.						
Economics	95	5	0	39	61	0	46%
History	73	19	7	50	46	4	40%
Philosophy	82	18	0	100	0	0	56%
Political Science	93	7	0	75	25	0	54%
Religion	94	6	0	38	63	0	44%
Sociology	78	18	4	45	55	0	32%
Other	96	4	0	33	67	0	
Total	87	13	3	54	50	1	

The highest percentage of blacks for the 1971-72 year is found in biological sciences with other next followed by mathematics, chemistry, computer science and physics.

For the year 1972-73, the highest percentage of blacks is found in the biological sciences with mathematics next followed by other, chemistry, computer science and physics.

The highest percentage of whites for the 1971-72 year is found in computer science, physics, mathematics, chemistry and other.

The highest percentage of Indians during this period appeared in physics and other.

TABLE VII

Departmental Size Changes in Majors

Department	No. of Majors 1971-72	No. of Majors 1972-73	Percentage Change Majors	Total Responding
Natural & Physical Sciences				
Biological Science	2580	2960	15	47
Chemistry	621	636	2	44
Computer Science	144	300	108	12
Mathematics	1447	1392	-4	41
Physics	138	151	9	35
Other	185	212	15	9
Total	5115	5651	10	188

TABLE VIII

Range of Faculty and Majors by Department

Department	1971-72 Full-Time Faculty Max.	1971-72 Full-Time Faculty Min.	1971-72 Majors Max.	1971-72 Majors Min.	1972-73 Full-Time Faculty Max.	1972-73 Full-Time Faculty Min.	1972-73 Majors Max.	1972-73 Majors Min.
Natural and Physical Sciences								
Biological Science	17	1	183	1	18	1	218	1
Chemistry	18	1	51	1	19	1	53	1
Computer Science	6	1	125	7	8	1	179	13
Mathematics	24	1	163	10	25	1	166	8
Physics	17	1	53	2	15	1	49	2
Other	13	1	80	12	13	1	90	9
Social Sciences								
Economics	10	1	260	2	12	1	268	2
History	21	1	281	1	27	1	234	1
Philosophy	12	1	17	3	8	1	20	3
Political Science	14	1	230	10	16	1	250	10
Religion	7	1	75	2	8	1	72	3
Sociology	20	1	500	1	21	1	520	1
Other	17	1	300	8	17	1	325	30

Departmental Size Changes in Majors

Department	No. of Majors 1971-72	No. of Majors 1972-73	Percentage Change	Total Responding
Social Sciences				
Economics	1020	1180	16	34
History	2042	2175	7	42
Philosophy	51	59	16	20
Political Science	1649	2159	31	34
Religion	169	168	1	17
Sociology	5568	5847	5	45
Other	1958	2763	41	39
Total	12457	14351	15	231

TABLE XVIII

RACIAL COMPOSITION OF STUDENT BODY
(Sub-group Analysis I)

	PERCENTAGE BY RACE						PERCENTAGE CHANGE		
	1971-72			1972-73					
Department	Black	White	Other	Black	White	Other	Black	White	Other
Biological Science	95.6	2.2	2.2	95.2	2.6	2.2	.4	.4	0
Chemistry	73.8	13.1	13.1	80.2	11.9	7.9	6.4	-1.2	-5.2
Computer Science	97.5	2.5	0	98.4	.5	1.1	.9	-2.0	1.1
Mathematics	96.8	.5	2.7	94.6	.8	4.6	-2.2	.3	1.9
Physics	79.5	3.2	17.3	75.4	4.1	20.5	-4.1	.9	3.2
Others	99.8	0	.2	99.6	.2	.2	- .2	.2	0
Economics	98.2	.8	1.0	93.2	5.8	1.0	-5.0	5.0	0
History	81.4	18.3	.3	82.8	17.2	0	1.4	-1.1	- .3
Philosophy	98.4	1.6	0	98.4	1.6	0	0	0	0
Political Science	75.6	24.0	.4	77.3	22.3	.4	1.7	-1.7	0
Religion	97.1	2.9	0	95.4	4.6	0	-1.7	1.7	0
Sociology	92.4	4.0	3.6	91.0	5.3	3.7	-1.2	1.3	.1
Other	90.4	5.0	4.6	90.8	8.8	.4	.4	3.8	4.2

TABLE XIX

FOLLOW-UP ON STUDENTS WHO GRADUATED
DURING 1971-72 SCHOOL YEAR
(54 Colleges Reporting)

Department	June 1972 Total Departmental Graduates	Total Responding	Departmental Total Going to Graduate School	Professional Schools Medical	Law	Dental
Economics	158	17	50 (32%)	0	6 (4%)	0
History	533	25	87 (16%)	0	24 (5%)	0
Philosophy	48	6	16 (33%)	0	2 (4%)	0
Political Science	349	21	88 (25%)	0	55 (16%)	0
Religion	45	7	3 (7%)	0	3 (7%)	0
Sociology	1123	30	227 (20%)	0	12 (1%)	0
Other	569	23	54 (9%)	0	13 (2%)	0
Total	2825		525 (19%)	—	115 (4%)	—

TABLE XXI

Space Assignment

Divisions and Departments	Assignable Sq. Ft. in Classroom	Assignable Sq. Ft. in Laboratory	Assignable Sq. Ft. in Study Space	Assignable Sq. Ft. in Administration	Assignable Sq. Ft. in Special Fac.	Assignable Sq. Ft. in Total
Natural & Physical Sciences						
Biological Science	3135.92	4622.79	1074.73	879.23	323.03	10035.70
Chemistry	1873.87	5426.57	1128.60	678.90	264.77	9372.71
Computer Science	626.54	858.69	75.85	386.62	76.54	2024.24 ~~2015.23~~
Mathematics	1990.80	864.53	1202.07	912.13	8.73	4978.26 ~~498.27~~
Physics	1506.41	2340.26	1028.59	408.81	129.26	5413.33
Other	2544.17	1614.58	2154.00	412.58	58.08	6783.41
Total						36,607.65
Social Sciences						
Economics	1749.99	306.00	1311.78	496.52	78.39	3942.68
History	2647.55	0	1234.00	505.36	0	4476.91
Philosophy	885.56	0	23.33	125.11	0	1034.00
Political Science	1678.58	0	1410.58	263.16	0	3352.32
Religion	1033.44	0	234.44	270.00	0	1537.89
Sociology	2340.00	32.00	1248.36	461.92	35.20	4117.64
Other	1551.46	114.45	3284.46	717.35	691.23	6358.95 ~~7399.04~~

TABLE XVI

RACIAL COMPOSITION OF STUDENT BODY
(54 Colleges Reporting)

Department	Departmental Student Body 1971-72 Black	White	Other	1972-73 Black	White	Other	Percentage Change Black	White	Other	Total Responding
Biological Science	2755	64	63	2900	79	67	5	23	6	35
Chemistry	518	92	92	487	72	48	-6	-22	-48	28
Computer Science	39	1	0	184	1	2	372	0	—	3
Mathematics	1818	10	51	1669	15	81	-8	50	59	21
Physics	271	11	59	261	14	71	-4	27	20	16
Other	510	0	1	521	1	1	2	—	0	7
All Departments	(93%)	(2.8%)	(4.2%)	(93.0%)	(2.8%)	(4.2%)				
Economics	477	4	5	544	34	6	14	750	20	12
History	2800	628	10	2691	558	2	-4	-11	-80	30
Philosophy	126	2	0	126	2	0	0	0	—	5
Political Science	1604	510	9	1823	525	10	14	3	11	16
Religion	102	3	0	103	5	0	1	67	—	7
Sociology	4451	195	173	5341	308	215	20	58	24	28
Other	2920	160	150	2759	266	12	-6	66	-92	25
All Department	(87.1%)	(10.5%)	(2.4%)	(87.3%)	(11.1%)	(1.6%)				