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RESOURCES AND NEEDS FOR HIGHER EDUCATION IN IOWA

Raymond C. Gibson
Director of the Study

STUDY NO. III

AN APPRAISAL OF IOWA COLLEGES:
FACULTIES, COSTS, SCHOLARSHIPS AND ADMINISTRATION

by

Raymond C. Gibson

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Clayton Ringgenberg, Director
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FOREWORD

The study of Iowa's resources for higher education required a careful examination of present college resources, facilities, faculties and curricula. It was decided early in the study that a visit to every college in Iowa was necessary. The director of the study visited every senior college and university. Those visits, together with data submitted by the college officials, formed the basis for this report.

Time and resources made it impossible to engage in a comprehensive analysis of college resources for higher education, but the visits and subsequent meetings with representatives of the colleges indicate that the leaders in these colleges are approaching the tasks of this decade with great vision, courage, and intelligence. Great progress is being made in developing facilities. Faculties are being improved; salaries are going up but not rapidly enough to keep pace with other professions or even with higher education.

Many perplexing problems confront the leaders in higher education--the problems of funds for buildings and for operating budgets; admission standards, curricular revision, institutional objectives, and the high cost to the student who attends college.

Iowa has a great resource in its state and private colleges. Wise planning on the part of leaders and boards of control has made it possible for the state to approach this decade of rapidly increasing enrollments with confidence that the doors of higher education will remain open for capable and serious young people.

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STATUS OF ACADEMIC PERSONNEL

The faculties of the several colleges and universities represent one of the greatest resources of the state of Iowa in carrying out a dynamic program of higher education. This outstanding resource is not monopolized by any one institution or any group of institutions. There are outstanding professors and administrators widely distributed throughout all the institutions visited. Buildings and other physical facilities may be developed rather quickly, once funds have been made available, but the procurement of a good faculty is a slow process that usually extends over many years of concentrated effort and increasing financial support. Good faculties grow gradually much the same way as library resources grow over a long period of years. The presidents, vice-presidents, deans and departmental chairmen in the various colleges and universities of Iowa are to be congratulated for the careful attention which they have given to the problem of academic personnel.

Back of the planning and hard work on the part of administrators in selecting and retaining good faculty members have been the intelligent policy forming boards of trustees which have determined long-range objectives and sought financial support from both public and private sources in order to secure the best possible academic personnel for their colleges and universities. The students coming from the state of Iowa and from various other states and foreign countries, their parents and all the friends of the universities and colleges who provide support in any way, should take pride in the fact that the presidents in the Iowa colleges and universities and all the people working with them have regarded the procurement and retention of outstanding faculties as one of the major problems for boards of trustees and administrators.

The specific data collected on the status of faculties were gathered through questionnaires sent to all the institutions and through personal visits to each of the institutions by the director of the study. Further insight was made possible by the careful analysis of the college catalogues submitted to the staff of the study. The analysis of the budgets, which appears in another section of this report, indicates that instruction, made up primarily of faculty salaries, constitutes the largest single item in any budget.

Table 1 presents the status of faculties on the basis of where they secured their highest degrees and by rank. For purposes of treating these data, the institutions are divided into three groups: private colleges, meaning degree-granting institutions; state institutions, meaning the two state universities and the state teachers college; and junior colleges, both public and private.

Among the private colleges, 86 doctorates were earned in Iowa and 320 doctorates were earned outside the state of Iowa. The private colleges have 154 faculty members who earned the Masters degree in

TABLE 1. HIGHEST EARNED DEGREES BY RANK AND LOCATION FOR IOWA FACULTIES
1959-1960

Rank	Doctorate		Masters		Bachelors		Total
	In Iowa	Out	In Iowa	Out	In Iowa	Out	
PRIVATE COLLEGES (N = 20)							
Professor	48	163	23	5	2	2	243
Associate	19	93	42	113	4	1	272
Assistant	18	61	58	186	12	15	350
Instructor	1	3	31	109	47	33	224
Total	86	320	154	413	65	51	1089
STATE INSTITUTIONS (N = 3)							
Professor	166	296	42	41	2	16	563
Associate	119	196	36	53	10	11	425
Assistant	98	161	84	129	15	35	522
Instructor	35	51	119	153	110	66	534
Total	418	704	281	376	137	128	2044
JUNIOR COLLEGES (N = 23)							
Teachers	6	19	166	192	40	34	457
Grand Total	510	1043	601	981	242	213	3590

Per cent of highest degrees earned in Iowa 40

Per cent of highest degrees earned outside of state 60

the state of Iowa and 413 who earned the Masters degree outside the state. Of those holding only the Bachelors degree, 65 were earned in the state of Iowa and 51 outside the state. Of the faculties of the 20 private colleges, 37 per cent hold the doctorate, 52 per cent hold the Masters degree, and slightly less than 11 per cent hold the Bachelors degree.

In the three state institutions, 418 faculty members hold the doctorate from universities in Iowa, 704 hold the doctorate from universities outside of Iowa; 281 hold the Masters degree from colleges and universities in Iowa, and 376 hold the same degree from outside of Iowa; 137 hold the Bachelors degree from Iowa institutions and 128 earned the Bachelors outside the state.

Among the faculty members of the 23 junior colleges, six hold the doctorate from institutions in Iowa, and 19 hold the doctorate from institutions outside the state; 166 hold the Masters degree from institutions in

Iowa and 192 hold the Masters degree from institutions outside the state; 40 earned their Bachelors degrees in Iowa and 34 earned the same degree outside the state.

In each case reported in these data, the degrees represented the highest degrees earned by those faculty members included in the numbers in Table 1. The grand total for all institutions reporting indicates that 510 Doctors degrees were earned in the state of Iowa, 1043 doctorates were earned outside the state; 601 Masters degrees were earned in the state of Iowa and 981 were earned outside the state; 242 Bachelors degrees were earned in the state of Iowa and 213 were earned outside the state.

Combining all of these totals, one can observe that of the 3590 faculty members included, 1353 (40 per cent) earned their highest degrees in the state of Iowa and 2237 (60 per cent) earned their highest degrees outside the state. These data have significant implications for the universities in Iowa which maintain graduate programs for the preparation of college teachers.

Table 2 compares the faculties of the three types of institutions in Iowa with the national average on the criterion of highest earned degrees.

Among the faculty members of the state institutions, 55 per cent hold the doctorate against 31 per cent for the national average among state institutions; 32 per cent hold the Masters degree against 46 per cent as a national average; and 13 per cent hold the Bachelors degree which is the same as the national average among the state institutions. These data indicate that the three state institutions in Iowa rank high on the criterion of percentage of faculty members holding the highest earned degree, and low on the percentage for whom the Masters is the highest degree. Maintaining this favorable position among the three state institutions is likely to become increasingly difficult during the next ten years.

Among the faculty members of the 20 private colleges, 37 per cent hold the doctorate against 36 per cent for the national average among similar institutions; 52 per cent hold the Masters in comparison with 35 per cent for the national average, and 11 per cent hold the Bachelors degree in comparison with 15 per cent as a national average. These data indicate that the private colleges of Iowa compare favorably with private colleges in the nation as a whole with respect to the highest earned degrees held by the faculties. The discrepancy in the percentages reported for the national average occurs in consequence of the fact that national averages included a fourth category, namely, professional degrees, which were not included in these data.

The junior colleges in Iowa as Table 2 indicates do not compare favorably with the national average on the criterion of the doctorate; they have substantially higher percentages holding the Masters and a lower percentage of the faculty members holding the Bachelors as the highest degree.

TABLE 2. PERCENTAGE DISTRIBUTION OF HIGHEST EARNED DEGREES IN IOWA COLLEGES AND THE UNITED STATES

Degrees	State Institutions		Private Colleges		Junior Colleges	
	Iowa	National Average	Iowa	National Average	Iowa	National Average
Doctorate	55	31	37	36	5	8
Masters	32	46	52	35	79	54
Bachelors	13	13	11	15	16	24

Table 3 presents the status of academic personnel in 43 institutions on the basis of salaries. Among the three state institutions salaries range from \$3800 to \$6850 for instructors up to \$5200 to \$15,500 for professors. The mean salary of all professors in the three state institutions is \$8998 in comparison with \$9350 as a national average among state institutions. Associate professors receive a mean salary of \$7612 in the three institutions in Iowa in comparison with a national mean of \$7430. Assistant professors receive \$6462 in comparison with the national mean of \$6330. Salaries for instructors in the three state institutions are \$5235 against a mean of \$5250 for all state institutions.

Nineteen private colleges reported salaries ranging from \$3500 to \$6500 for instructors up to \$4500 to \$12,000 for professors. Professors in the private colleges receive a mean salary of \$7000 against a mean for similar institutions in the United States of \$8850. Associate professors receive a mean salary of \$6088 against a mean of \$6700 for similar institutions throughout the United States. Assistant professors receive a mean salary of \$5462 against a national mean of \$5720. Instructors receive \$4935 against a mean of \$4840 at the national level.

Among the junior college faculties, the range is from \$4200 to \$8200 and the mean is \$5756.

Data such as those appearing in Table 3 need to be interpreted with great caution, because the means reported for the United States include hundreds of institutions, both state and private, with which the colleges and universities in Iowa should not be compared. For example, if the state of Iowa intends to maintain its two major universities with national reputations, they must be compared with other universities holding similar standing in the nation. The same factors influence the comparisons between the teachers college and similar institutions throughout the nation. Iowa maintains but one state teachers college. The very fact that the state maintains one institution of this type should indicate substantially higher standing of that institution than the average teachers college in the nation. On the whole, the private colleges in Iowa do not compare as favorably with the other institutions as do the state institutions in Iowa.

TABLE 3. SALARY RANGE AND MEAN IN IOWA COLLEGES AND IN UNITED STATES FOR ACADEMIC YEAR 1959-1960

Rank	Range	Mean	
		Iowa	U.S.
STATE INSTITUTIONS (N=3)			
Professor	\$5,200--15,500	\$8,998	\$9,350
Associate	5,000--10,800	7,612	7,430
Assistant	4,500-- 8,700	6,462	6,330
Instructor	3,800-- 6,850	5,235	5,250
PRIVATE COLLEGES (N=19)			
Professor	\$4,500--12,000	\$7,000	\$8,850
Associate	4,100-- 8,500	6,088	6,700
Assistant	3,500-- 8,260	5,462	5,720
Instructor	3,500-- 6,500	4,935	4,840
JUNIOR COLLEGES (N=21)			
Total Faculty	\$4,200- 8,200	\$5,756	

One other word of caution regards the fallacy of comparing salaries in the universities as a whole with salaries of undergraduate institutions. It is incumbent upon universities to maintain expensive research programs and graduate instruction, and these phases of the programs of major universities cannot be compared in cost with undergraduate programs in the same university, and, of course, they do not lend themselves to comparison with other undergraduate colleges.

Table 4 classifies the faculties of 46 institutions on the basis of curricular divisions in which they work. Among the three state institutions, it is significant to note that the highest number of academic personnel appears in the humanities, and that the social sciences and sciences represent very large divisions. These data point to the fact that the three state institutions are, of necessity, strong in the liberal arts departments, because these departments form the foundation for education in the various professions.

Professional education is a major responsibility of the state institutions as indicated in the division of staff members between the various instructional areas. Major professional curricula in the three state institutions are agriculture, business and commerce, education, engineering, home economics, law, medical sciences, veterinary medicine, journalism,

TABLE 4. NUMBER OF FACULTY MEMBERS BY CURRICULAR DIVISION AND RANK

Curricular Division	Professor	Associate	Assistant	Instructor	Total
STATE INSTITUTIONS					
Agriculture	79	35	22	27	163
Biological Science	26	23	19	9	77
Business & Commerce	14	21	17	14	66
Education	41	46	46	32	165
Engineering	54	38	56	69	217
Home Economics	30	24	33	31	118
Humanities	55	66	70	61	252
Law	8	1	3		12
Medical Sciences	60	42	46	43	191
Physiological Sciences	73	43	51	43	210
Social Sciences	46	33	40	26	145
Veterinary Medicine	17	7	10	11	45
Journalism	4	2	1	4	11
Dentistry	13	7	7	4	31
Nursing	1	3	6	30	40
Pharmacy	2	3	1		6
Miscellaneous	13	15	31	18	67
PRIVATE COLLEGES					
Agriculture			1		1
Biological Sciences	23	16	21	3	63
Business & Commerce	16	20	23	19	78
Education	40	27	32	21	120
Engineering	3	1		10	14
Home Economics		8	8	5	21
Humanities	107	106	113	89	415
Law	5	2			7
Medical Sciences	1	2	5	5	13
Physiological Sciences	34	35	29	10	108
Social Sciences	46	44	54	28	172
Miscellaneous	23	24	34	22	103
JUNIOR COLLEGES					
Biological Sciences					27
Business & Commerce					33
Education					35
Engineering					31
Home Economics					5

TABLE 4. NUMBER OF FACULTY MEMBERS BY CURRICULAR DIVISION AND RANK, cont'd.

Curricular Division	Professor	Associate	Assistant	Instructor	Total
JUNIOR COLLEGES, cont'd.					
Humanities					147
Law					1
Medical Sciences					2
Physiological Sciences					48
Social Sciences					74
Miscellaneous					69

dentistry, nursing, and pharmacy. These curricula are indicative of the great service function of state colleges and universities in providing professional leaders and technicians to carry on the service functions in society. Offering of such professional education is by no means limited to state institutions as the curricula of the private colleges in Iowa and in the nation as a whole indicate.

Among the private colleges, the humanities represent by far the largest curricular division, followed closely by the social sciences and the sciences, biological and physical. Agriculture, business and commerce, education, engineering, home economics, law and medical sciences are among the professional curricula in the 20 private colleges reporting.

The 20 private colleges and the junior colleges together have 155 people working in the field of education against 165 in the three state institutions. One major emphasis in the private colleges is upon the preparation of teachers for the public schools of Iowa.

It is obvious from examination of the curricula of the private colleges and from visits to these institutions that the strongest interest among these institutions is in developing and maintaining strong liberal arts colleges. They represent a resource for students in Iowa and from all over the nation whose principal interest is in obtaining a broad liberal arts education at the undergraduate level. In many instances, private colleges are performing the function of community colleges, serving hundreds of local students who find it more economical to attend a private institution than to leave home and attend a public institution.

The curricula of the junior colleges are treated in greater detail in the specialized report on the junior colleges.

Table 5 is a distribution of academic personnel on the basis of age. Of the 3596 faculty members included from all three types of colleges and universities, 2554 are under 50 years of age, and 1042 are over 50 years of age. The colleges of Iowa have a large proportion of young faculty members, and this will be a great asset during the next ten to fifteen years, because these young staff members will provide an experienced

TABLE 5. NUMBER OF ACADEMIC PERSONNEL BY AGE IN IOWA, 1959-1960

Age	Jr. Colleges	State & Private Colleges	Total
20 - 24	16	48	64
25 - 29	49	341	390
30 - 34	78	545	623
35 - 39	60	537	597
40 - 44	58	395	453
45 - 49	61	366	427
50 - 54	56	288	344
55 - 59	42	231	273
60 - 64	36	185	221
65 - 70	15	114	129
Over 70	7	68	75

core on which to build the larger faculties needed to take care of the increase in enrollments.

Table 6 indicates the status of faculties with respect to retirement schedules. Eighty-nine members of the junior college faculties will retire between 1960 and 1970; 356 faculty members will retire from the state and private colleges; and a total of 445 will retire from the 46 institutions reporting these data.

In order to gain a more complete understanding of the problem of recruitment of academic personnel during the next ten years, it is necessary to add to the 445 positions to be filled because of retirement, the number that will need to be filled because of professors leaving the state or dropping out of their academic positions for other work in the communities. An even greater factor will be the addition of faculties sufficient to take care of an 80 per cent increase in enrollment between 1959 and 1970. This last factor may require the addition of approximately 3200 academic personnel. Iowa will need to recruit at least 3500 faculty members during the ten year period. This means at least 1400 coming from the colleges and universities of Iowa and 2100 from outside the state, providing the same ratio prevails. But the state institutions will probably need to export as many as they import. Therefore, graduate schools should prepare at least 350 people each year during the ten-year period.

If salaries increase by 100 per cent during the decade and the number of faculty members increases by 80 per cent, this will mean a 260 per cent increase in the budgets for academic personnel by 1970. This assumes that each instructional unit will become 1.8 by 1970 and that the salary per instructional unit will double resulting in 3.6 times the cost of 1960.

TABLE 6. ACADEMIC RETIREMENT SCHEDULE BY YEAR IN IOWA, 1960-1970

Year	Jr. Colleges	State & Private Colleges	Total
1960	4	32	36
1961	13	30	43
1962	19	28	47
1963	7	37	44
1964	5	35	40
1965	7	22	31
1966	7	42	49
1967	8	34	42
1968	7	31	38
1969	5	31	36
1970	5	34	39
Total	89	356	445

FACULTY LOAD

Teaching and research loads carried by the faculties could not be accurately determined, because (1) no data were collected on part-time faculty members; (2) only information for full-time graduate and undergraduate students and not part-time was obtained; and (3) there was no attempt to resolve the problem of research versus teaching in computing faculty loads.

In general, one would anticipate more students per faculty member in junior colleges, but this is probably not true in Iowa because there are so many small junior colleges. Table 7 indicates only the number of full-time faculty members in 46 of the 51 colleges.

TABLE 7. FULL-TIME FACULTY IN 46 IOWA COLLEGES, 1959-60 SCHOOL YEAR

Type	Number of Institutions	Number of Faculty Members
Private Colleges	20	1,148
State Insts.	3	2,055
Jr. Colleges	23	432
Total	46	3,635

ENROLLMENT INCREASES ANTICIPATED BY THE IOWA COLLEGES

Table 24 in Study I of this report indicates that the total undergraduate college enrollment in all Iowa colleges and universities will increase from 42,535 in the fall of 1959 to 76,414 in the fall of 1970.

For the period 1949-59, graduate enrollments increased by an average of 7.5% annually. If this trend continues to 1970, the number of graduate students will increase from 3,921 in 1959 to about 8,700 in 1970. This would make a total of about 85,100 students doing graduate and undergraduate work in the public and private universities and colleges and in the junior colleges.

Interviews with the college presidents and other administrative officers of all colleges in Iowa indicate that plans have been well formulated for an enrollment increase of approximately 50%. This statement is not intended as a commitment on the part of college administrators, but building programs recently completed and now in the planning and/or construction stage indicate that boards of trustees and administrators are making realistic plans for a minimum increase of 50% in enrollments.

Building programs in the private colleges indicate that they will meet their objectives. A more serious problem for the private colleges will be the rising costs for operation rather than capital outlay.

On the average, Iowa private colleges are planning for a 50% increase in enrollments by 1970. Drake University anticipates an enrollment increase of 100% by 1970. This will be approximately 2,900 students more than a 50% increase over Drake's 1959 fall enrollment. If these plans are carried out, this means that the private college enrollments, including Drake's graduate students, in 1970 would be roughly 34,500. This would leave some 50,600 graduate and undergraduate students to be educated by other institutions.

The enrollment of the State Teachers College will probably increase more rapidly, in terms of percentage of increase, than at the other state institutions or in the private colleges. This will depend upon the general attitude of the Board of Regents and the administration of the college, but authorization to become a multi-purpose college could result in a very considerable increase in enrollment at Cedar Falls. Building facilities at the Teachers College obviously are not being used to the maximum; therefore, this is one place where increased enrollments may cost less than in other institutions, particularly in terms of capital outlay, although additional student housing facilities will be necessary. The State Teachers College should grow to an enrollment of approximately 9,000 by 1970, including 550 graduate students.

Combined undergraduate enrollments at the two state universities will probably reach a total of 27,550 by 1970. Graduate enrollments for 1970 are estimated at about 7,350. This means that about 43,900 students will be enrolled in the three state schools. This leaves in excess of 6,000 students to be educated elsewhere.

If the junior college program proposed in this study is accepted and implemented by the State Legislature and local communities, the junior colleges should enroll at least 6,000 students by 1970.

Provision for new, terminal curricula in the junior colleges could cause a major increase in the total enrollments as predicted in the enrollment study. It will take a few years for any new approach to junior college education to make such changes, and enrollment data will need to be revised from year to year.

Table 8 shows certain trends for 1958 and 1959 concerning enrollments. It should be noted that state institutions had a loss of .1% in enrollment between 1958 and 1959; private colleges and universities gained 7.4% in enrollment; professional and technical colleges gained 2.3%; public junior colleges gained .7%; and private junior colleges gained 7.4%. The total gain between 1958 and 1959 was 3.4%.

Changes in the enrollment of freshmen indicated a strong tendency for private college enrollments to increase and for enrollments at the state institutions to decrease.

TABLE 8. ENROLLMENT OF TOTAL STUDENTS AND NEW FRESHMEN BY TYPE OF INSTITUTION, FALL 1958 and 1959*

Type of Institution	Total Enrollment			New Freshmen		
	Fall 1958	Fall 1959	Percent Change	Fall 1958	Fall 1959	Percent Change
State Institutions	23,501	23,466	- 0.1	4,781	4,586	- 4.1
Private Colleges and Universities	21,402	22,982	+ 7.4	6,519	7,104	+ 9.0
Professional and Technical Colleges	264	270	+ 2.3	--	--	--
Public Junior Colleges	2,908	2,927	+ 0.7	1,600	1,736	+ 8.5
Private Junior Colleges	1,548	1,662	+ 7.4	834	869	+ 4.2
ALL INSTITUTIONS	49,623	51,307	+ 3.4	13,734	14,295	+ 4.1

*Prepared for Iowa College Presidents Association by Ted McCarrel, State University of Iowa.

COSTS TO STUDENTS ATTENDING IOWA COLLEGES

Table 9 presents the cost to the student for attending private and state colleges and universities. Tuition and fees in private colleges average \$837 per year. Tuition and fees average \$237 per year in the three state institutions. The range of costs for tuition and fees is from \$150 to \$1127 in the private colleges, and from \$220 to \$252 in the public institutions.

The cost of room and board averages \$618 for the academic year in private colleges and \$677 in the state institutions. The range is from \$380 to \$850 in the private colleges, and \$600 to \$820 in the state institutions.

The average cost for tuition, fees, room and board in the 23 private colleges is \$1455 for the academic year. These costs average \$914 in the three state institutions. For the 25 state and private institutions, the cost of tuition, fees, room and board averages \$1390.

The above costs do not represent the total cost to the student, since no incidental expenses are included. Moreover, the above costs do not reflect the total costs to the colleges, since tuition seldom pays more than 50 to 75 per cent of the cost, even in private colleges.

TABLE 9. AVERAGE AND RANGE OF TUITION, FEES, AND ROOM AND BOARD IN 25 STATE AND PRIVATE COLLEGES IN IOWA FOR 1960

Type of College	Tuition and Fees		Room and Board		Total
	Average	Range	Average	Range	
Private Colleges	\$837	\$150-\$1127	\$618	\$380-\$850	\$1455
State Institutions	237	220-252	677	600-820	914
Total State and Private	765	220-1127	625	380-850	1390

COMPARATIVE COSTS OF ATTENDING COLLEGE

According to a 1959-60 study of the Office of Education, student annual costs for full-time undergraduate education are as follows:

Resident students in public institutions	\$1425
Non-resident students in public institutions	1840
Men students in private institutions	2435
Women students in private institutions	2530 ¹

¹Office of Education, Higher Education Planning and Management Data, 1959-60.

The study, however, was made to determine tuition and fees, and room and board. It involved 1,433 colleges and universities having 91.1 per cent of the public school enrollment and 80.4 per cent of the private school enrollment. The following data for tuition and fees, and room and board were obtained:

Resident men students in public institutions	\$ 710
Resident women students in public institutions	714
Non-resident men students in public institutions	919
Non-resident women students in public institutions	923
Men students in private institutions	1217
Women students in private institutions	1266

The total costs to the student given above were obtained by doubling the amounts for tuition, fees, room and board. It was felt that earlier studies indicated such a relationship. However, it is questionable such definite amounts can be obtained by using such an approximate relationship.

According to the 1959-60 study of the Office of Education, for tuition and fees the average was \$168 in public schools and \$615 in private schools. For public, these ranged from \$127 in junior colleges to \$241 in universities. For private schools, these ranged from \$306 in colleges of theology to \$853 in universities and \$860 in technological institutions.

A breakdown was made showing costs in different type institutions, different size institutions, and in different sections of the country. For public institutions, the average rates are lowest in the West and Southwest regions (\$142) and highest in the North Atlantic (\$210). For private institutions, the average rates are lowest in the Southeast region (\$443) and highest in the North Atlantic (\$787).

There is a positive relationship between the size of enrollment and the amount of tuition and fees in both public and private institutions. The average amount of tuition and fees in public institutions increased from \$138 in those below 500 students to \$216 in those 10,000 and more. Tuitions and fees increased in private institutions from \$510 in those below 500 to \$918 in those from 5,000 to 10,000 students.

Non-resident students were charged \$209 more than resident students in public institutions. The lowest additional charge was in the Great Lakes and Plains section with an additional charge of \$162. The larger the institution, the larger the additional charge for non-resident students.

As far as dormitory costs to the student are concerned, the average for men was found to be \$168 in public institutions and the average for women \$174. In private institutions, the average for men was \$201 and the average for women \$220.

In public institutions, average rates are highest in universities, \$209 for men and \$221 for women. Private institutions, technological schools, other professional institutions and universities charge the highest rates for dormitory rooms, ranging from \$275 to \$347, while junior colleges, theological institutions and teachers colleges charge the lowest rates, ranging from \$130 to \$205.

The highest room rates in public colleges and universities are assessed by the North Atlantic and the Great Lake and Plains sections, with rates from \$195 to \$197. The lowest rates are in the Southeast section, which are \$130 for men and \$136 for women.

In private institutions, highest rates are charged in the North Atlantic section, \$253 for men and \$291 for women. The lowest rates are charged in the Southeast section, \$144 for men and \$162 for women.

There was a direct relationship between the size of enrollment and average dormitory room charges. In public institutions, the rates for men increased from \$125 in institutions below 500 enrollment to \$234 for enrollment of 10,000 and more. For women, the increase was from \$130 to \$244 in the same enrollment categories.

For private institutions, dormitory room rates for men increased from \$158 in institutions of below 500 enrollment to \$319 in institutions above 10,000. For women the increase was from \$193 to \$323 for the same categories.

The Office of Education study indicated the average board rates in public institutions for men was \$374 and for women \$372. The highest rate was in technological institutions (\$440 for men and \$443 for women); the lowest rate was in liberal arts colleges, \$349 for men and \$343 for women. These data were for a seven-day week for an academic year.

The private institutions charged an average of \$401 for men and \$431 for women. The highest rate was in other professional institutions, being \$518 for men and \$495 for women. The lowest rates of private institutions were \$327 for men in junior colleges and \$353 for women in theological schools. Here again, there was a positive relationship between cost and size. In public schools there was an increase for men from \$335 for enrollments 500 to 1,000 to \$457 for enrollments of 10,000 and more. For women, the increase was from \$330 in institutions below 500 to \$455 in those of 10,000 students or more.

In private institutions, the increase for men was from \$361 in colleges of enrollments below 500 to \$494 in institutions from 5,000 to 10,000 enrollment. For women, the increase was from \$411 for institutions below 500 students to \$476 for those with 10,000 or more students.

Because of inflation and the subsequent increase in cost of living to the student and cost of operation to the institution, there are many predictions of increases in student costs in the next decade. By 1970 the United States Office of Education expects costs will be about \$3,400 per year at a state university or \$4,600 per year at a private university.² Another source says the average cost will be \$2,500 to \$3,750 per year.³ Although the predictions vary, all agree that costs to the student will be substantially larger.

²Crossley, McCall's, June, 1960, p. 65.

³Senior Scholastic 75:45, November 18, 1959.

STATE SCHOLARSHIP PROGRAMS

Several states have scholarship programs following the Federal G. I. Bill of Rights in general outline, which permitted the student to choose the college he wished to attend. New York has been a leader in this type of program, and in 1957 it spent \$7,894,397 on its scholarship program.⁴ California, Illinois and Maryland already have this pattern of scholarship plan, and others have it under consideration.

California

The California Legislature during the 1955 General Session enacted laws for undergraduate scholarships.⁵ It provided for granting 640 awards in 1956, 1,280 in 1957, 1,920 in 1958, 2,560 in 1959 and this same number thereafter. Each scholarship must be used for the payment of tuition and fees not to exceed \$600. The recipient may attend any college in the state that is accredited.

Responsibility for the development and administration of the program is assigned by statute to a nine-member state scholarship commission, appointed by the governor. This commission is composed of three representatives from independent colleges in California, one from the University of California, one from the state colleges and one from junior colleges. In addition, there are three lay members, one of whom must be a member of the board of education of a school district which includes at least one secondary school. The commission has its staff offices in the state capitol.

As far as selection is concerned, first, the candidate must meet certain statutory qualifications. He must be under 24 years old (except when applying for a renewal); he must give evidence of dedication to American ideals and good citizenship; he must have a successful score on the competitive examination; and, finally, he must be able to demonstrate financial need for scholarship assistance.

The competitive examination is the Scholastic Aptitude Test of the College Entrance Examination Board. This three-hour test is administered by the Educational Testing Service at specified intervals during the year at test centers located throughout the country.

The commission also requires each applicant to submit a high school transcript of all work through the first semester of his senior year. An academic record is adequate to qualify a student if on the high school level it contains six or more units of A or B work during the last five semesters. College students must present for all work taken an overall 1.5 grade average based on a 3.0 scale.

⁴Wilkins, Theresa, Financial Aid for College Students, Undergraduates.

⁵Moore, James W., "California State Scholarship Program," Higher Education 14:81, January, 1958.

Finally, each applicant is required to complete a scholarship application containing information that must meet the statutory requirements referred to above. When all the data are available to the commission, all fully qualified applicants are ranked according to the test scores. The minimum cutting scores are then established. All candidates whose scores rank above these minimal levels are then declared semifinalists.

The final criterion for selection is that of actual need. Determining need is a difficult task, and in the past, colleges and universities have established their own methods and standards. The College Scholarship Service, which will be referred to later, is a central agency that collects and analyzes data from the families applying for scholarship. The California commission makes use of this service and each candidate in the semifinalist group is required to file a parents' financial statement with the College Scholarship Service.

Then a financial-needs analysis team, which is composed of 14 persons who are scholarship officers from colleges and universities, derives a figure which represents what parents and student can be expected to provide for the following year. The difference between this and the expected cost determines whether the applicant will receive the scholarship.

Since the law requires that a certain number of scholarships be granted in each of the assembly districts and each of the senate districts, the qualified candidates are resorted on the basis of the districts. Others are chosen for the at-large group, and also an alternate list is made.

In California, the scholarship holders are attending 49 out of its 51 accredited colleges and universities. The award winner can select any major field or program. For 1957-58, 26 per cent chose engineering, 15 per cent science, 21 per cent chose education, and 21 per cent liberal arts.

With satisfactory academic progress, the award may be renewed for four years or until the undergraduate work is completed, whichever is shorter. In 1957 out of 570 scholarship cases considered for renewal, 438 were renewed. For 1958-59, the program cost was \$924,000, \$70,000 of which was for administration, and \$864,000 was actually for the scholarships. Of 1,920 awards given in 1958-59, the mean grant was \$450; however, in each case total tuition and fees were paid.

The California scholarship program has shown that a substantial number of students are diverted into the independent colleges. In 1957-58, 65.2 per cent of award winners attended independent institutions, 28.4 per cent attended the University of California, and 6.4 per cent state colleges. This result of the program relieves the growing pressure on state colleges and universities as mounting numbers of students are seeking admission. This program has increased opportunities for all qualified students to attend college.

There has been a nation-wide concern for making education available especially to the qualified, but financially unable. Because of this concern, the movement to award scholarships on the basis of financial need has resulted. Dean Cole of Columbia College carried out a study in which he estimated that 200,000 high school students who were in the upper 30 per

cent of their senior classes in 1957 failed to go to college mainly because of finances.⁶ Of the 700,000 who did attend, many were not as well qualified as those who were unable to attend.

Illinois

A 1957 enactment by the Illinois General Assembly provides \$600,000 for scholarships for residents of its state for 1958-59.⁷ These scholarships are awarded to students of good character who will have completed high school by the end of the school year, and who are in the upper half of their classes and demonstrate superior capacity to profit from college work. These scholarships are for students unable to finance their college training. Honorary awards are given to students who qualify for scholarship but who are not in need of financial aid. Students who have had college work are not eligible for scholarships.

The scholarships are for tuition and fees not in excess of \$600. The recipient may select any accredited institution of higher learning in Illinois. The awards are made on the basis of two for residents of each Illinois senatorial district, two for each representative district, and a sufficient number for residents of the state at large to use the remainder of the appropriation. Each scholarship is renewable without further competitive examination. The number of scholarships available varies.

New York

The Regents College Scholarships are established in every county of New York; twenty scholarships are awarded each county annually for every assembly district in the county.⁸ The amount of each scholarship is \$1,400 for attendance to any accredited college in the state for four years of undergraduate study. The money for the program is appropriated by the legislature; a part is from money or interest on money received as gifts and bequests for this particular program. The scholarship funds are maintained separate and distinct from other state funds. The regents make the rules governing the granting of the scholarships. They receive a list of all students eligible as well as their transcripts. After a student is found entitled to the scholarship, he may apply. There is no restriction in the course of study for these scholarships, except that professional instruction in theology is not permissible. The students must take the Regents scholarship examinations for competition in English, social studies, mathematics, science, health, music, art, and practical arts. The awards are made on the basis of the score obtained on this examination. In 1956, 3,888 scholarships were awarded. At the present, this scholarship plan provides awards to over five per cent of the total group graduating from high schools in New York State.

⁶Science 126:333, August 23, 1957.

⁷Higher Education 14:85, January, 1958.

⁸New York (State) Education Department, Regents College Scholarship, 1955.

Programs in Other States

Nebraska has been considering such a scholarship program; the latest reference available was 1957.⁹ At that time the attorney general ruled that to include church related colleges would be a violation of the state's constitution. Opposition to this ruling felt that scholarships should be for the benefit of the citizens.

In New Jersey, a state scholarship commission is about to begin operation of a plan to provide \$400 of assistance to needy freshmen, with an estimated 15 per cent of all New Jersey high school graduates becoming eligible. This new plan which allows the student to choose any accredited college in the state replaces an earlier plan of awards for state institutions exclusively.

Practically every other state offers some form of scholarship, but these are limited to state colleges and universities or to study in certain specified fields. In many cases the grants must be repaid in cash or in service to the state.

The Wisconsin legislature provides a sizable number of fee-remission scholarships at the state colleges and universities. These are for one year only.¹⁰

The scholarship program of the Michigan Council of State Colleges is interesting for this study although the awards are for undergraduate students at the nine tax-supported institutions only. Their justification of these scholarships is interesting:

Public funds are used for the scholarships for precisely the same reason that public money is spent for education itself--to assist capable young men and women to prepare themselves for positions of leadership in American society and to encourage those of unusual ability to make the fullest use of their talents. These awards serve the further purpose of aiding economically underprivileged students to continue their education, and thus prevent the loss to society which might occur, were such help not available.¹¹

It is interesting also to note the method of determining need in Michigan. This responsibility falls to each institution. Such items as the number of dependents in the family, the number of children in college at one time and the financial status of the family are considered.

⁹America 96:600, March 2, 1957.

¹⁰Educational Record 40:348, October, 1959.

¹¹Journal of Higher Education 28:167, March, 1957.

COLLEGE SCHOLARSHIP SERVICE

A very interesting trend in the country is the use of the College Scholarship Service, previously mentioned. The financial information from the parents is collected by the Scholarship Service and sent to the colleges or agencies designated. In 1955, 92 colleges and universities were participating in this service.¹² At the present about 200 are participating.¹³ The colleges and agencies using the Scholarship Service report all forms and amount of aid which were offered and all which were accepted. With this information, research will be conducted to improve procedures and effectiveness.

Seymour Harris feels that the program of the College Scholarship Service is the answer to all the arguments stressing the practical difficulties of implementing a scholarship program based on need.¹⁴ This service, together with the use of a competitive examination such as the Scholastic Aptitude Test of the College Entrance Examination Board would minimize the task of administering a state scholarship program based on need and ability.

With the many predictions that state-supported institutions must increase tuition so that a greater per cent of the cost would be covered, there will be a necessity for a greater supply of both grants and loans to the students. With the grant or scholarship program, those capable would pay a greater portion of the cost of their education. The predictions, too, are that these scholarships will be available so that students can attend private as well as public institutions.¹⁵

The President's Committee on Education Beyond the High School recommends that state as well as private and local sources increase their support of scholarship funds to several times the present amounts and numbers.¹⁶

It is the progressive states which will accept responsibility in this new trend in higher education. By so doing, they will afford opportunity for many talented young people to adequately develop their talents, and consequently make a more significant contribution to society. At the same time, by such a plan, they will relieve the problem of the mounting demands that will be made on state institutions of higher education.

NEW FACILITIES CONSTRUCTED FROM 1955 TO 1960

Table 10 presents actual cost of construction carried out, and additional funds available, by 26 private and state institutions during the period July 1, 1955 to July 1, 1960. All but two of the senior colleges

¹²Higher Education 11:71, January, 1955.

¹³Keezer, Financing Higher Education, p. 56.

¹⁴Ibid.

¹⁵"Financing Higher Education," Wall Street Journal, May 4, 1959.

¹⁶"Second Report to the President," July, 1957.

TABLE 10. EXPENDITURES FOR INSTRUCTIONAL AND NON-INSTRUCTIONAL CAPITAL OUTLAY FOR 26 IOWA COLLEGES, 1955-1960

Iowa Colleges	Buildings Completed, 1955-1960			Funds for New Construction			Total
	Instruc-tional	Non-Instructional	Total	Instruc-tional	Non-Instructional	Total	
Private							
1	257,000	371,000	628,000				628,000
2	469,583	689,903	1,159,486	125,000		125,000	1,284,486
3	125,000	355,000	480,000				480,000
4	231,000	1,965,600	3,196,600				3,196,600
5	600,000	68,000	668,000		1,200,000	1,200,000	1,868,000
6	1,141,980	833,460	1,975,440		773,616	773,616	2,749,056
7		1,334,082	1,334,082	4,000,000	2,000,000	6,000,000	7,334,082
8	40,000	375,000	415,000		535,000	535,000	950,000
9	984,500	149,453	1,133,953	1,500,000	500,000	2,000,000	3,133,953
10		1,187,651	1,187,651	1,500,000		1,500,000	2,687,651
11	625,000	175,000	800,000		900,000	900,000	1,700,000
12	1,933,274	2,699,334	4,632,608				4,632,608
13	276,596	299,070	575,666				575,666
14	430,000	400,000	830,000		1,900,000	1,900,000	2,730,000
15	19,963	1,582,800	1,602,763	350,000		350,000	1,952,763
16	8,814	580,053	588,868	700,000	390,000	1,090,000	1,678,868
17	354,000	365,300	719,300		310,000	310,000	1,029,300
18	800,396	54,297	854,694				854,694
19	393,000	893,989	1,286,989				1,286,989
20	1,277	6,195	7,472				7,472
21	553,554	1,162,874	1,716,428				1,716,428
22	158,500	481,200	639,700		240,000	240,000	879,700
23	255,000	2,500	257,500		300,000	300,000	557,500
Total	9,658,437	16,031,761	25,690,200	8,175,000	9,048,616	17,223,616	42,913,816
State							
24	673,641	1,952,359	2,626,000	1,364,250	1,208,000	2,572,250	5,198,250
25	5,735,720	6,292,450	12,028,170				12,028,170
26		8,394,000	8,394,000	4,146,400	4,303,500	8,449,900	16,843,900
Total	6,409,361	16,638,809	23,048,170	5,510,650	5,511,500	11,022,150	34,070,320
Grand Total	16,067,798	32,670,570	48,738,370	13,685,650	14,560,116	28,245,766	76,984,136

submitted these data, and one of those was a theological seminary which probably did not build any new facilities during the period.

This table reveals that the 23 private colleges spent \$9,558,437 for instructional facilities, while the state institutions spent \$6,409,361 for such facilities. Private institutions spent \$16,031,761, and state institutions spent \$16,638,809 for non-instructional facilities. Totals for new facilities constructed during the five-year period were \$25,690,200 for private colleges and \$23,048,170 for state institutions.

Additional funds available for new construction include \$8,175,000 for private and \$5,510,650 for state institutions, categorized for instructional facilities; and \$9,048,616 for private and \$5,511,500 for state institutions to be used for non-instructional facilities. Totals for these unexpended capital funds are \$17,223,616 for private colleges and \$11,022,150 for state institutions.

The grand totals for both types of construction and for construction completed as well as funds available for additional construction indicate \$42,913,816 for the private colleges and \$34,070,320 for the state institutions. Both groups of colleges had a total of \$76,984,136 in new and authorized construction. Private colleges received 55.8 per cent of the total funds for capital outlay, and state institutions received 44.2 per cent of the total.

These trends indicate that the Iowa State Legislature has not matched the funds provided through gifts and loans to the private colleges and universities of the state. They reveal the vitality and faith of the boards of trustees and friends of the private colleges in planning for the future.

The state needs to examine its policy with respect to capital improvements at the three state institutions or prepare to accept a secondary status for its institutions.

Percentage Analyses of Expenditures for Senior Colleges and Universities in the State of Iowa and in the United States

The percentage analyses are of all but one of the senior colleges and universities of the state of Iowa and of 1,858 institutions of higher learning in the United States. For the former, the sources of information were the budgets or expense summaries from these institutions. For the latter, the source of information was the Biennial Survey of Education in the United States--1954-1956.

Two criticisms can be made of the efforts to gather financial data for colleges and universities. One is that information is frequently collected and reported in terms that are not consistent with standardized definitions of financial categories. Such deviations, particularly when not explicitly stated and justified, render the results extremely questionable for the purposes of comparisons with data for other institutions. The second criticism is the fact that the data are not recent. The per-

centage analysis for institutions of the United States is four years old. By the time researchers have collected financial data for over 1800 colleges and universities, the statistics are already out of date.

Budgets or brief expense summaries that include educational activities relating to instructional departments such as medical schools, hospitals, seminaries, experiment stations and organized research do not lend themselves to a true picture of percentages relating to instruction unless all the institutions participating in the study have these same kinds of activities.¹⁷

Despite these criticisms, there is a close correlation of most functions in the percentage analysis for the state of Iowa and the percentage analysis for the institutions in the United States. A standardized method of collecting, recording and publishing financial expenditures would avoid deviations and distortions now in evidence in the accompanying table.

Officials of the Iowa colleges should study their expenditures carefully and compare their distribution of funds by function with the national trends. The extremes which show up in Table 11 generally represent differences in definitions of functions. For example, the range on general administration is from 1.2 per cent to 25.9 per cent. Other ranges are equally noticeable.

In general, however, Iowa colleges are reasonably close to the averages for the 1858 institutions studied by the U.S. Office of Education.

A few institutions need to consider a more standard system of classifying expenditures in order to make comparisons easier and in order to relate costs to educational objectives and programs.

A budget represents the translation of institutional philosophy and objectives into dollars and cents. The way one institution uses its financial resources provides a suitable criterion for evaluation of its total program.

While this study does not involve any detailed consideration of costs, the director was most favorably impressed with the apparent insight, efficiency, and economy with which the Iowa colleges are being managed.

If other costs advance in proportion to faculty salaries, it is safe to assume that the budgets for Iowa's senior colleges will be close to \$300,000,000 annually by 1970.

Miscellaneous Questions Asked of College Administrators

The following questions were asked of all college presidents and other officials of the private and public institutions:

¹⁷Harris, Chester W., editor, Encyclopedia of Educational Research, pp. 544-551.

TABLE 11. PERCENTAGE CLASSIFICATION OF EXPENDITURES FOR 25 IOWA COLLEGES AND UNIVERSITIES, 1960, AND FOR 1,858 INSTITUTIONS IN U.S., 1955-56

Purpose	1858 Institutions in U.S. 1955-56*	25 Institutions in Iowa	State Controlled in Iowa	Privately Controlled in Iowa	Highest in Iowa	Lowest in Iowa
Amount (in 1,000's of dollars)	3,524,744	86,614	61,311	25,303		
Percent	100	100				
General						
Administration	10.2	4.4	2.0	10.1	25.9	1.2
Student Services		1.9	1.7	2.6	14.8	0.1
General Institutional Expense	6.3	3.7	2.3	7.1	46.2	0.6
Extension Services	4.0	1.0	1.4	0.0	2.7	0.1
Instruction	32.6	31.8	30.7	34.5	43.6	15.5
Library	2.4	1.9	1.5	2.7	4.8	1.1
Plant Operation	9.3	7.6	6.0	11.6	19.9	4.5
Student Aid and Scholarships	2.7	1.8	0.3	5.4	16.5	0.6
Research	14.3	14.6	20.4	0.1	28.9	0.0
Auxiliary	18.2	31.3	33.6	25.9	47.2	12.7

*"Statistics of Higher Education 1955-56: Receipts, Expenditures, Property," Biennial Survey of Education in U.S. 1954-56, U.S. Office of Education, ch. 4, sec. II, p. 66.

1. What are the special problems which your college faces during the next ten years?

Officials listed problems in the following order: securing and retaining good faculties, the problem of finance, facilities, admission and guidance of students, curricular changes, and student housing.

2. How should we solve the high cost of college for the capable students with limited financial resources?

Administrators enumerated state scholarships and loans as the first solution, but they emphasized student employment both while in school and during the summer months. Scholarships and grants combined with higher tuition at state institutions were mentioned as possible solutions to this problem. Finally, there were suggestions for more effective guidance and counseling at the high school and college entrance levels.

Outstanding and unique management and resourcefulness characterize the scholarship and loan programs of Iowa's colleges and universities. The federal loan program has been of great help to many of the colleges. Scholarships, loans, and work are key solutions to the problem of high cost to the student.

In general, scholarship and loan funds should not be taken out of tuition. There are other sources for such funds which should be thoroughly explored before using tuition funds for this purpose.

3. What provision should Iowa make for training programs for technical manpower?

Administrators and officials of the private colleges and state institutions responded to the above question by suggesting a major emphasis upon community or junior colleges to solve this problem, providing for terminal curricula as well as for general and liberal education for transfer purposes. Training programs in industry were emphasized, and mentioned less frequently were technical institutes and Iowa State University as appropriate institutions for solving the problem.

ADMINISTRATION OF IOWA COLLEGES

Evidence accumulated through personal visits to the colleges and universities of Iowa and careful analysis of college catalogs, bulletins, and brochures indicate that the colleges and universities are being managed by competent administrators who are supported by adequate administrative assistants, deans, and faculties who have been carefully selected for their responsibilities. Boards of trustees, particularly in the private colleges, have been resourceful and ingenious in helping the presidents and faculties to achieve their long-range objectives.

Building programs which have been carried out during the five-year period, 1955-1960, and additional funds now available total nearly \$77,000,000, \$43,000,000 of which has been for the private colleges and

universities. This is evidence of the generous support on the part of boards of trustees and the resourcefulness of administrators and faculties in presenting an intelligent case for generous public support.

There is evidence, however, that the State Legislature has not done as well in its support of the state institutions as have the private benefactors who have been responsible for providing funds for capital outlay in the private colleges and universities.

The size of the state appropriation for operating purposes and for capital outlay is such that long-range plans need to be formulated and commitments made by the state legislature in order to guarantee the orderly expansion of physical facilities at the three state institutions. Indeed, the state has everything to gain and nothing to lose by formulating a ten-year building program for the state institutions, committing, in an informal way, each session of the legislature for a ten-year period, beginning in 1961.

This conclusion and the evidence for its soundness can be verified in any state that has prolonged its building programs, hoping for lower prices. Building costs have risen steadily in keeping with the increased national production and concomitant inflationary trends. State legislatures that have met their building responsibilities as needs arose since the end of the Second World War have saved the taxpayers of those states millions of dollars in terms of what the facilities would cost in 1960.

There is evidence of a dynamic approach to the problem of increasing enrollments among all of the institutions in Iowa. Nearly every president interviewed, as well as the administrative assistants working with the presidents, indicated that the colleges are prepared to meet the immediate increase in enrollments and have plans for increasing enrollments by more than 50 per cent during the decade of the sixties.

The internal administration of colleges and universities will become increasingly complex as enrollments increase by 80 per cent between 1959 and 1970. For example, it is anticipated that Iowa will have the same number, or approximately the same number, of senior colleges and universities in 1970 as in 1960, but the size of the operation may have trebled in terms of operating costs, and the minimum increase in the size of the faculty will probably need to be 100 per cent. Therefore, the size of the administrative task will be entirely different in each of the colleges and universities in 1970 from what it is in 1960.

The institutions will not add another president, but they will have to add a substantial number of new positions in order to assist the presidents in carrying out the increased administrative responsibilities. One of the most serious mistakes which could be made would be failure to make plans for administrative organization which will reduce to a minimum the cost of administration. The approach to this problem requires careful analysis of the functions of central administration. In recent years, there has emerged in the United States a fairly definite plan for central administration of colleges and universities based upon the functions which must be performed. There is widespread recognition of these trends in the colleges and universities in Iowa, and the strength of current theory and practice, with respect to organization for central administration, lies in the fact that virtually

hundreds of colleges and universities, both state and private, have reached almost identical plans of organization, notwithstanding the fact that they were under no compulsion to do so.

THE FUNCTIONS OF CENTRAL ADMINISTRATION

There are in any institution of higher learning, regardless of its size and regardless of whether it is state or private, certain functions which must be performed by the president or by his administrative assistants. These functions have been delineated in small institutions of less than 500 students where the president performs all of the functions himself, as well in huge universities enrolling 25,000 to 30,000 students.

The first major administrative function of the president is fiscal management. This problem in the state of Iowa involves more than \$100,000,000 per year if one includes full operating expenditures and capital outlay. This is one of the largest business enterprises in the state of Iowa, and even though the responsibility is shared by 28 colleges and universities, it demands the application of the best possible business procedures if the budgets of the colleges and universities are to result in maximum teaching, learning, research, and service.

In general, the business management function should include, and does include, responsibility for budgeting, payrolls, accounting for funds, purchasing, employment of non-academic personnel, organizing institutional needs and translating them into budgetary figures for presentation to boards of regents, legislative groups, or other constituents from which the institution receives support. Responsibility for supervision of buildings and grounds and maintenance personnel, and certain responsibilities assigned by boards of trustees and the president, with respect to new construction, are functions of the business office.

Another significant responsibility of the business office which is extremely important to both state and private institutions in Iowa is the management of service enterprises from which institutions receive income to amortize bonds issued in connection with new construction. Such enterprises are likely to fail to produce any income unless they are managed according to the best business procedures.

The principal philosophical view that needs to be accepted by those responsible for business management is that this entire operation is a means or service for achieving the fundamental educational objectives of the institution.

The second function of central administration is academic affairs. This involves the selection, assignment, stimulation, guidance, and evaluation of academic personnel in the development of the potential talent of students. The responsibility must be carried out in cooperation with deans and departmental chairmen in larger institutions, and, in all institutions, in cooperation with experienced members of the faculty who carry the major responsibility for achievement of institutional goals.

One of the greatest problems for all colleges and universities in the next ten years will be the procurement of qualified academic personnel. Salaries will need to double within the ten-year period, which requires approximately seven per cent increase for each year. Even this type of schedule may not be sufficient to attract the high level men and women which the task requires, because many other enterprises in the American society will compete for the most highly qualified and competent academic personnel. Increasing fringe benefits and salaries, in general, will be no more important in the procurement and retention of the best academic people than the constant improvement of general institutional climate for teaching, learning, and research.

Faculties of the colleges and universities should, in fact as well as in theory, have the responsibility for the development and implementation of the curriculum and specific educational policies of the institution under the general policies laid down by the legislature in the case of state institutions and boards of regents in the case of all institutions. Granting such generous prerogatives to faculties demands the acceptance of the responsibility for action on the part of the faculties. Writers such as Henry Riston and many other practitioners in academic administration attest to the fact that faculties are notoriously conservative in initiating and carrying out educational changes.

The only way that the state of Iowa or any other state can meet its educational responsibilities in a dynamic and complex society is for the faculties in the colleges and universities to be responsive to the demands for change. Every member of the academic staff should share in this responsibility. The problem is such that in other sections of this report it has been recommended that departmental chairmen be elected by their colleagues or selected for terms not to exceed three years, or for a definite term, in order to avoid the static situation which may prevail in departments that have the same leadership for a long period of years. This position would also question the policy of paying higher salaries to those who assume the responsibility of the chairmanship than to equally qualified individuals who do not serve as chairmen.

The third major function of central administration is the management of student affairs. These functions include admissions; guidance; counseling; student activities; health service; housing; scholarships and loans; records, including the entire operation of the registrar; employment; and responsibility for helping students secure appropriate employment upon graduation.

College administrators have been inclined to invoke the principle of infinite variety in the management of institutional problems, sometimes losing sight of the fact that there is no virtue in inefficiency and compartmentalized approaches to the management of a unified function such as student services. The status of certain individuals holding traditional positions in the total student personnel complex has had a disproportionate bearing upon administrative organization and management in this field. The elements enumerated above to be included in this function are so closely related that this becomes the principal reason for grouping them under the student personnel office.

The fourth and final function of central administration is the broad area of institutional relations. More recently the function has been referred to as planning and development. Regardless of the title used to describe the individual who assumes these functions, this is one of the most rapidly growing areas of central administration in institutions of higher learning.

In an enterprise as large as higher education in the state of Iowa, there should be no timidity in the development of a forthright, accurate institutional image, necessary for the advancement and support of higher education. The principle is as applicable to state institutions as it is to private institutions. What is involved here is essentially an accounting to the publics which support the institutions. This means constant interpretation and evaluation of the long-range objectives and of the more immediate achievements in such a way as to provide constituents with the basic facts and understandings necessary for fundamental public decisions regarding their support.

No public relations staff can possibly be large enough to perform this function alone. Every member of the faculty and every employee of the institution, members of the alumni association, student body, and boards of trustees must share the responsibility and the consequences for the development and interpretation of the institution's image for its various publics.

Every employee of the college or university must justify his position in relationship to the institution's objectives. This problem cannot be solved by employing directors of public relations to compensate for lack of direction and institutional greatness as mirrored by the regents, the administrators, the faculties, and the students. The first step in the development of a successful institutional image is the building of a great educational plan. The second step is the implementation of that plan through programs and actions that are meaningful and significant for those who are asked to support the institution.

The relationship of American higher education to the society which it serves is unique. Boards of regents have been extremely significant in bridging the gap between American universities and American society. The result has been, in general, a more adequate support for higher education in the United States than in almost any country in the world. Important to this interaction between higher education and American society is the recognition, on the part of educational leaders, that higher education is both a result and a cause of the kind of society which we have developed. Nothing less than dynamic leadership can maintain this position.

In conclusion, it should be pointed out that the individuals or offices assuming the four functions enumerated above will vary in terms of size of an institution. The pattern of organization may vary for many other reasons, but the functions must be carried out by someone. In many small institutions, the president, without any professional assistance, performs most of these functions. In large complex universities, it may be desirable to have four vice-presidents in charge of the functions enumerated. In smaller institutions, there may be only two principal assistants or vice-presidents, usually a dean and a business manager under whom the functions are coordinated. In all institutions, the president must take the responsibility for coordinating the four functions. This

is the only way to bring about a balance between academic, business, student, and public relations affairs.

THE STATE BOARD OF REGENTS

There are several problems in connection with the State Board of Regents which stem from the composition of the Board and certain functions which have been assigned to the Board. Iowa is unique in that it has only one board for all state institutions of higher learning. Most authorities in the field of higher education would argue that, in theory at least, this is the best possible arrangement. It eliminates unnecessary and costly duplication of function between the different state institutions and should place the state institutions on a cooperative rather than a competitive basis.

The other side of the picture is the fact that the elimination of competition and the attempted elimination of duplication of programs between the three state institutions may have weakened all three of them at a time when similar institutions in other states and under more than one board of regents have enjoyed more appropriate expansion and development necessary for meeting the problems with which higher education is now confronted.

Therefore, one must conclude that there is no unique advantage in the one board of regents as such, but the situation should be appropriate to the fullest development of the three institutions, and anything impeding that development should be eliminated.

Various governors in Iowa have been handicapped in making appointments to the Board of Regents because of the limitations upon the number who may be graduates of any one of the institutions--that number being not more than one person from each of the three state institutions. Therefore, when any one of the three institutions has one graduate on the Board of Regents, all other graduates of that institution, regardless of their outstanding qualifications, are automatically disqualified from serving on the Board. The members of the Board of Regents should be appointed because of their outstanding competencies, noted citizenship qualities, and keen interest in the future of higher education in the state of Iowa. It would seem that graduates of the institutions would be especially interested in the success of the institutions.

The problem of functions of the Board originates in consequence of the fact that the Board of Regents is responsible not only for all three state institutions of higher learning, but has been given the responsibility for governing three other institutions that have no relationship to higher education. These are the Iowa College for the Blind, the Iowa School for the Deaf, and the State Sanatorium, near Iowa City. Any suggestion that the Board be relieved of the responsibilities for these three institutions in no way diminishes the importance of the three special institutions to the state of Iowa and its citizens, but is, on the contrary, a recognition of the fact that the span of control for a governing board is limited, and it is entirely possible that a disproportionate amount of the Board's time is spent on problems connected with the three institutions that have no connection with higher education.

It is obvious that one of the great advantages enjoyed by the private colleges in Iowa is that each one is under a separate board of trustees, whose sole purpose as a board of trustees is the promotion of the interests of a single educational institution. Boards of trustees do not ordinarily stay in session long enough to give adequate attention to six institutions as complex and different as are the six under the Iowa Board of Regents.

This is a problem which deserves the most careful scrutiny on the part of the Governor and the Legislature, particularly in view of the enormous growth that will need to take place in the three institutions of higher learning during the next decade.

It would seem that the Iowa College for the Blind and the School for the Deaf are more closely related to the educational activities under the general direction of the State Department of Public Instruction. The State Board of Education would be an appropriate policy-forming body for the management of these two institutions. It seems obvious, moreover, that the State Sanatorium should be placed under the Medical School of the State University in Iowa City. Its own program would receive attention through the Dean of the Medical School and through university channels. Its requests for support would be presented to the Board of Regents through the President of the University.

SUMMARY AND CONCLUSIONS

The colleges and universities of Iowa have maintained a favorable position in comparison with the national averages on the percentages of faculties holding the doctor's and master's degrees, but both private and state institutions are below the national average in salaries paid to professors. This situation will need to be corrected if the state and private colleges and universities are to maintain their favorable position with respect to the percentages of their faculties holding the highest earned degrees.

Forty per cent of all faculties of Iowa earned their highest degrees in the state, and 60 per cent earned their highest degrees outside of the state of Iowa. If the same student-faculty ratio is maintained during the next ten years, Iowa will need to recruit approximately 3,500 new faculty members or 350 for each year of the decade.

One of the greatest contributions which the State University and other institutions maintaining graduate programs could make during the next ten years is to develop a unique program for the preparation of college teachers at the master's level.

The University will need to take the initiative and has already indicated that it intends to do so, having received a grant from the Ford Foundation for the specific purpose of selecting promising students at the undergraduate level and encouraging them to go straight through to the master's degree, with the objective of becoming master teachers at the college level. Every college and university in the state of Iowa can join in helping to select such individuals from its own undergraduate students and

encouraging them to pursue the master's degree with the objective of becoming college teachers.

Major curricular emphases in the junior colleges are: first, the humanities with 147 staff members; second, social sciences with 74 staff members; third, physiological sciences with 48 staff members; fourth, education with 35 staff members; fifth, business and commerce with 33 staff members; sixth, engineering with 31 staff members. These figures indicate that the major emphasis in the junior colleges is upon the liberal arts, the principal objective being to offer the first two years of a bachelor's degree program

In the private colleges, the humanities have 415 staff members, the social sciences 172 staff members, education 120, physiological sciences 108, business and commerce 78, and biological sciences 63 staff members. The pattern of emphasis in the private colleges is quite similar to what is found in the junior colleges.

In the three state institutions, one finds a similar emphasis on the liberal arts, but with noticeable attention to professional education, such as pharmacy, nursing, dentistry, veterinary medicine, medical sciences, engineering, business and commerce, and agriculture. The eight instructional areas having more than 100 staff members in the three state institutions are humanities, 252 staff members; engineering, 217; physiological sciences, 210; medical sciences, 191; education, 165; agriculture, 163; social sciences, 145; and home economics, 118.

The curricula of the state and private colleges and universities as well as the junior colleges are limited to the liberal arts and the professions. These occupations account for approximately 16 per cent of all the people employed in the state of Iowa.

The actual number of workers in the professions will increase and perhaps the percentage of the total workers in the professions will increase during the next ten years, but the increase will not be sufficient to justify the limitation of college curricula to the liberal arts and professional groups.

One of the greatest challenges confronting administrators and faculties in all these institutions during the next ten years is to streamline the curriculum, place a greater responsibility for the education of students upon the students themselves, and thereby make it possible to increase the number of students per faculty member through greater efficiency and economy in the utilization of resources rather than placing unreasonable burdens upon academic personnel.

There is a possibility that by 1970 the colleges and universities of Iowa could effect economies to the extent of \$25,000,000 to \$30,000,000 per year on instructional costs by careful attention to this problem.

Enrollments for 1958 and 1959 indicate that the private colleges of Iowa gained 7.4 per cent while the state institutions had a loss of .1 per cent of enrollment for the same period. Enrollment of freshmen for the two years followed this same trend, pointing to the possibility that the private colleges may gain in the percentage of total enrollment when compared with the state institutions.

As a group, Iowa colleges and universities must plan for an increase of nearly 80 per cent in undergraduate enrollments and 122 per cent in graduate enrollments between 1959 and 1970. It appears that the three state institutions may have enrollments of 44,000 students by 1970; the private schools, 34,500 students; and the junior colleges, in excess of 6,000 students. This junior college plan should be implemented only if the junior colleges develop aggressive terminal as well as transfer college programs.

One of the critical problems of the next decade is the high cost of education to the student. The range in cost at the present time is from \$1,425 for resident students in public institutions to \$2,530 for women students in private institutions, according to figures released by the United States Office of Education.

Tuition, fees, room and board in the colleges of Iowa range from \$914 in the state institutions to \$1,455 in the private colleges. These figures indicate that the colleges and universities of Iowa, both state and private, are probably providing higher education to the students of the state at a higher cost than is typical for the United States as a whole.

There is an increasing trend, as reported earlier in this section of the report, toward the payment of tuition for capable, needy students, whether they attend state or private institutions. The state of Iowa and its legislature are certain to be confronted with this problem, and it is hoped that the leaders in both state and private institutions will support a policy which is in the best interests of the students, regardless of the consequences to the institutions themselves.

Another step which could be taken by all institutions is to provide low-cost housing and food service for those who are not able to pay the maximum for room and board.

It is anticipated that several approaches will be used to finance the cost of higher education to the student. These will include family savings, state and federal scholarships and loans, and gainful employment on the part of the student.

In planning adequate facilities to meet the increase in enrollments during the decade of the sixties, both private and state institutions must give serious consideration to the possibility of more efficient utilization of classroom, laboratory, and library

facilities. This could mean a lengthened school day, week or year. Classes may need to operate from 7:30 in the morning to 5:00 in the afternoon for six days a week and for a minimum of 48 weeks per year.

The trimester approach now being successfully tried in several institutions in the nation could save as much as one-third of the expenditures for physical plant and housing, providing students attend two of the three semesters and maintain approximately the same enrollment in each of the three semesters. The same saving would be effected in student housing as in other facilities. It is doubtful whether any business in America could operate at a profit if most of its facilities were idle for three or four months per year.

The final conclusion with respect to the three state institutions is the need for a more objective approach in presenting the budgetary requests of those institutions to the State Legislature. There has been considerable evidence in the press, in the minutes of the Board of Regents, and in the actions of the Legislature to support the conclusion that there is a real problem in determining what the cost should be in the state universities and the teachers college.

Costs in institutions such as these are not necessarily in proportion to enrollments. Research programs, graduate education, and professional schools make it extremely difficult to design equitable criteria for the determination of overall costs in institutions with such varied programs.

However, it is possible to determine what the costs are and what the costs should be, providing time and resources will permit detailed study and definition of the unit or units of measurement.

Such a study would have to be mandated by the Legislature and carried on over a period of a biennium. The study cannot succeed without the enthusiastic support of all three state institutions; and it is anticipated that once an adequate unit of cost has been defined, all three institutions will accept it as a great improvement over the present system; and the Board of Regents will make requests, and the Legislature will make appropriations with much greater certainty and confidence than have prevailed under the present system. The principal criterion to keep in mind with respect to such a study is the imperative need to develop a formula that will be intelligible to members of the Legislature and the citizens of the state as well as to the people who administer the institutions.