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ABSTRACT

What knowledge is of most worth to a president of a college or university? To answer this, a questionnaire containing 169 specific areas of knowledge within 14 general areas of knowledge was evaluated by college and university presidents. Areas evaluated are: worth of knowledge about administration, curriculum, faculty and staff, finance, foundations of education, institutional research and planning, institutional types and purposes, instruction, legal aspects, organization, physical facilities, students, the higher education "establishment," and the president as a person. The 17 specific areas in the top 10 percent were from six of the 14 general areas of knowledge; seven were from finance; five from the president as a person; two from administration; one from faculty and staff; one from institutional research and planning; and one from students.  
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WHAT KNOWLEDGE IS OF MOST WORTH  
TO PRESIDENTS OF COLLEGES AND UNIVERSITIES?

by

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## INTRODUCTION

What knowledge is of most worth to a president of a college or university? That was a question asked often by students enrolled in the Higher Education--Administration Doctor of Philosophy program in the Center for the Study of Higher Education at Arizona State University.

The students were not alone in trying to determine what knowledge a person should have, in order to be a successful president, about: (1) the things that need to be done; and (2) how to do them. Examples of others to whom this was a serious question included:

1. Their professors and advisors;
2. Active presidents who wished to improve their abilities to fulfill many and varied responsibilities;
3. Active presidents who wished to use the knowledge in selecting supportive administrators;
4. Supportive administrators who wished to prepare themselves to become successful presidents;
5. Professors who openly or secretly sought the position;

6. Members of governing boards in search of a president.

In order to increase and improve the available information that could be used in answering the question, this study was designed and conducted. Since the people best qualified to answer the question, "What knowledge is of most worth to a college or university president?" were the presidents themselves, they were the ones to ask. A questionnaire was prepared which contained 169 specific areas of knowledge within 14 general areas of knowledge. Presidents were invited to evaluate, on the basis of their experience and study, each of the areas on a four-point scale--of most worth, of much worth, of some worth, or of little worth.

The questionnaire was included in a packet of materials mailed from the Arizona State University Center for the Study of Higher Education to presidents of colleges and universities. The covering letter to presidents, among other things, called their attention to the questionnaire and requested their help in determining what future presidents should study. Since only the responses of the presidents interested enough to respond to the first request were desired, no follow-up request was planned or conducted. Usable responses were received from 528 presidents. A description of the respondents is presented in Table 1. This

Table 1

The Sex and Age of the Presidents of Colleges and Universities Participating in the Study and the Type, Control, and Enrollment of the Institutions Governed Shown in Percentages

Sex of Respondent	Male	93%
	Female	7%
Age of Respondent	20's	1%
	30's	7%
	40's	37%
	50's	42%
	60's	12%
	70's	1%
Type of Institutions	2-year	43%
	4-year	34%
	5-year	9%
	Above	14%
Control of Institutions	Private	46%
	Public	54%
Total Enrollment (in thousands)	under 1	41%
	1 to 5	40%
	5 to 10	9%
	10 to 20	8%
	20 to 30	1%
	Above 30	1%
Total Number of Respondents	528	
States Represented	49	

report presents the degree of worth to the responding presidents of each area of knowledge studied.

#### The Worth of Specific Areas of Knowledge within General Areas of Knowledge

The 14 general areas of knowledge provide the organization for the presentation of the responses of presidents in evaluating the worth of the 169 specific areas of knowledge. For each general area a table has been prepared in which pertinent information about each specific area will be presented. Included are the following:

1. The General Area of Knowledge (GAOK)
2. The Specific Area of Knowledge (SAOK)  
included in the table.
3. The number of presidents responding to each.
4. The percentage of the respondents voting for each qualitative measure.
5. A weighted composite score (WCS). (Each qualitative measure was weighted--most=8, much=4, some=2, and little=1. Each qualitative measure percentage was multiplied by its weighting number and the results were added.)
6. The rank of each specific area of knowledge (SAOK) within that general area of knowledge (GAOK) based on weighted composite scores (WCS).

7. The percentile rank (PR) of each specific area of knowledge (SAOK) within the total study of 169 such areas.

#### The Worth of Knowledge about Administration

As seen in Table 2, there were two of 23 specific areas of knowledge about administration to which more than half of the responding presidents gave a rating of Most worth. They were (1) Delegation of Responsibility, 51.6%; and (3) Establishing Institutional Philosophy, 50.6%.

The range in the percentages of responding presidents for the 23 specific areas of knowledge about administration as being of Most worth was from (1) Delegation of Responsibility, 57.6%; down to (23) Biographies of Successful Presidents, 2.9%.

The combined percentage of the column for Most worth plus the one for Much worth provided four areas with a total vote of 90% or more of the presidents responding. These areas were (2) Delegation of Authority, 96.0%; (1) Delegation of Responsibility, 95.3%; (5) Motivation of subordinates, 91.1%; and (6) Establishing Basic Principles of Operation, 90.4%. By combining the two columns, Most and Much, the ranks of (2) Delegation of Authority and (1) Delegation of Responsibility were interchanged from what they were when only Most was considered.

The weighted composite scores for the 23 specific areas

Table 2  
The Worth of Different Areas of Knowledge about Administration to Presidents of Colleges and Universities  
Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Delegation of Responsibility	488	51.64	43.74	4.14	0.64	596	95
2	Delegation of Authority	474	47.9	48.1	3.8	0.2	583	90
3	Establishing Institutional Philosophy	480	50.6	39.2	9.8	0.4	582	89
4	Selecting Supportive Administrators	483	47.8	38.5	12.6	1.0	563	83
5	Motivation of Subordinates	473	43.1	48.0	8.7	0.2	554	82
6	Establishing Basic Principles of Operations	477	40.3	50.1	8.8	0.8	541	81
7	Administering "through" Others	480	40.0	47.5	10.8	1.7	534	79
8	The Role of the Governing Board	479	39.9	46.8	13.3	0.0	533	79
9	Adopting Policies to fit Principles and Philosophy	469	37.3	50.7	10.9	1.1	524	77
10	Decision Making: Theory & Practice	468	39.7	43.4	15.6	1.3	523	76
11	The Role of the President	482	34.4	45.2	18.5	1.9	495	72
12	Public Relations	475	32.4	49.1	16.8	1.7	491	69
13	Evaluation, Promotion or Revival of Subordinates	470	28.3	56.3	16.6	0.8	478	66
14	Role of Supportive Administrators	479	26.9	53.7	18.6	0.8	468	63
15	Role of the Faculty in Governance	479	23.4	53.0	21.9	1.7	445	53
16	Role of Students in Administration	477	17.2	41.9	35.4	5.5	382	30
17	Theories of Administration	477	12.6	43.0	41.7	2.7	359	21
18	Case Studies of Successful Practitioners	480	13.3	40.8	41.7	4.2	357	20
19	The Role of State Government	471	12.1	34.0	39.1	14.8	329	16
20	Public Opinion and Propaganda	476	9.2	35.1	46.2	9.5	316	12
21	The Role of Pressure Groups	476	8.4	30.9	44.5	16.2	296	7
22	The Role of Federal Government	471	6.6	33.5	46.1	13.8	293	7
23	Biographies of Successful Presidents	481	2.9	13.3	48.5	35.3	209	2



of knowledge in the general area of administration ranged from (1) Delegation of Responsibility--596 down to (23) Biographies of Successful Presidents--209. While none of the specific areas was in the 600's, there were ten in the 500 bracket, five in the 400's, five in the 300's, and three in the 200 bracket. The average of these 23 weighted composite scores was 454.

The percentile rank of the 23 items under administration ranged from a high of 95 for (1) Delegation of Responsibility down to a 2 PR for (23) Biographies of Successful Presidents. Ten of these specific areas about administration were in the top quartile of the total 169 items in the study and two were in the top decile. Five of the 23 areas were in the 2nd quartile, one in the 3rd, and seven were in the 4th or bottom quartile.

#### The Worth of Knowledge about Curriculum

Each of the 14 specific areas of knowledge about curriculum, as shown in Table 3, was ranked by some responding presidents as being of Most worth. The percentages ranged from a high of 39.9% for (1) The Administrator's Role in Determination of Curriculum, down to a low of 7.8% for (14) Professional Degree Programs.

When the percentages of Most worth and Much worth were combined, four areas received above 80% of the total responses. They were (1) The Administrator's Role in Determination

Table 3  
The Worth of Different Areas of Knowledge about Curriculum  
to Presidents of Colleges and Universities  
Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	The Administrator's Role in Determination of The Governing Board's Role in Determination of	454	39.9	45.1	13.9	1.1	529	78
2	The College Faculty's Role in Determination of	455	33.9	47.0	16.5	2.6	495	72
3	The Student's Role in Determination of	451	24.4	57.4	16.6	1.6	459	60
4	The Department Faculty's Role in Determination of	439	24.1	53.1	21.0	1.8	448	56
5	The Professor's Role in Determination of	452	20.8	61.5	16.6	1.1	446	54
6	Determination of Junior College Academic or Transfer	447	21.7	56.6	20.1	1.6	442	51
7	Liberal Arts College-- Lower Division	435	26.2	39.5	30.8	3.5	433	47
8	Junior College Technical or Career	433	21.9	49.4	26.3	2.4	428	43
9	Liberal Arts College-- Upper Division	415	29.2	24.8	35.2	10.8	414	41
10	The University Faculty's Role in Determination of	401	16.7	47.9	30.9	4.5	392	34
11	Master's Degree Programs	437	19.0	42.1	32.0	6.9	385	32
12	Doctoral Degree Programs	417	7.9	37.9	43.2	11.0	312	11
13	Professional Degree Programs	400	9.3	33.8	42.2	14.7	309	10
14	grams	410	7.8	35.1	42.5	14.6	302	8

of Curriculum, 85.0%; (5) The Department Faculty's Role, 82.3%; (3) The College Faculty's Role, 81.8%; and (2) The Governing Board's Role in Determination of Curriculum, 80.9%. By combining the two quality measures, (5) The Department Faculty's Role got a higher ranking than when Most worth was considered alone.

The weighted composite scores ranged from a high of 529 for (1) The Administrator's Role down to 302 for (14) Professional Degree Programs. Rank number (1) was the only area in the 500 bracket. There were eight areas in the 400's and the remaining five areas in the 300's. The average weighted composite score for the 14 areas was 414.

The range in the percentile ranks of the 14 specific areas of knowledge was from the 78th down to the 8th. One specific area ranked in the top quartile of the 169 such areas. It was (1) The Administrator's Role in the Determination of Curriculum. Five areas were in the 2nd quartile, five more in the 3rd quartile, and three fell in the bottom quartile.

#### The Worth of Knowledge about Faculty and Staff

Each of the specific areas of knowledge in the general area of knowledge about faculty and staff received votes from responding presidents as being of Most worth. The percentage of votes for Most, as shown in Table 4, ranged from a high of 59.8% for (1) Communication with the Faculty

Table 4  
 The Worth of Different Areas of Knowledge about Faculty and Staff  
 to Presidents of Colleges and Universities  
 Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Communication with	453	59.8%	35.1%	4.9%	0.2%	629	99
2	Selection of	462	49.1	39.0	11.3	0.6	572	86
3	Evaluation of	464	41.6	48.7	9.1	0.6	546	82
4	Motivation of	462	38.1	50.0	11.5	0.4	528	78
5	Responsibilities of	463	35.7	51.4	12.5	0.4	517	75
6	Removal of	460	32.4	50.0	15.6	2.0	492	70
7	Wage & Salary Management	469	30.7	53.1	15.4	0.8	490	69
8	Promotion of	460	29.2	54.1	15.4	1.3	482	67
9	Authority of	459	27.2	57.3	15.0	0.5	477	65
10	Power of	454	28.2	54.0	16.7	1.1	476	64
11	Contract negotia-	449	27.6	44.5	24.7	3.1	451	57
12	tions with Assignment of	454	22.9	50.0	26.2	0.9	437	49
13	Tenure of	465	21.9	51.4	24.3	2.4	432	46
14	Search for	455	19.1	46.8	31.2	2.9	405	39
15	Sources of Supply	448	17.9	48.9	29.9	3.3	402	37
16	Organizations of	460	17.0	48.7	30.4	3.9	396	36

and Staff, down to 17.0% for (16) Organizations of Faculty and Staff.

The combined percentages for Most and Much worth produced two SAOK above 90% of the votes. They were (1) Communication with, 94.9% and (3) Evaluation of Faculty and Staff, 90.3%. All 16 of the items in the general area of knowledge about faculty and staff received a combined percentage for Most and Much worth above 65% with ten of them above 82%.

The weighted composite scores ranged from a high of 629 down to a low of 396. Four of the items were in the 500 bracket and the remaining ten in the 400's. The average WCS was 483.

The WCS for each SAOK in this general area of knowledge drew percentile ranks in the total study ranging from a high of 99 PR for (1) Communication with Faculty and Staff, down to a PR of 36 for (16) Organizations of Faculty and Staff. Five of these items were in the top quartile of the total study, six were in the 2nd quartile, and the remaining five were in the 3rd quartile.

#### The Worth of Knowledge about Finance

Each of the 17 specific areas in the general area of knowledge about finance was regarded by some presidents as being of Most worth. As shown in Table 5, there were seven SAOK for which more than half of the responding presidents

Table 5  
 The Worth of Different Areas of Knowledge about Finance  
 to Presidents of Colleges and Universities  
 Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Budget Preparation	462	59.3%	35.1%	5.2%	0.4%	626	98
2	Where the Money Goes	466	57.7	35.6	6.7	0.0	618	97
3	Where the Money Comes from	465	57.6	34.8	7.5	0.0	615	96
4	Management of Money	460	54.1	38.5	7.4	0.0	602	95
5	Budget Presentation	461	51.2	41.2	6.9	0.7	589	93
6	Cost of Higher Education	451	51.4	39.9	8.7	0.0	588	92
7	Budgetary Control	462	51.5	39.8	7.4	1.3	587	92
8	Who Manages the Money?	462	48.5	42.6	8.4	0.4	576	88
9	Fund Raising Techniques	460	38.0	34.8	21.1	6.1	492	70
10	Federal Funds	460	28.7	49.6	18.5	3.2	468	63
11	Proposal Follow Up	455	27.3	49.9	19.3	3.5	460	60
12	Proposal Presentation	458	26.7	47.8	21.8	3.7	452	58
13	Proposal Preparation	461	25.8	47.7	22.8	3.7	447	55
14	Foundation Giving	461	25.6	42.1	26.0	6.3	431	45
15	Financial Audits	460	23.7	45.7	26.5	4.1	430	44
16	Investment of Funds	459	25.1	42.5	25.7	6.7	428	43
17	Financial Report Writing	439	18.5	40.3	35.1	6.1	385	32

gave a value rating of Most. The range in the percentages of votes for Most worth for the 17 SAOK in this 5 GAOK was from a high 59.3% for (1) Budget Preparation, down to a low of 18.5% for (17) Finance Report Writing.

When the percentage in the Much worth column was added to that in the Most worth column, the total percentage of votes for each of first eight ranked SAOK was above 90%. Two other items received more than three-fourths of such votes: (1) Federal Funds, 78.3%; and (11) Proposal Follow Up, 77.2%.

The range in the weighted composite scores was from a high of 626 down to a low of 385. Four of the scores were over 600; four more in the 500's, eight in the 400's, and one in the 300 bracket. The average for the 17 such scores was 517.

When the weighted composite scores of these 17 SAOK were placed among those for the total study, the top seven of them had percentile ranks in the top decile. The 8th, Who Manages the Money? was at the 88 PR. The remaining nine SAOK had PR's below 75, of which four were below 50 PR. The range in the distribution of PR's for the general area of finance was from a high of 98 for (1) Budget Preparation, down to a low of 32 for (17) Financial Report Writing.

#### The Worth of Knowledge about the Foundations of Education

There were four specific areas in this general area of

knowledge with each receiving votes from some presidents as being of Most worth. The range in the percentage of votes for Most, as shown in Table 6, was from 18.9% for (1) Philosophical Foundations, down to 9.2% for (4) Historical Foundations.

By combining the percentages of the columns for Most and Much, two of the specific areas were in the low 60's and one in the high 50's. The fourth item totaled fewer than half, 45.6%.

The weighted composite scores were all in the 300 bracket with a high of 398, a low of 321, and an average of 367.

When placed in the percentile rank distribution of 169 specific areas in the total study, the range for items in this general area of knowledge was from a high of 36 PR for Philosophical Foundations, down to a 12 PR for Historical Foundations.

#### The Worth of Knowledge about Institutional Research and Planning

As shown in Table 7, there were 15 specific areas in the general area of knowledge about institutional research and planning, and each received some votes from responding presidents as being of Most worth. For one of them, (1) Long-Range Planning, more than half, 53.6% of the presidents valued it as of Most worth. The range in percentages of



Table 6

The Worth of Different Areas of Knowledge about the Foundations of Education to Presidents of Colleges and Universities  
Shown by Rank in Percentages, Weighted Composite Score and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Philosophical	466	18.9%	44.4%	32.0%	4.7%	398	36
2	Sociological	463	14.3	47.1	34.1	4.5	376	27
3	Psychological	460	14.8	44.6	36.3	4.3	374	26
4	Historical	456	9.2	36.4	47.4	7.0	321	12

Table 7  
The Worth of Different Areas of Knowledge about Institutional Research and Planning to Presidents of Colleges and Universities  
Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Long-Range Planning	444	53.6%	36.9%	8.8%	0.7%	595	94
2	Financial Analysis, Evaluation & Planning	446	41.3	50.9	11.9	0.9	539	80
3	Program Analysis, Evaluation & Planning	448	35.9	49.6	14.1	0.4	514	75
4	Faculty Analysis, Evaluation & Planning	451	34.1	52.3	12.9	0.7	509	73
5	Physical Facilities Analysis, Evaluation & Planning	452	25.7	55.1	18.6	0.6	464	62
6	Enrollment Studies	447	24.4	51.0	23.3	1.3	447	55
7	Unit Cost Studies	451	22.2	50.8	24.8	2.2	433	47
8	Short-Range Stair-Step Planning	421	16.6	48.9	29.7	4.8	393	35
9	Introductory Statistical Procedures	446	21.3	37.2	44.8	6.7	395	34
10	Program Planning Budgeting System (PPBS)	392	16.1	47.2	31.1	5.6	385	32
11	Non-Academic Staff Analysis, Evaluation & Planning	452	15.3	47.3	35.4	2.0	384	30
12	Demographic Studies	439	16.4	42.1	38.7	2.7	380	28
13	Computers & Their Uses	447	13.9	45.6	36.2	4.3	370	24
14	"Pert" or "CPM"	401	11.2	39.9	42.2	6.7	340	17
15	Multivariate Statistical Procedures	441	4.8	16.1	51.2	27.9	233	2

votes for Most worth for the 15 SAOK about institutional research and planning was from the high of 53.6% for (1) Long-Range Planning down to a low of 4.8% for (15) Multivariate Statistical Procedures.

When percentages in the column for Much worth were added to those for Most worth, (1) Long-Range Planning received 90.5% of the votes cast. Four specific areas about Analysis, Evaluation and Planning had combined percentages in the 80's: (2) Financial, 87.2%; (4) Faculty, 86.4%; (3) Program, 85.5%; and (5) Physical Facilities, 80.8%.

The weighted composite scores for these 15 specific areas of knowledge ranged from a high of 595 for (1) Long-Range Planning, down to a low of 233 for (15) Multivariate Statistical Procedures. Four of the WCS's were in the 500 bracket, three in the 400's, seven in the 300's, and the 15th with a 233 was 107 points below the next lowest. The average of the 15 WCS was 425.

One of the specific areas of knowledge about Institutional Research and Planning, (1) Long-Range Planning, had a percentile rank of 94 among the 169 items in the total study. Two more SAOK, Analysis, Evaluation and Planning of (2) Finance, 80 PR and (3) Program, 75 PR, were in the top quartile. The range of percentile ranks for these 15 SAOK was from the previously mentioned 94 down to a 2 PR for Multivariate Statistical Procedures. In addition to

the above three SAOK in the top quartile, three were in the second, six in the third, and three in the bottom fourth.

#### The Worth of Knowledge about Institutional Types and Purposes

As shown in Table 8, there were 11 specific areas in this general area of knowledge and each received votes from some presidents as being of Most worth. The range in the percentages of votes for Most worth was from 25.2% for (1) Community Junior Colleges, down to 1.8% for (11) Colonial Colleges.

By combining the percentages for Most and Much, one item received more than half of the votes, (1) Community Junior Colleges, with 55.0%.

The weighted composite scores for the 11 specific areas ranged from a high of 403 for (1) Community Junior Colleges, down to 190 for (11) Colonial Colleges. The average WCS for this general area was 292.

The percentile ranks derived from the position of the WCS of the SAOK in this GAOK in the distribution of 169 for the total study show a range from a high of 38 PR for (1) Community Junior Colleges down to a 0 PR for (11) Colonial Colleges. All WCS for this GAOK were in the lower quartile except for (1) Community Junior Colleges at 38 PR.

#### The Worth of Knowledge about Instruction

All of the ten specific areas in the general area of knowledge about instruction received some votes for being

Table 8  
 The Worth of Different Areas of Knowledge about Types and Purposes of Institutions to Presidents of Colleges and Universities  
 Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Community Junior Colleges	450	25.2%	29.8%	34.7%	10.0%	403	38
2	Private Liberal Arts Colleges	451	14.2	27.7	44.6	13.5	327	14
3	State Universities	447	11.0	34.7	43.8	10.5	325	14
4	State Colleges	444	9.2	36.7	43.5	10.6	310	11
5	Land-Grant Colleges	444	8.6	30.4	47.5	13.5	299	8
6	Technical Institutes	447	10.1	27.3	40.5	22.1	293	7
7	Private Junior Colleges	444	9.2	27.3	46.6	16.9	292	6
8	Private Universities	448	6.2	31.5	49.1	13.2	287	5
9	Municipal Colleges and Municipal Universities	444	6.5	29.5	49.8	14.2	284	4
10	Proprietary Colleges	433	2.1	12.9	48.3	36.7	202	1
11	Colonial Colleges	436	1.8	11.0	44.3	42.9	190	0



of Most worth. The range in the percentage of votes for Most worth was from a high of 34.4% for (1) The Role of Administrators, down to 14.1% for (10) Educational Psychology. As shown in Table 9, seven of the ten SAOK received fewer than 25% of the votes for Most worth. The other three received above 25% but less than half of the votes.

By combining the votes cast for the top two quality measures of Most and Much worth, two of the SAOK received more than three-fourths of the votes cast. They were (1) The Role of Administrators, 82.7%, and (4) The Role of the Faculty, 78.3%.

The weighted composite scores ranged from a high of 502 down to 373. One WCS made the 500 bracket while one was in the 300's with the other eight items in the 400 bracket. The average WCS was 440.

The above scores earned these specific areas percentile rankings in the total study from a high of 72 PR for (1) The Role of the Administrator, down to a 25 PR for (10) Educational Psychology. In addition to these items, one was in the 60's, three in the 50's, and four in the 40's of the percentile rankings.

#### The Worth of Knowledge about the Legal Aspects

All of the specific areas in the general area of knowledge about legal aspects of higher education received support from some responding presidents as being of Most worth.

Table 9

The Worth of Different Areas of Knowledge about Instruction to Presidents of Colleges and Universities  
Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	The Role of Administrators	445	34.4%	48.3%	16.0%	1.3%	502	72
2	Techniques for Motivation of Learning	461	29.5	43.6	24.1	2.8	461	61
3	Techniques for Evaluation of Learning	461	28.0	45.1	23.6	3.3	455	59
4	The Role of the Faculty	464	23.3	55.0	20.7	1.0	449	56
5	The Role of the Students	460	23.3	51.5	23.5	1.7	441	50
6	Quality Control--Analysis & Evaluation	454	25.3	44.7	27.8	2.2	437	49
7	Methods of Instruction	457	23.6	46.8	26.1	3.5	432	46
8	The Role of the Individual Professor	458	21.8	50.2	26.0	2.0	429	44
9	Psychology of Learning	461	21.0	47.1	28.6	3.3	417	41
10	Educational Psychology	447	14.1	46.3	35.6	4.0	373	25

As seen in Table 10, the percentage of votes for Most worth ranged from a high of 17.6% for (2) Contract Negotiations, down to a low of 10.7% for (6) Constitutional Law.

The combined percentages for Most and Much place (1) Recent Court Decisions in first place with 62.9% of the votes. Contract Negotiations received 60.3% of the votes and ranked second in this general area.

The weighted composite scores for this GAOK ranged from a high of 391 for (1) Recent Court Decisions, down to 328 for (6) Constitutional Law. The average for the six scores was 363.

The percentile ranks of these SAOK's ranged from a high of 33 PR for (1) Recent Court Decisions, down to a low of 15 PR for (6) Constitutional Law. Three of these areas were in the bottom quartile and three in the third.

#### The Worth of Knowledge about Organization

Each of the six specific areas in the general area of knowledge about the organization of higher education received votes as being of Most worth from some responding presidents. As shown in Table 11, the range in the percentages of votes for Most worth was from a high of 30.0% for (1) Functional Organization, down to 4.9% for (6) Federal Organization. All but one of the six specific areas received less than 25% of the votes for Most worth.

When the percentages for Most and Much were combined,



Table 10

The Worth of Different Areas of Knowledge about Legal Aspects  
to Presidents of Colleges and Universities  
Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Recent Court Decisions	431	17.2%	45.7%	33.2%	3.9%	391	33
2	Contract Negotiations	454	17.6%	42.7%	35.5%	4.2%	387	33
3	The Role of the Courts	451	15.5%	42.3%	37.5%	4.7%	373	25
4	Administrative Law	452	15.5%	38.9%	39.8%	5.8%	365	22
5	Business Law	446	11.2%	37.0%	43.7%	8.1%	333	17
6	Constitutional Law	448	10.7%	36.0%	45.5%	7.8%	328	15

Table 11

The Worth of Different Areas of Knowledge about the Organization of Higher Education to Presidents of Colleges and Universities  
 Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Functional Organization	433	30.0%	51.8%	16.6%	1.6%	482	67
2	Structural Organization	433	24.5	53.1	20.1	2.3	451	57
3	Organizational Behavior	434	18.9	49.1	29.0	3.0	409	40
4	Organization of State Systems	460	16.1	45.2	31.5	7.2	380	28
5	Regional Organization	455	5.6	32.7	49.4	12.3	287	5
6	Federal Organization	452	4.9	27.4	55.5	12.2	272	3



two of the items received more than 75% of the votes. They were (1) Functional Organization, 81.8% and (2) Structural Organization, 77.6%.

The range in the weighted composite scores was from a high of 482 down to 272. The distribution shows three scores in the 400 bracket, one in the 300's, and two in the 200 group. The average WCS in this GAOK was 380.

When compared to the scores of the 169 areas in the total study, all six of these items fell below the top quartile. The range of percentile ranks was from a high of 67 for (1) Functional Organization, down to a low of 3 PR for Federal Organization. The distribution shows two items in each of the 2nd, 3rd, and 4th quartiles.

#### The Worth of Knowledge about Physical Facilities

Each of the specific areas in the general area of knowledge about physical facilities was rated by some responding presidents as being of Most worth. As seen in Table 12, the range of the percentage of votes for Most worth was from a high of 49.4% for (2) Funding, down to a low of 11.8% for (8) Equipment and Materials Management. Although (2) Funding had the highest percentage of votes for Most, it ranked second to (1) Planning in this general area of knowledge, because the ranks in Table 12 were based on the weighted composite score, derived from all four levels of worth. These two specific areas were the only ones in this

Table 12  
 The Worth of Different Areas of Knowledge about Physical Facilities  
 to Presidents of Colleges and Universities  
 Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Planning	462	47.8	46.5	5.6	0.0	580	89
2	Funding	464	49.4	41.4	8.4	0.8	578	88
3	Utilization	438	24.2	51.4	22.1	2.3	446	54
4	Designing (Architects)	464	18.8	55.2	24.3	1.7	422	42
5	Maintenance	465	14.0	50.5	31.2	4.3	381	29
6	Scheduling Usage	465	14.6	45.8	34.9	4.7	375	27
7	Construction	465	12.5	48.8	34.0	4.7	368	24
8	Equipment & Materials Management	458	11.8	42.1	40.4	5.7	349	19

general area to receive more than 25% of the votes cast for Most worth.

When the percentages of votes for Most and Much were combined, two SAOK received more than 90% of the votes cast. They were (1) Planning, 94.3% and (2) Funding, 90.8%. Another specific area received more than three-fourths of the votes in the combination, (3) Utilization; 75.6%.

The weighted composite scores ranged from a high of 580 down to 349 for low. Two of the SAOK had scores in the high 500 bracket, two in the 400's, and four in the 300's. The average WCS was 437.

The percentile ranks for the eight specific areas of knowledge about physical facilities ranged from a high of 89 for (1) Planning, down to a low of 19 for (8) Equipment and Materials Management. Two specific areas in this general area had PR's in the top quartile, one in the second, three in the third, and two in the bottom quartile.

#### The Worth of Knowledge about Students

As shown in Table 13, each of the 14 specific areas in the general area of knowledge about students received some votes from responding presidents as being of Most worth. The range in the percentage of votes for Most worth was from a high of 50.5% for (1) Concerns of Students, down to 9.6% for (14) Migration of Students. Only the one SAOK received more than half of the votes for Most worth; three of them

Table 13

The Worth of Different Areas of Knowledge about Students  
to Presidents of Colleges and Universities  
Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Concerns of Students	469	50.5%	42.2%	7.3%	0.0%	587	92
2	Psychology of	449	35.9	47.6	15.8	0.7	510	74
3	Desires of	465	34.0	51.4	13.1	1.5	505	73
4	Counseling of	451	31.5	47.7	19.5	1.3	483	67
5	Administration of Ser- vices for	429	23.3	53.6	21.5	1.6	445	53
6	Minorities of	454	24.1	48.3	25.0	2.6	439	50
7	Power of	462	18.8	50.9	28.1	2.2	412	40
8	Activities of	445	17.5	51.0	28.5	2.9	404	38
9	Organization of	448	17.0	50.2	30.1	2.7	400	37
10	Services for	461	17.1	43.0	34.9	5.0	384	30
11	Pressure Groups of Organizations of	461	12.6	46.9	37.3	3.2	366	23
12	Housing of	442	14.2	42.3	35.7	7.7	362	21
13	Feeding of	442	13.8	40.3	40.3	5.6	358	20
14	Migration of	449	9.6	29.6	51.5	9.3	308	9

fell in the third quartile. The rest received fewer than 25% of the votes as being of Most worth.

By combining the percentages of votes for Most and Much, one SAOK, (1) Concerns of Students, received 92.7%. Four others received more than three-fourths of the votes: (3) Desires of Students, 85.4%; (2) Psychology of Students, 83.7%; (4) Counseling of Students, 79.2%; and (5) Administration of Services for Students, 76.9%. When only the percentage of votes for Most was considered, knowledge about the Psychology of students ranked second; but when the percentages of Most and Much were combined, knowledge about the Desires of Students became more important.

The weighted composite scores for these 14 specific areas ranged from a high of 587 down to a low of 308 with an average of 426. Three of the WCS were in the 500's, six in the 400's, and five in the 300 bracket.

The percentile ranks for these 14 specific areas of knowledge about students ranged from a high of 92 PR for (1) Concerns of Students, down to a low of 9 PR for (14) Migration of Students. Only one of the 14 items had a PR in the upper quartile of the total study and it also ranked in the top decile. Five of these SAOK were in the second quartile, four in the third, and four in the bottom 25% of the percentile ranks.

The Worth of Knowledge about "The Establishment" of Higher Education

Of the seven specific areas in the general area of knowledge about "The Establishment" of Higher Education, each received some votes from the responding presidents as being of Most worth. As shown in Table 14, the range in the percentages of such votes was from a high of 27.0% for (1) Regional Accrediting Agencies, down to 8.4% for (7) Professional Organizations for Individuals.

When the percentages for Much worth were added to those for Most, four specific areas showed subtotals of more than half of the votes. Three of them were in the 50's and one, (1) Regional Accrediting Agencies, had a 74.8%.

The weighted composite scores ranged from a high of 456 down to a low of 304. The average was 353. Six of the seven scores were in the 300 bracket and one got up into the 400's.

The highest percentile rank for any of these seven SAOK was a 59 PR for (1) Regional Accrediting Agencies. The other six fell in the lower quartile with the lowest being a nine PR for (7) Professional Organizations for Individuals.

The Worth of Knowledge about the President as a Person

As shown in Table 15, there were 18 specific areas in the general area of knowledge about the President as a Person



Table 14  
 The Worth of Different Areas of Knowledge about The Establishment of Higher Education  
 to Presidents of Colleges and Universities  
 Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Accrediting Agencies	448	27.0%	47.8%	23.2%	2.0%	456	59
2	Professional (Specialized)	426	13.2	45.1	36.8	4.9	365	22
3	Associations of Institutions	439	11.8	41.5	41.0	5.7	348	18
4	State	421	12.6	38.2	43.0	6.2	346	18
5	Regional	436	10.5	35.8	46.8	6.9	328	15
6	National		10.7	33.6	48.7	7.0	324	13
7	Professional Organizations	441	8.4	31.1	52.1	8.4	304	9
	Institutional Memberships	428						
	Individual Memberships							

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Table 15  
 The Worth of Different Areas of Knowledge about The President as a Person  
 to Presidents of Colleges and Universities  
 Shown by Rank in Percentages, Weighted Composite Score, and Percentile Rank

Rank	Area of Knowledge	Number of Respondents	Is of Most Worth	Is of Much Worth	Is of Some Worth	Is of Little Worth	Weighted Composite Score	Percentile Rank
1	Human Relations	408	69.9%	25.2%	3.9%	1.0%	669	99
2	Ability to Stand Alone	450	60.0	31.8	6.7	1.6	622	98
3	Character	459	61.2	22.9	11.3	4.6	608	96
4	Cardinal Virtue--Justice	447	55.5	30.4	10.5	3.6	590	93
5	Cardinal Virtue--Courage	442	54.7	30.8	10.9	3.6	586	91
6	Public Speaking	457	48.1	44.2	7.0	0.7	576	88
7	Professional Responsi- bilities	461	48.8	41.2	9.6	0.4	575	86
8	Participation in Discussion	450	47.1	45.1	6.9	0.9	572	86
9	Morals	462	52.6	29.9	12.5	5.0	571	85
10	Cardinal Virtue--Prudence	432	51.4	32.7	12.0	3.9	570	84
11	Ability to Live through Others	446	48.4	37.7	12.3	1.6	564	83
12	Personal Responsi- bilities	441	42.6	42.0	13.1	2.3	537	80
13	Cardinal Virtue-- Temperance	444	40.3	39.6	16.0	4.1	517	76
14	Manners	463	35.2	41.9	17.5	5.4	490	69
15	Family Responsibilities	459	34.0	39.7	20.0	6.3	477	65
16	Social Responsibilities	459	30.7	45.5	19.0	4.8	470	63
17	Appearance	452	26.2	46.5	21.1	6.2	444	51
18	Professional Writing	453	23.6	48.6	25.8	2.0	437	49

for the responding presidents to evaluate. Six of the items were rated of Most worth by more than half of the presidents and three of these received more than 60% of the votes. The range in the percentages of votes for Most worth was from a high of 69.9% for (1) Human Relations, down to a low of 23.6% for (18) Professional Writing.

When the percentages of Most worth and Much worth were combined, none of the 18 SAOK had fewer than 60% of the votes. Five of them had combined percentages in the 90's: (1) Human Relations, 95.1%; (6) Public Speaking, 92.3%; (8) Participation in Discussion, 92.2%; (2) Ability to Stand Alone, 91.8%; and (7) Professional Responsibilities, 90.0%. For seven other SAOK these combined percentages totaled over 80% of the votes cast.

The weighted composite scores for these 18 specific areas of knowledge ranged from a high of 669 down to a low of 437. Three of the scores were over 600 and five were below 500. The remaining 10 were in the 500's. The average of the 18 WCS was 549.

One specific area in the general area of knowledge about the President as a Person was placed at the 99 PR when compared to the other 168 SAOK in the study: (1) Human Relations, 99 PR. The percentile ranks for these areas ranged from that high down to (18) Professional Writing, 49 PR, which was the only one below the 50th PR. Thirteen of the 18 SAOK about the President as a Person had percentile

rankings in the top quartile of the total study. Five of them ranked in the top decile: (1) Human Relations, 99 PR; (2) Ability to Stand Alone, 98 PR; (3) Character, 96 PR; (4) Cardinal Virtue--Justice, 93 PR; and Cardinal Virtue--Courage, 91 PR. Two-thirds of the 18 SAOK in this general area had percentile ranks of 80 or higher.

#### THE WORTH OF GENERAL AREAS OF KNOWLEDGE

The relative worth of general areas of knowledge to presidents of colleges and universities is shown in Table 16. The 14 general areas studied are shown in the order of ranks based upon the average of the weighted composite scores of the specific areas within each. To be seen in Table 16 also are the numbers of specific areas, the range of composite weighted scores, and the average number of respondents within each general area of knowledge.

The average weighted composite scores for the 14 GAOK ranged from a high of 549 for (1) The President as a Person, down to a low of 292 for (14) Types and Purposes of Institutions. Also in the 500 bracket, but 32 points below number (1), was (2) Finance with an average WCS of 517. Below these two general areas there were seven with weighted composite score averages in the 400's, four in the 300's, and one in the 200's.

Table 16

The Worth of General Areas of Knowledge  
to Presidents of Colleges and Universities  
Shown by Rank Order of the Average of Weighted Composite Scores  
for Specific Areas within the General Area

Rank	General Area of Knowledge	Average Number of Respondents	Number of Specific Areas	Weighted Composite Scores Range	Weighted Composite Scores Average
1	The President as a Person	449	18	437-669	549
2	Finance	459	17	385-626	517
3	Faculty and Staff	459	16	396-629	483
4	Administration	477	23	209-596	454
5	Instruction	457	10	373-502	440
6	Physical Facilities	460	8	349-580	437
7	Students	453	14	308-587	426
8	Institutional Research & Planning	439	15	233-595	425
9	Curriculum	432	14	302-529	414
10	Organization	445	6	272-482	380
11	Foundations of Education	461	4	321-398	367
12	Legal Aspects	447	6	328-391	363
13	The "Establishment"	434	7	304-456	353
14	Types & Purposes of Institutions	444	11	190-403	292

## THE KNOWLEDGE OF MOST WORTH

There were 169 specific areas of knowledge, within 14 general areas, which presidents of colleges and universities were asked to evaluate as being of (1) Most worth, (2) Much worth, (3) Some worth, or (4) Little worth. A total of 528 usable replies were received. Not all presidents replied to all 169 items, so the tables show the number responding to each specific area of knowledge with the percentage of that number who indicated it was of Most, or Much, or Some, or Little worth. These four divisions of worth were given weights: Most=8; Much=4; Some=2; and Little=1. By multiplying each percentage by the designated weight and adding the four results, a weighted composite score was derived for each of the 169 specific areas of knowledge. The weighted composite scores were used to determine the percentile rank in the total study for each specific area of knowledge.

The Top Ten Percent

The knowledge of most worth to college and university presidents, as determined by this study, is shown in Table 17. Seen on the first page of the table are the top ten percent of the specific areas of knowledge studied.

The 17 specific areas in the top ten percent were from six of the 14 general areas of knowledge: seven were from Finance; five from the President as a Person; two from

Table 17  
 The Worth of Different Areas of Knowledge  
 to Presidents of Colleges and Universities  
 Shown in Percentile Rank with Reference to Previous Presentation

The Top Ten Percent

Table	Reference Rank	Area of Knowledge	Percentile Rank
15	1	Human Relations	99
4	1	Communication with Faculty & Staff	99
5	1	Budget Preparation	98
15	2	Ability to Stand Alone	98
5	2	Where the Money Goes	97
5	3	Where the Money Comes from	96
15	3	Character	96
5	4	Management of Money	95
2	1	Delegation of Responsibility	95
7	1	Long-Range Planning	94
15	4	Cardinal Virtue-Justice	93
5	5	Budget Presentation	93
5	6	Cost of Higher Education	92
5	7	Budgetary Control	92
13	1	Concerns of Students	92
15	5	Cardinal Virtue-Courage	91
2	2	Delegation of Authority	90

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Administration; and one each from Faculty and Staff, Institutional Research and Planning, and Students.

#### The Top Quartile

The next 15% of the top quartile of specific areas of knowledge included under the heading "The Knowledge of Most Worth" are shown on Table 17 (continued).

The 43 specific areas of knowledge, in the top quartile, are from eight of the 14 general areas of knowledge included in the study. There were 13 specific areas from the general area: The President as a Person, in the top quartile; 10 SAOK from Administration; eight from Finance; five from Faculty and Staff; three from Institutional Research and Planning; two from Physical Facilities; and one each from Curriculum, and Students.

The percentile and quartile ranks of the remaining 126 specific areas of knowledge included in this study can be found in Tables 2 to 15 inclusive.

#### THE WORTH OF CENTERS FOR THE STUDY OF HIGHER EDUCATION--ADMINISTRATION

As a part of this study, an attempt was made to determine the worth of Centers for the Study of Higher Education--Administration as a place for potential presidents of colleges and universities to obtain the knowledge they would need.

It was explained in the introduction to this report



Table 17 (continued)

The Worth of Different Areas of Knowledge  
to Presidents of Colleges and Universities  
Shown in Percentile Rank with Reference to Previous Presentation

The Top Quartile (continued)

Table	Reference Rank	Area of Knowledge	Percentile Rank
2	3	Establishing Institutional Philosophy	89
12	1	Planning Physical Facilities	89
12	2	Funding Physical Facilities	88
5	8	Who Manages the Money?	88
15	6	Public Speaking	88
15	7	Professional Responsibilities	86
4	2	Selection of Faculty & Staff	86
15	8	Participation in Discussions	86
15	9	Morals	85
15	10	Cardinal Virtue-Prudence	84
15	11	Ability to Live "through" Others	83
2	4	Selecting Supportive Administrators	83
2	5	Motivation of Subordinates	82
4	3	Evaluation of Faculty & Staff	82
2	6	Establishing Basic Principles of Operations	81
7	2	Financial Analysis Evaluation & Planning	80
15	12	Personal Responsibilities	80
2	7	Administering "through" Others	79
2	8	The Role of the Governing Boards	79
3	1	Administrators' Role in Determining Curriculum	78
4	4	Motivation of Faculty & Staff	78
2	9	Adapting Policies to Fit Principles & Philosophy	77
2	10	Decision Making--Theory & Practice	76
15	13	Cardinal Virtue--Temperance	76
4	5	Responsibilities of Faculty & Staff	75
7	3	Program Analysis, Evaluation & Planning	75

that the questionnaire for this study was included in a packet of materials about the Center for the Study of Higher Education at Arizona State University. Also enclosed was a brochure which described the Center, its Doctor of Philosophy program in Higher Education--Administration, resumés of its graduates available for positions, and abstracts of dissertations completed in the past year.

The back page of the questionnaire asked five questions of the presidents pertaining to their thoughts about such Centers for the Study of Higher Education--Administration as a place for potential presidents to acquire knowledge they would need. Those questions and the presidents' responses follow.

Question 1

Do you think the college or university president of the future must have a more effective professional preparation for the position than has been available in the past?

Respondents--505

Yes--86.9%

No--13.1%

Question 2

Do you think a program of professional study such as that described in the enclosed brochure could be of much worth in the preparation of a president-to-be?

Respondents--469

Yes--93.2%

No-- 6.8%

Question 3

Do you think such a program of professional study has the potential to prepare the president-to-be better than the master's and doctorate in an academic discipline pattern of the past?

Respondents--447

Yes--81.5%

No--18.5%

Question 4

Should you have a vacancy on your supportive administrative staff, would you consider a graduate of our Center, such as those now available whose resumes are enclosed?

Respondents--475

Yes--91.4%

No-- 8.6%

Question 5

Should you know a person desiring to prepare to be a president or a supportive administrator, would you advise him to consider our Center as a place for such preparation?

Respondents--440

Yes--92.5%

No-- 7.5%

The presidents were asked also to answer a sixth question as an indication of their interest in acquiring additional information on what knowledge is of most worth to a president

of a college or university. The question and the results of their responses follow.

Question 6

Do you wish a report on the findings of this study?

Respondents--511

Yes--91.4%

No-- 8.6%

## PROFESSIONAL RESUME

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### EDUCATION AND DEGREES

1929--University of Northern Iowa, B.A., Economics; 1933--University of Iowa, M.A., Political Science; 1943--University of Iowa, Ph.D., Administration.

### EXPERIENCE

#### Universities

Lecturer, University of Iowa; Visiting Professor, University of Missouri; Assistant Professor, Associate Professor, Professor, University of Minnesota; Visiting Professor, University of Texas; Vice President for Development, University of Miami; President, University of Nevada; Professor and Director, Center for the Study of Higher Education, Arizona State University.

#### Public Schools

High School Teacher and Principal, Monticello, Iowa; High School Principal, Fort Dodge, Iowa; High School Principal, Rochester, Minnesota.

#### Experimental Secondary Schools

Principal, University of Iowa Experimental High School; Principal, University of Minnesota Experimental High School.

#### Industry and Business

Curtiss-Wright Corporation, Vice President-Defense Planning; Vice President, Research and Development. A. T. Kearney & Company, Inc. (Management Consultants), Manager of Educational Services. Consultant to Executive Vice President, Emerson Electric Company.

#### Federal Government

Office of Education: Director of Student Financial Aid Branch; Director, College Program Support Branch; Chief, State and Regional Organization of Higher Education (Director, Survey of Higher Education in Connecticut); United States Navy: Active Duty - Executive Officer V-12 Unit, Minot, N. Dakota; Commanding Officer, SS Jeremiah Rusk (freighter); Executive Officer, SS Sea Partridge (troop ship); Commanding Officer, SS Agwiprince (troop ship). Reserve - Assistant Classification Officer, Western Sea Frontier.

### PROFESSIONAL MEMBERSHIPS

Commission on Research & Service of the North Central Association; Committee on Research & Service of the Northwest Association of Secondary and Higher Schools; Committee on Guidance of the North Central Association; President, State College of Iowa Alumni Association; Committee on Inservice Training of Teachers of North Central Association; Examiner for the Accreditation Committee for the Commission of Colleges and Universities, N.C.A.; Executive Secretary, Minnesota Association of Secondary School Principals; Chairman, Summer Workshops of Minnesota Association of Secondary School Principals; President, Laboratory School Administrators Association; Examiner of Private Secondary Schools of Minnesota for Accreditation by the University of Minnesota; Pacific Coast Committee of the American Council on Education; Committee on Veterans Affairs, Land Grant College Association; Governor's Advisory Committee for Secondary Education in Nevada; Eisenhower's Committee on Education Beyond the High School; National Association of State University Presidents; American Education Research Association.

### SCIENTIFIC MEMBERSHIPS

Board of Distinguished Consultants, National Society of Professional Engineers; American Astronautical Society; American Nuclear Society; American Ordnance Association; Institute of Aeronautical Sciences; National Aeronautic Association; Association for Applied Solar Energy; Institute of Aerospace Science.

### CIVIC MEMBERSHIPS

Board of Directors, Chamber of Commerce, Coral Gables, Florida; Rotary Club and Chamber of Commerce, Reno, Nevada; Kiwanis Club and Chamber of Commerce, Rochester, Minnesota and Fort Dodge, Iowa.

### CLUBS

Marco Polo Club, New York, N.Y.; Bath Club, Miami Beach, Florida; Pennington Club, Passaic, New Jersey; National Aviation Club, Washington, D. C.; Army and Navy Club, Washington, D. C.

### PUBLICATIONS

Contributor of articles to professional journals and magazines; Editor, "Higher Education in Connecticut."

### HONORS AND AWARDS

Honors Graduate, University of Northern Iowa; Pi Gamma Mu; Phi Delta Kappa; Shattuck Centennial Award (to 100 Americans who had made an outstanding contribution to secondary education); Alumni Achievement Award, University of Northern Iowa.

### SUPPLEMENTARY INFORMATION IN:

Who's Who in American Education-1947; Who's Who in the Midwest-1951; Who's Who in America-1952; Who's Who in the West-1954; Poor's Register of Directors and Executives-1959; Who's Who in the East-1959; American Men in Science-1961; World Who's Who in Commerce and Industry-1961; Who's Who in the South and Southwest-1965.