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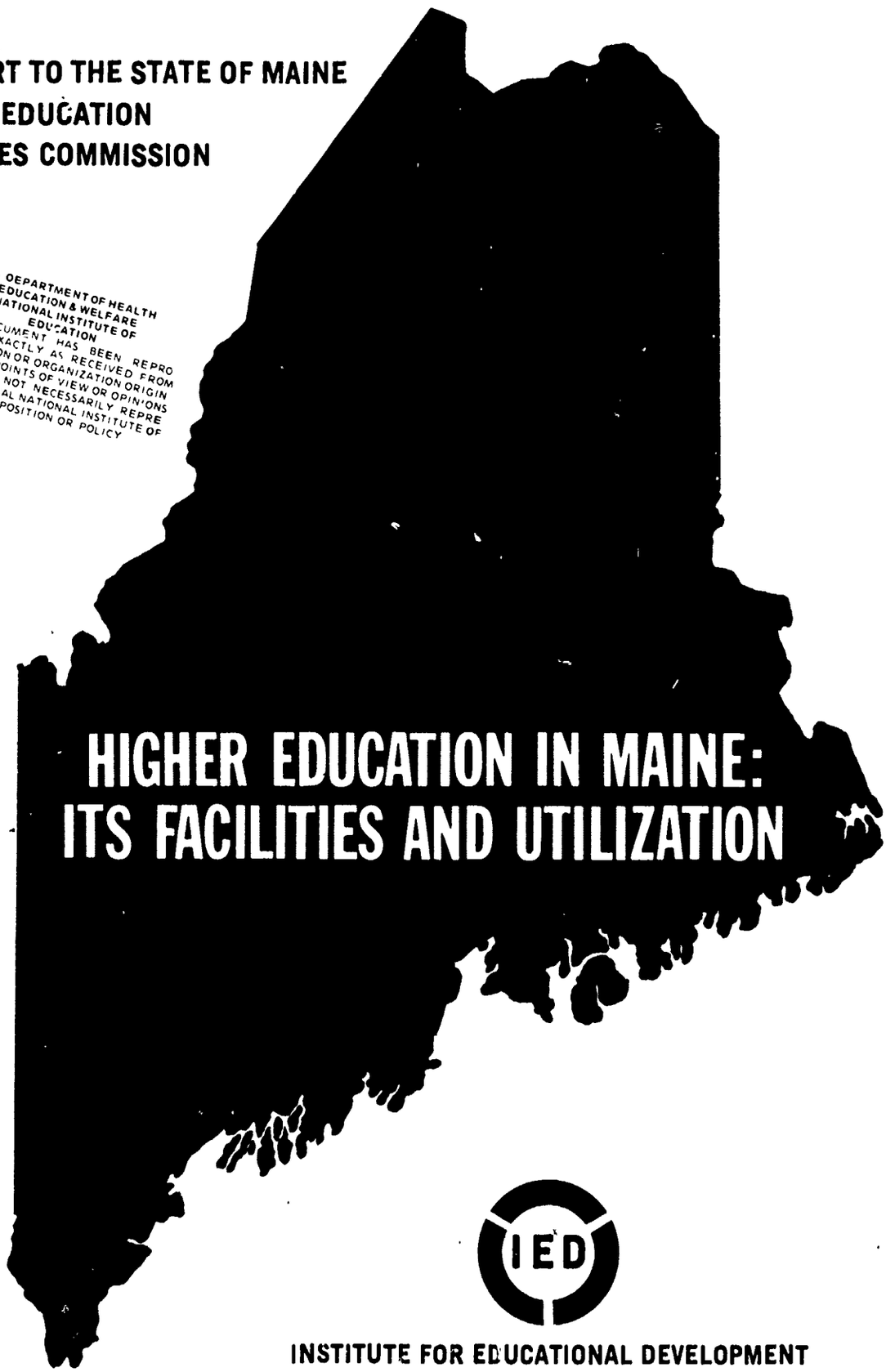
ABSTRACT

In its proposal of May 1968 to the U.S. Office of Education for a Higher Education Comprehensive Facilities Planning Grant, the State of Maine Commission on Higher Education Facilities outlined several activities that it wished to undertake. On approval of the grant, the Commission engaged the Institute for Educational Development (IED) to conduct tasks outlined in the proposal. This report is a summary of commentary on the information collected. Included are discussions and statistics concerning enrollment in colleges and universities in Maine, a physical facilities inventory and the utilization of such facilities, libraries in the institutions, and the effects of new teaching/learning techniques on planning higher education facilities. (Author/HS)

A REPORT TO THE STATE OF MAINE
HIGHER EDUCATION
FACILITIES COMMISSION



HIGHER EDUCATION IN MAINE: ITS FACILITIES AND UTILIZATION

INSTITUTE FOR EDUCATIONAL DEVELOPMENT

52 Vanderbilt Avenue, New York, New York 10017

HIGHER EDUCATION IN MAINE:

ITS FACILITIES AND UTILIZATION

A Report

to the

State of Maine Higher Education Facilities Commission

Institute for Educational Development
52 Vanderbilt Avenue
New York, New York
10017

This study has been conducted for the State of Maine Higher Education Facilities Commission under the Higher Education Facilities Comprehensive Planning Grants Program Pursuant to Title I of the Higher Education Facilities Act of 1963.

State of Maine Higher Education Facilities Commission

The Maine State Commission for the Higher Education Facilities Act of 1963 was designated by Governor John H. Reed in a letter to Secretary Anthony J. Celebrezze of the U.S. Department of Health, Education and Welfare dated January 10, 1964. Governor Reed designated the Maine State Board of Education to serve as the Commission.

Three main functions of the Higher Education Facilities Commission are:

1) to accept and set priorities for applications received for construction of academic facilities for both private and public institutions.

2) to accept and set priorities for applications received for instructional equipment and materials, and CCTV.

3) to receive and administer Federal grants for Higher Education Facilities Comprehensive Planning.

The members of the Commission are:

Charles F. Bragg II, Chairman	Bangor
Bernal B. Allen	South Portland
Christo Anton	Biddeford
Chester L. Dana	Bangor
Lincoln T. Fish, Jr.	Gorham
Paul V. Hazelton	Topsham
William T. Logan, Jr., Commissioner of Education, State of Maine, Ex-officio	Brunswick
Ernest C. Marriner	Waterville
Margaret McIntosh	York

Wayne H. Ross, Executive Secretary	Augusta
Kenneth L. Woodbury	Gray
Frank S. Hoy	Lewiston

Advisory Committee

The Advisory Committee as now constituted includes a member of the administrative staff of one private college, the vice-president of another private college, a member of the administrative staff of the state University, the president of one of the state colleges, and the director of one of the state vocational-technical institutes.

The committee has assisted in preparing the present proposal and is expected to continue tc serve in an advisory capacity in the further planning and conducting of the study.

Donald F. Brown	Professor, Thomas College
Wolcott C. Hokanson, Jr.	Vice President, Bowdoin College
Dwight L. Rideout	Assistant Registrar, University of Maine
Lincoln A. Sennett	President, Washington State College
Arthur Smith	Director, Southern Maine Vocational-Technical Institute

The Higher Education Council of the State of Maine

The Council is comprised of the chief administrative officers of all of Maine's degree-granting colleges and universities; the state vocational-technical institutes; and as provisional, non-voting members, those higher education institutions that are progressing toward degree-granting status.

One of the purposes of the Council, as stated in its constitution is as follows:

"To provide a channel through which studies of higher education on a statewide basis can best be made."

On April 12, 1967, the Council discussed the Federal comprehensive planning grant program and voted to endorse the concept and cooperate in preparation of a planning grant proposal for the State of Maine. The Council also voted to authorize the appointment of an Advisory Committee of five to assist the State Commission in preparing the proposal.

The University of Maine	Donald R. McNeil, Chancellor
Orono Campus	Winthrop C. Libby, President
Portland Campus	David R. Fink, Jr. Provost
Aroostook State College	Stanley F. Salwak
Farmington State College	Einar A. Olsen
Fort Kent State College	Joseph M. Fox
Gorham State College	Kenneth T. N. Brooks
Washington State College	Lincoln A. Sennett
Other Public Institutions	
Maine Maritime Academy	Adm. Edward A. Rodgers, Superintendent

Central Maine Vocational-Technical Institute	Arnold F. McKenney, Director
Eastern Maine Vocational-Technical Institute	Francis B. Sprague, Director
Kennebec Valley Vocational-Technical Institute	Fred W. Whitney, Director
Northern Maine Vocational-Technical Institute	Harold L. Mailman, Director
Southern Maine Vocational-Technical Institute	Arthur Smith, Director
Washington County Vocational-Technical Institute	Peter Pierce, Director

Private Institutions

Bangor Theological Seminary	Frederick W. Whittaker
Bates College	Thomas H. Reynolds
Beal Business College	David P. Tibbets
Bliss College	Theodore Johnson
Bowdoin College	Roger Howell, Jr.
Colby College	Robert E. L. Strider
Husson College	Chesley H. Husson, Sr.
John F. Kennedy College	Claude Charette
Nasson College	John S. Bailey
Northern Conservatory of Music	Laurence Seigel, Director
Ricker College	C. Worth Howard
St. Francis College	Richard J. Spath
St. Joseph's College	Bernard P. Currier

Thomas College	John L. Thomas, Jr.
Unity College	Clair Wood
Westbrook Junior College	Edward Y. Blewett

LISTING OF INSTITUTIONAL HEADS

University of Maine - Donald R. McNeil, Chancellor

Augusta Branch - Lloyd J. Jewett, Director

Orono Campus - Winthrop C. Libby, President

Portland Campus - David R. Fink, Jr., Provost

Portland School of Law - Edward S. Godfrey, Dean

Aroostook State College - Stanley F. Salwak

Farmington State College - Einar R. Olsen, President

Fort Kent State College - Joseph M. Fox, President

Gorham State College - Kenneth T. N. Brooks, President

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Northern Conservatory of Music - Laurence Seigel, Director

Ricker College - C. Howard Worth, President

St. Francis College - Richard J. Spath, President

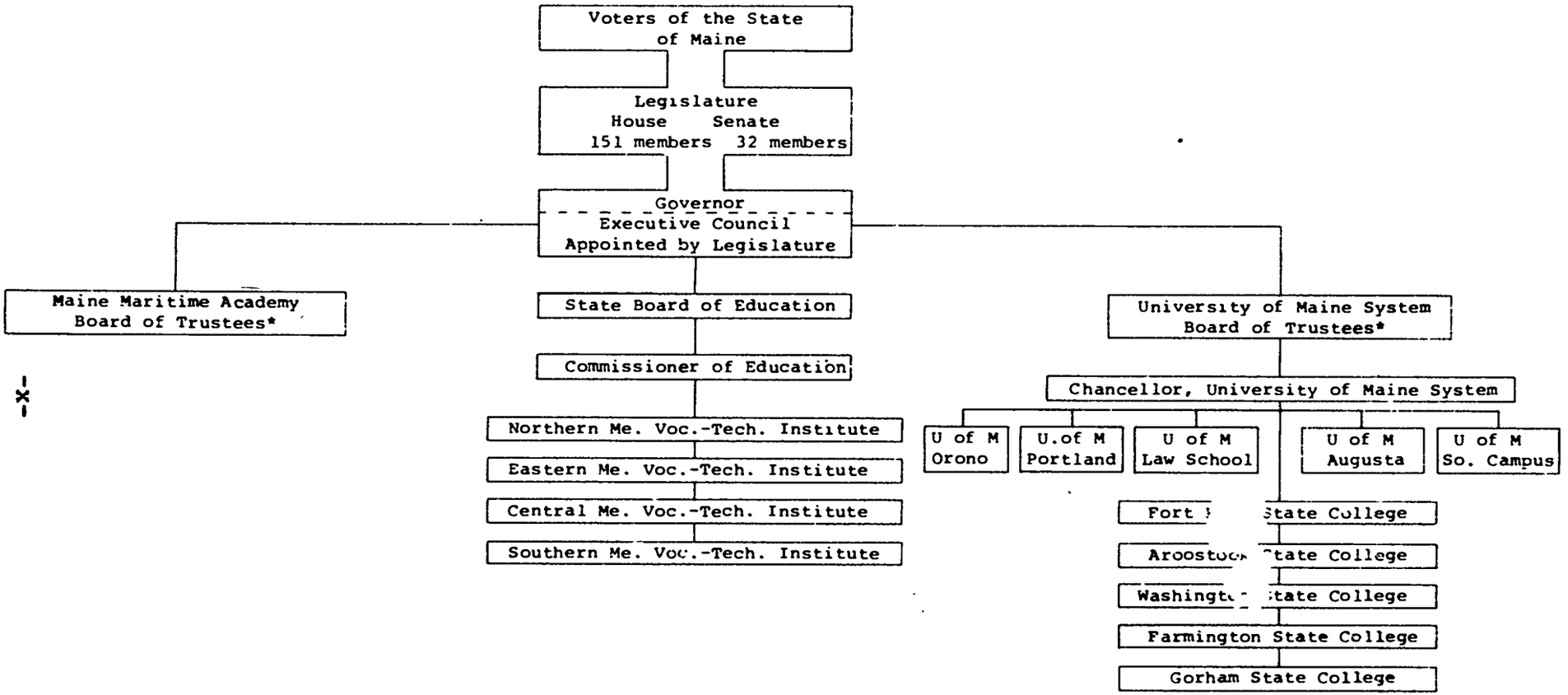
St. Joseph's College - Bernard P. Currier

Thomas College - John L. Thomas, Jr., President

Unity College - Clair Wood, President

Westbrook Junior College - Edward Y. Blewett, President

ORGANIZATION CHART OF PUBLIC HIGHER EDUCATION INSTITUTIONS IN MAINE



* Quasi-Independent Agencies

There is no central coordinating or planning agency for private institutions of higher education, and each is responsible to its autonomous governing board.

Prepared by the Higher Education Facilities Commission
May, 1969

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

In its proposal of May, 1968, to the U.S. Office of Education for a Higher Education Comprensive Facilities Planning Grant, the State of Maine Commission on Higher Education Facilities outlined several activities which it wished to undertake. Upon approval of the grant, the Commission engaged the Institute for Educational Development (IED) to conduct certain tasks outlined in the proposal. This report is a summary of and commentary on the information collected.

IED wishes to acknowledge the cooperation and assistance received from the many individuals who contributed to the study, particularly the administrators of the participating institutions who provided the basic information on physical facilities and libraries, and the Bureau of Educational Statistics of the State Department of Education for information useful in projecting the demand for higher education in the future.

IED is especially appreciative of the work of Dr. Charles E. Adkins, now president of the Council of Independent Colleges and Universities of the State of Pennsylvania, who served as Director of the project; Mr. Edward A. Ryan, of Brunswick, Maine, who served as Resident Director; and Mr. Wayne H. Ross, Executive Secretary of the State of Maine Commission on Higher Education Facilities. In addition, IED wishes to recognize the assistance it received from Dr. William S. Fuller of the New York State Education Department and Mr. Walter L. Hill and Associates, Inc., Cambridge, Massachusetts, and formerly of the Harvard Graduate School of Education.

Dale E. Bussis
1970 Institute for Educational Development

AN OVERVIEW

In the Fall of 1968, there were thirty-two campuses which comprised the facilities of higher education, both public and private, in the State of Maine. The public institutions, with the exception of the Maine Maritime Academy and the four vocational-technical institutes,[1] were recently incorporated into a single University of Maine system offering a wide range of educational programs, from the associate to the doctorate degree level, and including the first graduate professional degree of law. The private institutions offer associate, baccalaureate, and in some cases masters degrees, as well as a graduate professional degree in divinity. Together, the public and private institutions represent a long academic

[1] Two additional vocational-technical institutes were established in 1969-70.

tradition, beginning with the founding of Bowdoin College in 1794, the University in 1862, and the Maritime Academy in 1941. The growth of higher education in Maine witnessed the founding of no fewer than five institutions in the 1960's, consisting of three vocational-technical institutes, and two private colleges. In addition, during the 1960's the Augusta Branch, the South Campus, and the Ira C. Darling Center of the University of Maine were established.

Table 1 provides a comprehensive summary of the institutions of higher education in Maine. The table lists each of the institutions (or campuses), their locus of control, (whether it is a state-operated or a privately-controlled institution), the year in which the institution was founded, the locatior of the campus, the number of acres the individual campuses comprise, the nature of the sutdent bodies, the accrediting agencies for the institutions, the range of tuition and fees (both in-state and out-of-state), the cost of room and board, the availability of National Defense Education Act (NDEA) loans, residential facilities, and the degrees granted by

the institutions.

A sense of the magnitude of higher education in Maine may be gathered from the fact that collectively the institutions comprise nearly 6,950 acres of land (approximately 4,350 for the public and 2,600 for the private institutions). On the basis of estimates made by the institutions, the cost of replacing the buildings in the fall of 1968 would be in the neighborhood of $150,000,000.

TABLE 1.

GENERAL INFORMATION ABOUT INSTITUTIONS (1968-1969)

	Control	Founded	Location	Acreage	Student Body	Accreditation [1]	Number of Buildings	Tuition In-State	Tuition Out-State	Room & Board	NDEA Loans	Housing Men	Housing Women	Summer Session	Degrees Granted [2]
University of Maine															
Augusta Branch	State	1965	Augusta	143	COED	(4)	4	$400	$1,000	--	YES	-	--	NO	Associate
Orono Campus	State	1862	Orono	3,130	COED	(4/8/15)	140	$400	$1,000	$850	YES	2,023	2,268	YES	A.A.S., A. Eng., B.A., B. Mus., B.S., B.S. in Ed.; M.A., M.S.L., M.A.T.; M.Ed., M.S.P.E., M.B.A., M.E., M.L.S., M.M.E., M.P.A.; C.A.S.; Ed.D., Ph.D.
South Campus *	State	1968	Bangor	162	COED	--	28	--	--	--	--	--	--	--	--
Ira C. Darling Center	State	1965	Walpole	13	COED	--	1	--	--	--	--	24		YES	--
Portland Campus	State	1957	Portland	18	COED	(4/8/15)	12	$400	$1,000	--	YES	--	--	YES	A.B.A.; B.A.; B.S.; B.S. in Ed.; M.Ed., M.S., M.B.A., M.E.; M.L.S.
Portland School of Law	State	**1898-1920	Portland	1/4	COED	(13)	1	$400	$1,000	$1,400 (Bachelor)	Share in Univ. NDEA Funds	N/A	N/A	NO	J.D.
Aroostock State College	State	1903	Presque Isle	150	COED	(1,4)	11	$100	$200	$754	YES	151	186	YES	B.S.
Farmington State College	State	1864	Farmington	40	COED	(4/7,8)	17	$100	$200	$754	YES	193	571	YES	B.S.; M.S., M.A.T.
Fort Kent State College	State	1878	Fort Kent	47	COED	(2,9)	13	$100	$200	$754	YES	85	69	YES	B.S.
Gorham State College	State	1878	Gorham	125	COED	(4,8,10)	21	$100	$200	$754	YES	205	536	YES	M.S.; B.S.
Washington State College	State	1909	Machias	120	COED	(4,16)	7	$100	$200	$771	YES	98	244	YES	B.S., in Ed.
Maine Maritime Academy	State	1941	Castine	30	MEN	(4)	23	$575	$850	$940	YES	560	--	NO	B.S.
Central Maine Voc.-Tech. Inst.	State	1963	Auburn	150	COED	--	2	$123.33	$211	$581.50	NO	38	16	NO	NONE
Eastern Main Voc.-Tech. Inst.	State	1966	Bangor	90	COED	(18)	3	$247	$422	-	NO	--	--	NO	A.A.S., A.B.A.
Northern Maine Voc.-Tech. Inst.	State	1963	Presque Isle	80	COED	(19)	24	$247	$422	$700.50	NO	132	33	NO	A.A.S.
Southern Maine Voc.-Tech. Inst.	State	1946	South Portland	50	COED	--	15	$247	$422	$700.50	NO	300	--	YES	
Bangor Theological Seminary	Private	1814	Bangor	9	COED	(4)	14	$700	$730	$650	NO	60	10	NO	B.D., B.R.E.
Bates College	Private	1864	Lewiston	100	COED	(3,4)	36	$1,650	$1,800	$1,150	YES	530	489	NO	A.B., B.S.

1. Footnote references appear in parentheses. See p. 66 for footnotes.
2. See p. 8 for degree abbreviations.

* Students are bussed to Orono Campus for many classes and other activities.
** Reorganized 1961

TABLE 1 (Continued)

GENERAL INFORMATION ABOUT INSTITUTIONS (1968-1969)

	Control	Founded	Location	Acreage	Number of Buildings	Student Body	Accreditation [1]	Tuition In-State	Tuition Out State	Room & Board	NDEA Loans	Housing Men	Housing Women	Summer Session	Degree Granted [2]
Beal Business College	Private	1891	Bangor	1/4	1	COED	(5)	$800	$800	$800	--	30	50	YES	Associate
Bliss College	Private	1897	Lewiston	1/4	3	COED	--	$800	$800	$480	NO	--	34	NO	Assoc. in Science
Bowdoin College	Private	1794	Brunswick	465	48	MEN	(3/4)	$2,150	$2,150	$1,050	YES	592	--	YES	A.B : M.A.
Colby College	Private	1813	Waterville	1,110	34	COED	(3/4)	$2,100	$2,100	$1,000	YES	811	639	YES	A.B.. M.S.T.
Husson College	Private	1898	Bangor	304	5	COED	(2/11)	$1,150	$1,150	$900	YES	600	300	YES	B.S
John F. Kennedy College	Private	1966	Fort Kent	1/4	1	COED	--	$500	$500	$1,000	YES	15	16	YES	
Husson College	Private	1912	Springvale	100	32	COED	(4/12)	$1,700	$1,700	$1,000	YES	460	391	YES	B.A.
Northern Conservatory of Music	Private	1929	Bangor	1/4	1	COED	(2/13)	$800	$800	--	YES	--	--	YES	B. of Music
Ricker College	Private	1848	Houlton	24	14	COED	(3/4)	$725	$725	$900	YES	341	128	NO	B.A.; B.S.; Bus.Ad.
St. Francis College	Private	1953	Biddeford	150	11	COED	(3/4)	$1,500	$1,500	$1,100	YES	475	43	YES	B.A.
St. Joseph's College	Private	1915	North Windham	115	4	OPEN	(4/14)	$975	$975	$1,000	YES	--	161	YES	A.B.- B.S
Thomas College	Private	1894	Waterville	77	7	COED	(2,3,4,11, 12,31)	$1,200	$1,200	$875	YES	41	65	NO	B.S ; A A.; A.S.
Unity College	Private	1966	Unity	234	4	COED	(3)	$1,250	$1,250	$1,140	NO	198	37	NO	
Westbrook Junior College	Private	1831	Portland	11	21	WOMEN	(4/17)	$3,000 - (27) $1,200 - (28)			NO	--	373	NO	B.S. in Med. Tech., Assoc. in Arts & Applied Sci.

[1] Footnote references appear in parentheses; See p. 647 for footnotes.
[2] See p. 8 for degree abbreviations.

FOOTNOTES FOR TABLE 1

1. Approved by Maine State Department of Education for elementary, junior high, health and physical education.
2. Recognized for candidacy only by the N.E. Association.
3. Approved by Maine State Department of Education for Secondary Education.
4. Accredited by Regional Association (New England Association of Colleges and Secondary Schools).
5. Accredited by the Accrediting Commission for Business Schools as a two-year business school.
6. Approved by the State Department of Education for some two-year Business Education Courses for credit toward a teacher's certificate.
7. Approved by Maine State Department of Education for elementary, junior high, secondary, exceptional child, and home economics education.
8. Accredited by the National Council for the Accreditation of Teacher Education.
9. Approved by Maine State Department of Education for Elementary Education.
10. Approved by Maine State Department of Education for kindergarten-primary, elementary, junior high, secondary, art, music, industrial arts, and trade and industry. Teacher Education; graduate programs in elementary and junior high education.
11. Approved by Maine State Department of Education for Business Education.
12. Approved by Maine State Department of Education for Secondary Education and Business Education.
13. Approved by Maine State Department of Education for Music Education.
14. Approved by the Maine State Department of Education for Secondary Education, Elementary Education and Business Education.
15. Approved by Maine State Department of Education for Elementary Education, Junior High Education, Secondary Education, Health and Physical Education, Home Economics, Music; Elementary and Secondary Administration; Guidance; Agricultural Education; graduate programs in Education.
16. Approved by Maine State Department of Education for Elementary, Junior High and Business Education.
17. Accredited by Regional Association as a Junior College.
18. Approved by the Maine State Department of Education for two-year Distributive Education.
19. Approved by the Maine State Department of Education for two-year Business Education, Secretarial Science and Accounting.
20. Mathematics only.
21. MA in special program in Math only.
22. Language institute, music school only programs for undergraduates; NSF Institute for H.S. Science Teachers, ophthalmology institute special programs.
23. Via summer institute only.
24. Girls dormitory only - room only.
25. Figure given is for two semesters, $400. - each semester.
26. Beal College students may participate in the National Vocational Student Loan Insurance Act of 1965. The Vocational Program is paired with the Higher Education Act of 1965.

FOOTNOTES FOR TABLE 1 Continued

27. Residence Fee includes room and board.
28. Day Student Fee
29. Washington State - 1968 Housing - men off campus, thus, college dorms will house 76 men, 192 women.
30. Nursing Course fee $50.00 in State; $100.00 out of State.
31. In considering the matter of accreditation by the New England Association of Colleges and Secondary Schools, four situations prevail as follows:

    1. A school is accredited.

    2. An older, established school, not accredited, may never have applied for accreditation, perhaps because they do not consider accreditation significant because of their special purpose, role or reason for being.

    3. A newer institution, not accredited, may be in the correspondence or application stage of accreditation.

    4. An institution, not accredited, may be a recognized candidate for accreditation.

    Newly accredited schools are announced in December of each year.

    Only in recent years has the Association been taking on specialized schools for accreditation.

32. Not accredited.
33. The University of Maine School of Law is on the list of fully approved schools maintained by the American Bar Ass'n; it is also a member of the Ass'n of Business Law Schools. The degree LLB is being offered for the last time in June 1969 on individual preference basis. Alternative is degree of J.D. being offered for the first time in June 1969 and henceforth.

KEY FOR DEGREE ABBREVIATIONS

A.A. - Associate in Arts
A.A.B. - Associate in Administration (also A.A.P.)
A.A.S. - Associate in Applied Science
A.B.A. - Associate in Business Administration
A.Eng. - Associate in Engineering
A.G.E. - Associate in General Education
A.L.S. - Associate in Liberal Studies
A.S. - Associate in Secretarial Sciences
B.A.; A.B. - Bachelor of Arts
B.D. - Bachelor of Divinity
B.Mus. - Bachelor of Music
B.R.E. - Bachelor of Religious Education
B.S. - Bachelor of Science
B.S. in Ed. - Bachelor of Science in Education
B.S. in Med. Tech. - Bachelor of Science in Medical Technology
C.A.S. - Certificate of Advanced Study
Ed.D. - Doctor of Education
L.L.B. - Bachelor of Laws (The degree J.D. - Juris Doctor - will replace L.L.B. which will not be offered after June, 1969)
M.A. - Master of Arts
M.S. - Master of Science
M.A.R.E. - Master of Agriculture and Resource Economics
M.A.T. - Master of Arts in Teaching
M.B.A. - Master of Business Administration
M.Ed. - Master of Education
M.E. - Master of Engineering
M.L.S. - Master of Library Service
M.M.E. - Master in Mechanical Engineering
M.P.A. - Master of Public Administration
M.S.T. - Master of Science in Teaching
Ph.D - Doctor of Philosophy

ENROLLMENT

One prerequisite for long-range planning of higher education facilities is an analysis of the actual and projected enrollments in higher education institutions in order to determine what additional physical facilities may be needed to meet the expected demand in the number of students attending college. For this purpose, a number of information sources were utilized in order to reach some tentative conclusions.

Table 2 presents a breakdown of actual enrollments in the fall of 1968 at each institution and campus. In addition, it shows a breakdown of undergraduate student bodies by sex, in-state and out-of-state students, number of students enrolled for a first professional degree, number of graduate students, part-time students, and summer enrollments. The table shows that the student

TABLE 2.
ENROLLMENT INFORMATION, FALL 1968

	Undergraduate Enrollment					Other Enrollment			Grand Total: Full-Time	Part-Time Students	Summer Session 1968
	Men	Women	In-State	Out-State	Total	First Professional-[1]	Graduate College	Unclassified			
PUBLIC INSTITUTIONS											
University of Maine								4			
Orono (includes South) Campus	4,013	2,983	5,566	1,430	6,996	--	585	21	7,581	1,671	--
Portland Campus	729	448	1,160	17	1,177				1,177	1,341	--
Portland School of Law						120			120	--	--
Augusta Branch	154	88	242	--	242				242	957	4,092
Aroostook State College	233	263	473	23	496				496	3	187
Farmington State College	361	629	949	41	990		3	30	1,023	322	650
Fort Kent State College	173	122	282	13	295				295	5	80
Gorham State College	506	725	1,119	112	1,231			40	1,271	690	894
Washington State College	170	230	381	19	400				400	14	94
Subtotal:	6,339	5,488	10,172	1,655	11,827	120	588	91	12,605	5,003	5,997
Maine Maritime Academy	546	--	404	142	546				546	--	--
Central Maine Voc.-Tech. Inst.	181	1	181	1	182	--	--	--	182	--	
Eastern Maine Voc.-Tech. Inst.	183	1	184	--	184	--	--	--	184	--	
Northern Maine Voc.-Tech. Inst.	193	60	253	--	253	--	--	--	253	--	
Southern Maine Voc.-Tech. Inst.	520	5	475	50	525	-	--	--	525	--	
Subtotal:	1,077	67	1,093	51	1,144				1,144		
Total Public Institutions:	7,962	5,555	11,669	1,848	13,517	120	588	91	14,295	5,003	5,997
PRIVATE INSTITUTIONS											
Bangor Theological Seminary						108	--	3	111	4	
Bates College	559	429	721	866	987	--	--	-	987	9	
Beal Business College	109	81	185	5	190	--	--	--	190	5	20
Bliss College	77	86	158	5	163	--	--	--	163	2	
Bowdoin College	946	--	213	733	946	--	10	--	956	--	

[1] See p. 11

TABLE 2 (Continued)

ENROLLMENT INFORMATION, FALL 1968

	Undergraduate Enrollment					Other Enrollment			Grand Total-Full-Time	Part-Time Students	Summer Session 1968
	Men	Women	In-State	Out-State	Total	First Professional-[1]	Graduate College	Unclassified			
Colby College	825	692	300	1,200	1,517	--	--	--	1,517	22	
Husson College	1,089	285	864	337	1,374	--	--	--	1,357	17	168
John F. Kennedy College	54	9	63	--	63			35	63	40	
Nasson College	583	305	131	757	888				888		120
Northern Conservatory of Music	33	35	68	10	78				69	9	21
Ricker College	505	143	223	425	648				637	11	25
St. Francis College	528	62	146	444	590				590	48	278
St. Joseph's College	1	213	178	79	257				214	43	168
Thomas College	261	114	265	110	375				375	3	
Unity College	131	10	58	83	141				141	2	
Westbrook Junior College	--	492	176	316	492				487	5	
Total Private Institutions:	5,700	2,956	3,149	5,370	8,709	108	10	38	8,745	220	800
GRAND TOTAL:	13,662	8,511	14,818	7,218	22,226	228	598	129	23,040	5,223	6,797

[1] First Professional --

Enrollment in a professional school or program which requires at least two or more academic years of previous college work for entrance and which requires a total of at least six academic years of college work for a degree.

Specifically, Enrollment for a professional degree in the following fields:

Dentistry (D.D.S. or D.M.D.)
Law (L.L.B. or J.D.)
Medicine (M.D. only)
Theology (B.D. only)
Veterinary Medicine (D.V.M.)
Chiropody or Podiatry (P.S.C. or D.P.)
Optometry (O.D.)
Osteopathy (D.O.)

body at the undergraduate level at the University of Maine and its components is relatively balanced between men and women students (53% men), and that the enrollment consists of approximately 85% in-state students. At the Orono campus, the number of out-of-state students is proportionately larger (20%) than the overall average. The total enrollment at the Vocational-Technical Institutes is 1,144, is overwhelmingly male, and attended, in the main, by in-state students. The Maine Maritime Academy is a men's school, and nearly three-fourths of its students come from the State of Maine.

Among the privately-controlled institutions, the ratio of in-state/out-of-state students is reversed with 37% of the enrollment being in-state students. The percentage of males in private institutions is nearly 60%.

Growth in Higher Education (1957-1968)

Table 3 shows the patterns of growth in enrollments over the ten year period from 1957-1967. In that period the enrollment at the University of Maine (including the former State Colleges) more than doubled (from 5,460 to 12,680 students), with the greatest amount of increase

TABLE 3.

ENROLLMENTS IN INSTITUTIONS ACTUAL (1957-1968) AND PROJECTED (1969-1977)

	Actual Enrollment				Projected Enrollments								
	1957	1962	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
PUBLIC INSTITUTIONS													
University of Maine													
Orono (includes South) Campus	3,909	4,477	7,126	7,581	7,970	8,395	9,150	9,800	10,600	11,350	12,000	12,700	12,700*
Portland Campus	294	450	1,177	1,177	1,300	1,300*	1,300*	1,300*	1,300*	1,300*	1,300*	1,300*	1,300*
Portland School of Law		32	114	120	130	130	150	175	175*	175*	175*	175*	175*
Augusta Branch			177	242	300	375	425	425*	425*	425*	425*	425*	425*
Aroostook State College	109	253	418	537	573	619	669	736	793	842	898	954	1,010
Farmington State College	370	491	881	1,020	1,140	1,250	1,335	1,410	1,485	1,560	1,635	1,710	1,785
Fort Kent State College	70	142	268	282	300	315	330	350	370	410	440	470	500
Gorham State College	616	790	1,151	1,271	1,350	1,575	1,575*	1,575*	1,575*	1,575*	1,575*	1,575*	1,575*
Washington State College	92	235	400	450	500	550	600	650	700	750	800	850	900
Subtotal:	5,460	6,870	11,712	12,680	13,573	14,509	15,534	16,421	17,423	18,387	19,248	20,159	20,370
Maine Maritime Academy	183	322	546	545	550	570	585	600	600	600	600	600	600
Central Maine Voc.-Tech. Inst.			182	270	300	300	419	478	591	651	750	750	750
Eastern Maine Voc.-Tech. Inst.			184	280	300	350	350*	350*	350*	350*	350*	350*	350*
Northern Maine Voc.-Tech. Inst.			226	253	245	270	300	345	380	440	480	550	600
Southern Maine Voc.-Tech. Inst.	253	311	525	620	771	900	1,000	1,200	1,400	1,600	1,800	2,000	2,150
Subtotal:	253	311	1,117	1,423	1,620	1,820	2,069	2,373	2,721	3,041	3,380	3,650	3,850
Total Public Institutions:	5,896	7,503	13,375	14,648	15,743	16,899	18,188	19,394	20,744	22,028	23,228	24,409	24,820
PRIVATE INSTITUTIONS													
Bangor Theological Seminary	102	115	106	110	115	120	125	135	140	150	150*	150*	150*
Bates College	853	896	990	996	1,050	1,050*	1,050*	1,050*	1,400	1,400*	1,400*	1,400*	1,400*
Beal Business College	20	20	190	220	250	300	400	500	625	825	1,000	1,000	1,000
Bliss College	53	131	163	163	175	200	210	215	220	220	220*	220*	220*
Bowdoin College	774	817	929	950	950	950	950	950	950	950	950	950	950
Colby College	1,173	1,279	1,517	1,517	1,517*	1,517*	1,517*	1,517*	1,517*	1,517*	1,517*	1,517*	1,517*

*Asterisked numbers represent an extension of the last projected enrollment made by the institutions.

TABLE 3 (Continued)

TABLE 3. ENROLLMENTS IN INSTITUTIONS ACTUAL (1957-1968) AND PROJECTED (1969-1977)

	Actual Enrollment				Projected Enrollments								
	1957	1962	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Husson College	431	776	1,201	1,374	1,500	1,500	1,500	1,600	1,700	1,800	1,900	2,000	2,000
John F. Kennedy College			63	100	150	200	250	300	350	400	450	500	550
Nasson College	286	479	888	950	950	1,045	1,150	1,265	1,390	1,525	1,675	1,845	2,000
Northern Conservatory of Music	32	35	67	78	85	90	95	100	105	110	110*	110*	110*
Ricker College	156	361	625	614	675	700	725	750	775	800	825	850	875
St. Francis College	69	293	523	600	650	700	750	750*	750*	750*	750*	750*	750*
St. Joseph's College	67	140	216	257	257*	257*	257*	257*	257*	257*	257*	257*	257*
Thomas College	62	263	357	375	425	450	550	600	625	650	700	725	750
Unity College			141	250	375	400	425	450	475	500	525	550	600
Westbrook College	314	409	462	460	500	500	500	500	600	600	600	600	600
Total Private Institutions:	4,392	5,975	8,438	9,014	9,624	9,979	10,454	10,939	11,879	12,454	13,029	13,424	13,729
GRAND TOTAL:	10,288	13,478	21,813	23,662	25,367	26,878	28,642	30,333	32,623	34,482	36,257	37,833	38,549

*Asterisked numbers represent an extension of the last projected enrollment made by the institutions.

occurring between 1962 and 1967. The enrollment at the University's Orono campus did not quite double in that time (1.93), while the enrollment at the state colleges nearly tripled (2.8), and the enrollment at the Maritime Academy tripled. The enrollment at the Portland Campus quadrupled.

In 1957 there was only one vocational-technical institute in operation, with two established in 1963 and one in 1966, and two in 1969-70. During the 1957-67 period the enrollment has more than doubled.

During this same ten-year period, the total combined enrollment at the private institutions has doubled.

Projected Enrollments (1969-77)

Each institution was asked to provide information concerning its projected enrollments for the academic years 1969-1977. Due to the uncertainty that existed within the University of Maine complex, some public institutions were reluctant to make any projections until plans for the future course of the University were more clearly defined. Those plans are currently being worked out by the Board of Trustees and the Higher Education

Planning Committee. Assuming, however, the highest enrollments projected by the institutions during the 1969-77 period, it would appear that the University of Maine (all institutions) is projecting 20,370 students, the Maine Maritime Academy 600 students, the Vocational-Technical Institutes 3,850 students, and the private institutions approximately 13,729 students, for a total enrollment of 38,549. These projected enrollments indicate an increase of approximately 7,800 students for the University of Maine, 55 for the Maritime Academy, 2,400 for the Vocational-Technical Institutes, and an increase of about 4,700 in the private sector.

Projected Demands for Post-Secondary Education

In order to project the demand for post-secondary education in Maine, several factors were taken into consideration. Among them were the number of students graduating from high school, the past and current pattern of high school graduates continuing education, the projected increases in the number and percentage of high school graduates continuing education, and the past and projected patterns of high school graduates continuing their education

in Maine institutions.

The picture of the projected demand over the next two decades is not entirely clear for the following reasons: (1) the number of births has been declining steadily from a high of 23,553 in 1961 to a low of 16,854 in 1968, a decrease of slightly more than 28% over a seven-year period (See Figure 1, p. 18); (2) the percentage of high school graduates to live births 18 years earlier has increased from 46% in 1959 to 59% in 1969 (See Figure 2, p.19); (3) the number of public high school graduates has increased by 61% from 7,317 in 1959 to 12,014 in 1968 (See Figure 2, p.19); (4) and the percentage of high school graduates continuing their education is also increasing (See Figure 3, p.20).

For the purposes of this report, data on the class of 1969 has been used as a basis for projecting the enrollment of Maine institutions. Table 4 shows the number of graduates from both public and private high schools who continued in some avenue of post-secondary education. Of the 14,826 graduates, 55% continued their education. A breakdown according to the kinds of institutions in which

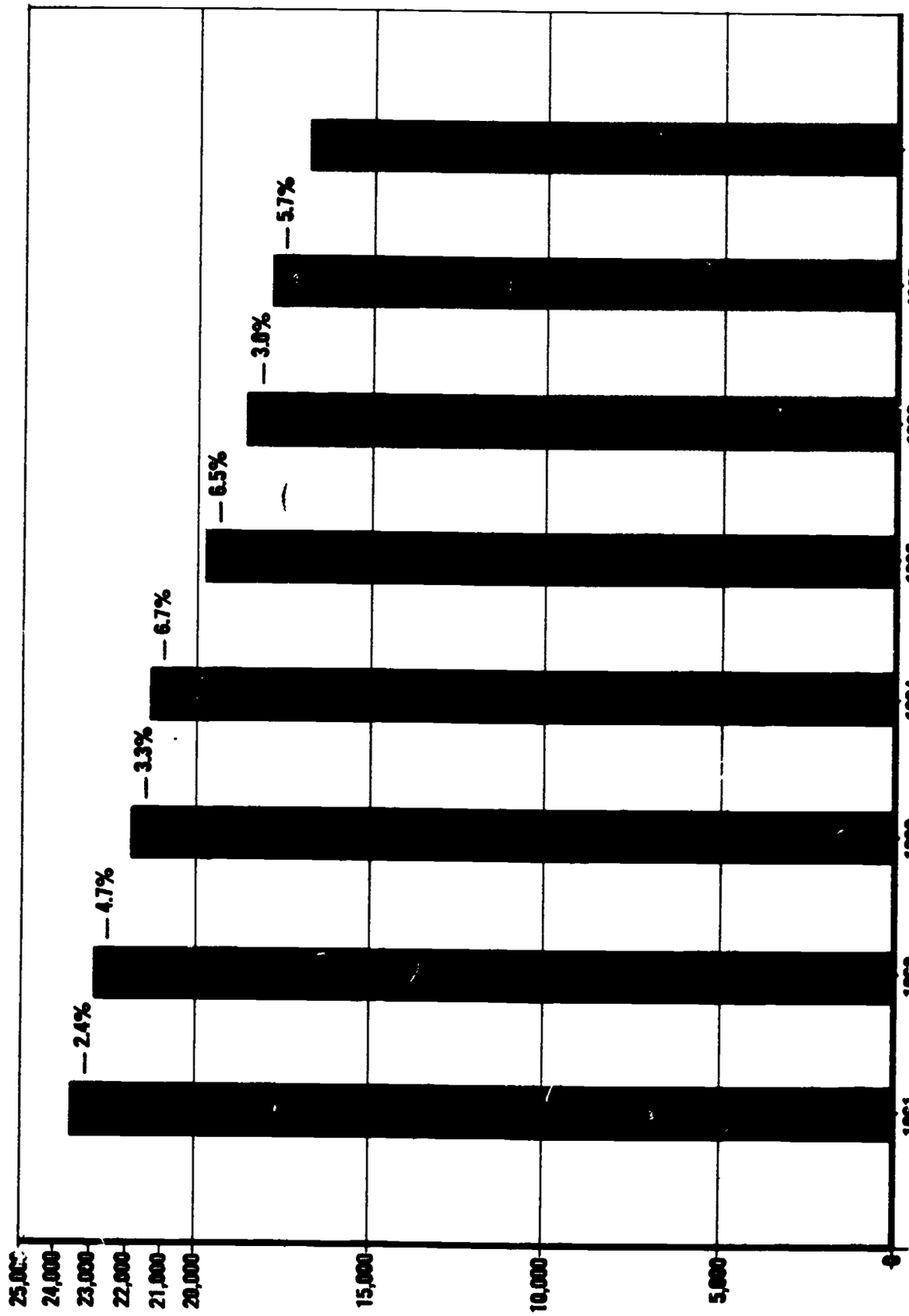


FIGURE 1. DECLINE IN LIVE BIRTHS

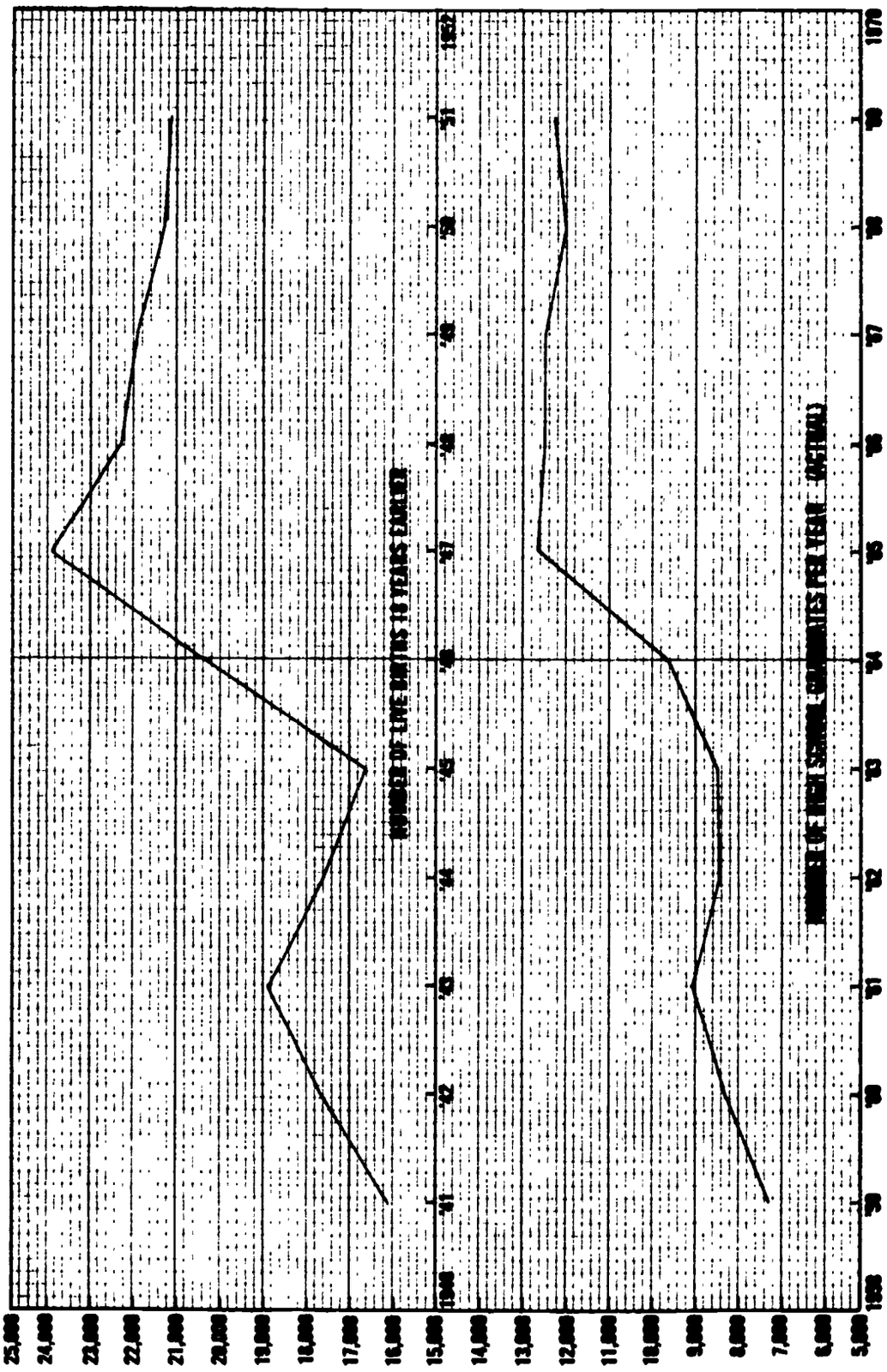


FIGURE 2. NUMBER OF HIGH SCHOOL GRADUATES (ACTUAL) IN RELATION TO LIVE BIRTHS 18 YEARS EARLIER.

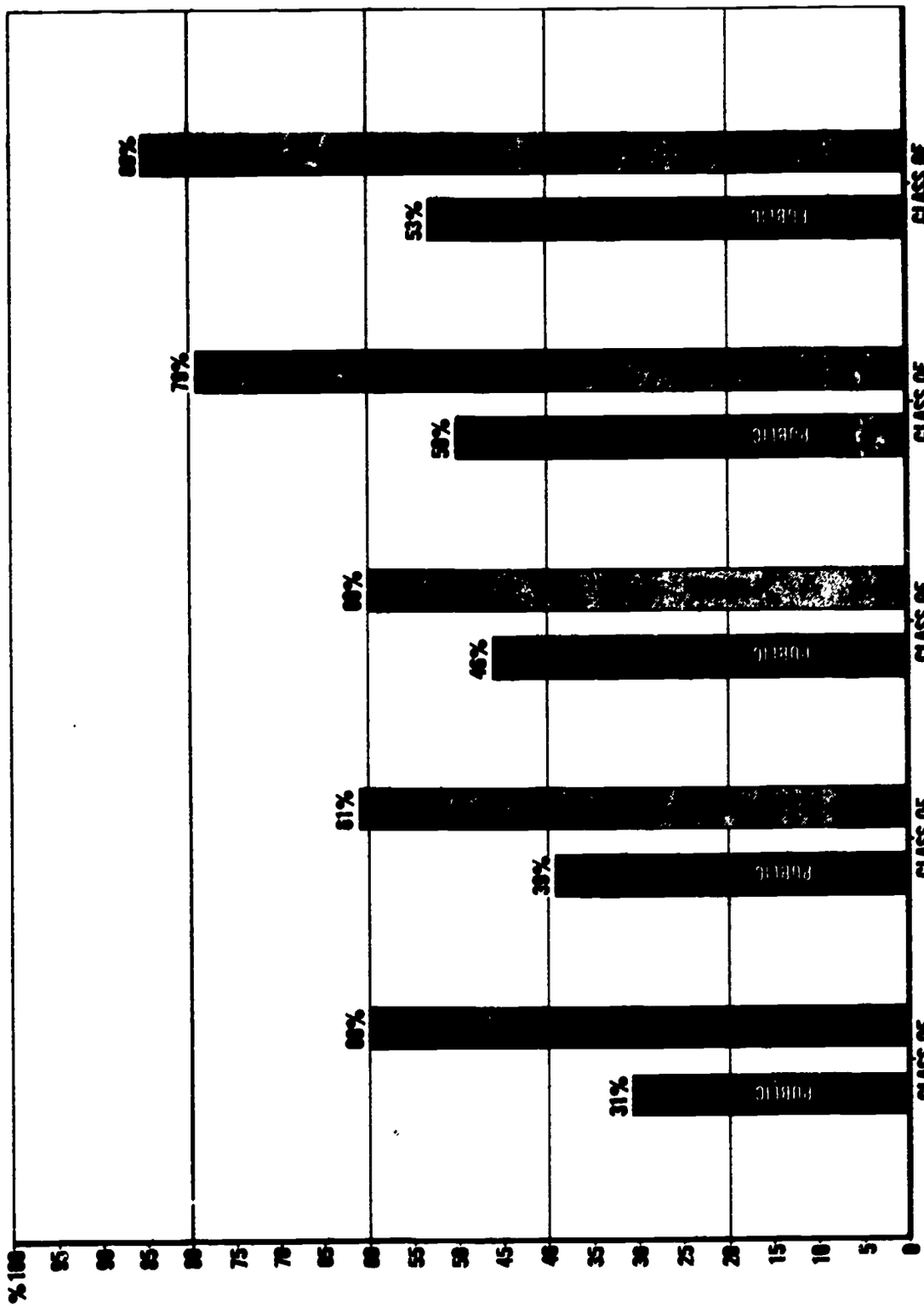


FIGURE 3. PERCENTAGE OF HIGH SCHOOL GRADUATES CONTINUING EDUCATION

TABLE 4.

STUDENTS ENROLLED IN POST-SECONDARY EDUCATION OR TRAINING, CLASS OF 1980 *

	Attending In Maine		Attending Outside Of Maine		Total
	Public	Private	Public	Private	
Postgraduate High School Course	216	17	10	2	245
Junior College	186	50	171	72	479
College or University	2,987	412	1,021	583	5,013
Vocational, Commercial, or Technical	1,519	164	340	38	2,061
Nursing School	176	42	96	23	337
TOTAL:	5,084	685	1,638	718	8,135

*12,794 Public High School Graduates
2,032 Private High School Graduates

those graduates were enrolled shows that 3% went into a post-graduate high school course; nearly 6% went to a junior college; 62% entered a college or university; nearly 25% went to a vocational, commercial, or technical institution; and about 4% entered a nursing school. In addition, the table indicates that 70% continued their education in Maine institutions. In 1969, therefore, 38.5% of the graduating class was continuing its education in Maine in both degree-granting and non-degree-granting institutions.

On the basis of the projected numbers of public high school graduates (See Figure 4, p.23) and the 1969 level of private secondary school graduates, the number of Maine students entering some form of post-secondary education in Maine at the end of the decade (1979) would be around 7,215 (6,530 plus 685 from the private schools) versus the 5,769 entering in 1969.

These projections are admittedly limited, and they should not be construed as a desirable percentage of high school graduates continuing education. They can serve two purposes, however; (1) to reexamine the aspiration level for continued education by Maine students and

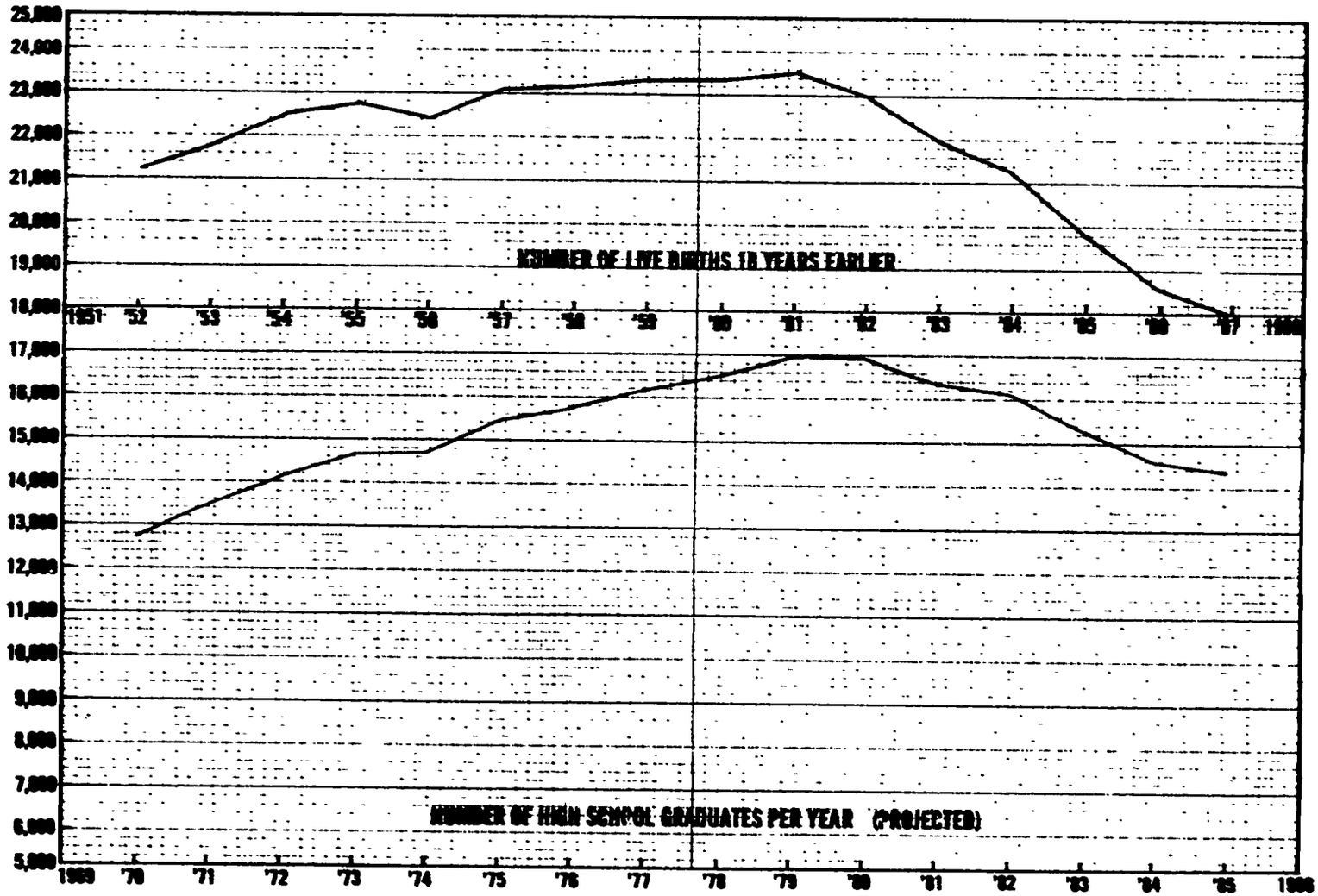


FIGURE 4. NUMBER OF HIGH SCHOOL GRADUATES (PROJECTED) IN RELATION TO LIVE BIRTHS 18 YEARS EARLIER.*

* The projection is based on an annual increase of 1.3% of high school graduates in relation to live births 18 years earlier, a pattern established during the period 1959-69. If this pattern continues to 1985, it would mean that 80% of live births in 1967 would complete high school.

(2) to examine on a continuing basis the need for additional facilities. It would appear from the limited projections of future enrollments by degree-granting institutions described above that careful attention will have to be paid to projecting and meeting the demand for higher education in the state. On the basis of the information currently available, it appears that the projected demands will be adequately fulfilled.

PHYSICAL FACILITIE INVENTORY AND UTILIZATION

One of the primary responsibilities of the Maine Commission on Higher Education Facilities was to conduct a survey of the physical facilities of higher educational instructions in Maine and the utilization of these facilities by function. In order to collect information which would be consistent among institutions, a manual, entitled Facilities Inventory Procedures for the State of Maine, was prepared based on guidelines developed by the U.S. Department of Health, Education, and Welfare in its publication, Facilities Classifications and Inventory Procedures for Institutions and State Agencies of August, 1967. A copy of the manual was distributed to appropriate officials on each campus for reference.

Procedures of Data Collection

The inventory was made at each institution from available files and blueprints of buildings. In cases where data were not readily available either because of the age or renovation of a building, direct measurements were made.

Upon completion of the inventory at each campus, the data were key-punched into Electric Data Processing (EDP) cards and validated by computer print-outs. In most cases, a copy of this print-out was returned to the institution for review and correction before final statistical tabulations were made.

The complete file of EDP cards and copies of the institutional print-outs are on file with the Commission. If any institution wishes, it can easily have the Commission's card file reproduced to serve as a basis for an internal inventory procedure on its campus.

A computer program, written in IBM's Report Program Generator Language, applicable to an IBM 30/44 system and probably adaptable to other systems with a minimum of revision, is available from the Commission upon request.

The data were keypunched into a three-card type format as follows:

Card 1. - BUILDING DATA CARD

(a) CARD SEQUENCE NUMBER

This number identifies the card being processed and is for EDP purposes only.

(b) INSTITUTIONAL CODING

A two-digit code established by the Commission to identify the institution.

(c) BUILDING CODE NUMBER

A unique number was assigned to every building, using either a previously established institutional code or one established by the Commission.

(d) BUILDING NAME

The common alphabetic-numeric name for the building, abbreviated to ten letters where necessary.

(e) LOCATION CODE

A code, established by the U.S. Office of Education, was used identifying the location of the building in relationship to the main campus of the institution.

(f) INITIAL OCCUPANCY

The initial date of occupancy of the building by year; the final two numbers of years after 1939, and a code identifying decades previous to 1939.

(g) CONDITION OF BUILDING CODE

The condition of each building was rated by an appropriate institutional official.

(h) DATE OF LAST RENOVATION

If the building has undergone major renovation since its acquisition, the year of this renewal was included to identify better the condition and useful life of the building.

(i) OWNERSHIP CODE

A code identifying the basis on which the building is available for use by the institution.

(j) GROSS SQUARE FOOTAGE

The total gross square footage of a building was calculated as the sum of the areas at each floor level included within the principal outside faces of the exterior walls.

(k) NET ASSIGNABLE AREA

Provision was made to include the assignable square footage of a building on the basis of the total assignable square footages for each room. These figures were not entered, but are available from other sources for inclusion by the institution if desired.

(l) NUMBER OF FLOORS OR LEVELS

(m) TYPE OF CONSTRUCTION

(n) FALLOUT SHELTER CODE

A code indicating whether the building has been included in the National Fallout Shelter Survey.

(o) DEGREE OF GRADUATE PROGRAM

An estimate of the total number of undergraduate student hours usage of the building as compared to the graduate student hour usage.

(p) ORIGINAL CAPITAL INVESTMENT

When provided by the institution, the cost (to the nearest thousands of dollars) of the building, including additions and capitalized renovations.

(q) ESTIMATED REPLACEMENT COST

When provided by the institution, the estimated cost of replacing the structure of today's costs.

(r) AVAILABILITY OF SOURCE OF FUNDS CODE

A code indicating whether or not succeeding cards will identify the various sources of funding for the building.

(s) INVENTORY DATE

The last two digits of the year in which the inventory was taken, indicating the currentness of the data.

(t) OPTIONAL INFORMATION

Twenty-six positions for use by the institution at their option.

Card 2. - SOURCE OF FUNDS CARD

This card was used only for buildings for which information on the Source of Funding for construction (under (r) above) was provided. The codes referred

to consist of twenty-four major areas or sources identified by the U.S. Office of Education.

(a) CARD SEQUENCE NUMBER

(b) INSTITUTIONAL CODE

(c) BUILDING CODE NUMBER

(d) SOURCE OF FUNDS BY CATEGORY

Code number of the source of funds identified by category of the lowest numeric value code number applicable, with the dollar amount (rounded to the nearest one thousand) of the category identified by the code number.

(e) INVENTORY DATE

Card 3. - ROOM INVENTORY CARD

This card was prepared for every assignable room within the college complex. "Assignable" is broadly defined as space available for all institutional purposes excluding space devoted solely to mechanical use (boilers, elevator, toilet and shower rooms, etc.), custodial use (janitor closets, etc.), circulation (entryways, vestibules, hallways, stairways, etc.) and construction (crawlspaces, sloping attics, etc. which are within the building but usable for any assignable purpose because of access, height, etc.).

(a) CARD SEQUENCE NUMBER

(b) INSTITUTIONAL CODE

(c) BUILDING CODE NUMBER

(d) BUILDING NAME

(e) LEVEL

This identifies the level or floor on which the room is located.

(f) ROOM NUMBER

A unique number to identify the room. Generally the number used was common usage at the institution, but in some cases had to be assigned after consultation with an appropriate official, and may reflect either the architectural plan number or an arbitrarily assigned number.

(g) SQUARE FOOTAGE

The total square footage of the room, measured to the nearest square foot.

(h) STANDARD CLASSIFICATION ASSIGNMENT CODE

The U.S. Office of Education "Standard Classification of Subject Field and Organizational Unit" code that best identifies the assignment or usage of the room under normal academic year usage.

(i) DEPARTMENTAL ASSIGNMENT CODE

A unique three-digit code established for each institution identifying the administrative or academic divisions of the institution, and the assignment or usage of the room under normal academic year usage.

(j) TYPE OF ROOM BY CATEGORY CODE

The U.S. Office of Education code identifying the type of room.

(k) ROOM FUNCTION CODE

A code identifying the functional or program categories identified by the Office of Education describing the functional use of the room.

(l) STATIONS

The actual number of stations (seat, work stations, beds, carrels, etc.) for certain specified and applicable types of rooms (classrooms, offices, dormitories, etc.).

(m) ASSIGNABLE SPACE

Some institutions have existing space inventory systems that include space that would be defined as "unassignable" in this inventory. This code identified whether or not the space should be included within this survey as "assignable" space.

(n) PROPORTION

Some rooms have multi-purposes or multi-assignments. Provision was made to prorate the square footage of such rooms among various areas.

(o) DESCRIPTION

Where information was available and the data applicable, a general description or identification of the room was possible in order to amplify the coding for the room in question. This might include an occupant name, or the common generic name of the room.

(p) INVENTORY DATE

Updating of Physical Facilities Information

Since the entire system is built on a card-for-card system, any changes or updating can be handled by a simple repunching of the appropriate card. Arrangements should be made for updating this information annually, perhaps in conjunction with the filing of the Higher Education General Information Survey (HEGIS) reports.

Summary of Space and Utilization

Table 5 shows a summary of the approximate total number of classrooms and seating capacity, the total number of laboratories and positions, the total number of administrative and faculty offices, and the number of dormitory bedrooms and beds at each reporting institution.

Table 6 reports the total net assignable square feet allocated to classrooms and laboratories at selected public and private institutions. In addition, utilization data were obtained on classrooms, and laboratories. Table 7 summarizes the utilization of classrooms on a weekly basis for the fall semester of several campuses of the University of Maine. It shows the total number of

TABLE 5.

INVENTORY OF CLASSROOM, LABORATORY, OFFICE, AND DORMITORY CAPACITY

	CLASSROOMS		LABORATORIES		OFFICES	DORMITORIES	
	Total	Approx. Seating	Total	Approx. Positions	Total	Bdrms.	Beds
University of Maine							
Orono Campus	119	5,017	95	1,987	934	2,422	4,281
Dow (South) Campus	6	220	2	60	132	328	634
Darling Marine Laboratories	NR	NR	1	NR	3	NR	NR
Portland Campus	30	1,610	5	135	88	*NA	*NA
Portland School of Law	4	130	None	None	21	*NA	*NA
Augusta Branch	7	255	4	64	24	*NA	*NA
Aroostook State College	18	748	5	150	18	188	355
Farmington State College	20	1,466	20	418	39	376	719
Fort Kent College	26	985	4	110	5	89	157
Gorham State College	139	1,571	17	230	74	347	741
Washington State College	11	474	1	43	16	124	248
Maine Maritime Academy	18	690	8	200	37	199	408
Central Maine Voc.-Tech. Inst.	7	148	23	209	5	30	57
Eastern Maine Voc.-Tech. Inst.	8	284	10	300	15	--	--
Northern Maine Voc.-Tech. Inst.	16	330	19	352	28	95	165
Southern Maine Voc.-Tech. Inst.	17	693	27	622	31	73	162
Bangor Theological Seminary	NR	NR	NR	NR	15	29	54
Bates College	33	1,587	28	821	89	440	145
Beal Business College	9	279	6	172	5	45	145

TABLE 5 (Continued)

INVENTORY OF CLASSROOM, LABORATORY, OFFICE, AND DORMITORY CAPACITY

	CLASSROOMS		LABORATORIES		OFFICES	DORMITORIES	
	Total	Approx. Seating	Total	Approx. Positions	Total	Bdrms.	Beds
Bliss College	4	110	3	80	11	7	34
Bowdoin College	NP		NR		NR	394	592
Colby College	54	2,644	22	357	180	635	1,455
Husson College	33	980	15	450	49	450	900
John F. Kennedy College	2	23	1	16	1	18	25
Nasson College	23	781	5	162	77	639	421
Northern Conservatory of Music	2	88	9	100	3	NA	--
Ricker College	22	978	3	80	40	244	468
St. Francis College	10	493	3	48	48	226	450
St. Joseph's College	10	359	6	[illegible] 3	11	68	161
Thomas College	9	358	3	56	13	55	106
Unity College	7	188	NR		4	60	124
Westbrook Junior College	45	1,730	7	308	54	192	373

* NOT AVAILABLE

TABLE 6.

NET ASSIGNABLE SQUARE FEET TO CLASSROOMS AND LABORATORIES *

	CLASSROOMS	LABORATORIES
PUBLIC INSTITUTIONS		
University of Maine		
Orono Campus	93,671	236,330
Farmington State College	25,040	16,999
Aroostook State College	16,037	10,287
Fort Kent State College	11,273	2,663
Gorham State College	32,750	33,219
Washington State College	9,560	1,152
PRIVATE INSTITUTIONS		
Bliss College	1,705	2,298
Bowdoin College	30,932	43,751
Colby College	39,385	21,712
Husson College	25,042	8,960
Northern Conservatory of Music	900	3,328
St. Joseph's College	6,432	3,600

*As reported on Higher Education General Information Survey, 9-30-69.

TABLE 7.

SUMMARY OF INSTRUCTIONAL ROOM UTILIZATION FOR A WEEK: CLASSROOMS

ROOM IDENTIFICATION — SCHOOL: UNIVERSITY OF MAINE — FALL SEMESTER, 1968

(1) CAMPUS	(2) NO. OF ROOMS TOTAL	(3) NO. OF STUDENT STATIONS TOTAL	(4) TOTAL NO. PERIODS ROOM USED	(5) PERCENTAGE USED OF POSSIBLE PERIODS AVAIL	(6) TOTAL NO. OF STUDENTS SEATED DURING PERIODS USED	(7) AVERAGE STUDENT HOURS PER STATION	(8) PERCENTAGE OF TIME STATION USED	(9) PERCENTAGE OF STATION USE WHEN ROOM IS OCCUPIED	(10) ACTUAL SPACE FACTOR
Orono	124	7,079	3,062 (3,331)	61.7% (53.7%)	96,035 (102,141,	13.6 (14.1)	33.9% (28.9%)	54.4% (53.4%)	.94 (.88)
Farmington State	23	1,705	407 (437)	44.2% (38%)	12,966 (13,554)	7.6 (7.9)	19.0% (15.9%)	45.5% (45.3%)	1.53 (1.47)
Aroostook State	15	688	279 (351)	46.5% (46.8%)	7,152 (8,290)	10.4 (12.0)	26.0% (24.1%)	54.4% (53.2%)	1.22 (1.05)
Fort Kent State	7	260	124 (142)	44.3% (40.6%)	3,259 (3,586)	12.5 (13.8)	31.3% (27.6%)	65.9% (64.5%)	1.01 (.92)
Gorham State	29	1,743	548 (693)	47.2% (47.8%)	16,246 (20,027)	9.3 (11.5)	23.3% (23.0%)	49.2% (48.1%)	1.36 (1.15)
Washington State	8	410	218	68.1%	6,069	15.3	39.4%	55.9%	.86

1. Space Factor= $\frac{\text{CLM (3)} \times 12.7}{\text{CLM (6)}}$ = .94 (.88) Each Student Granted 12.7 S.F. of Classroom Space.
2. Figures in Brackets Are For a 50-Hour Week and Include Day and Evening Programs.
3. Other Figures Are For a 40-Hour Week, Day Programs Only.

classrooms, the total number of periods the classrooms were used, the percentage of possible periods available the classrooms were used, the average number of student hours each station was used, the percentage of time the stations were used, and the utilization space factor. The utilization space factor is derived by multiplying the number of student stations by the number of square feet of classroom space for each student (obtained by dividing the number of net assignable square feet of classrooms by the number of stations in the room) divided by the total number of students seated during the period of classrooms are used. Two space factors, one assuming a 40-hour week of daytime use only, the other assuming a 50-hour week including both day and evening use, were created.

As can be seen from Table 7, the campuses vary in their space factors for classrooms, from a low of .86 at Washington State College to a high of 1.53 at Farmington State College. The lower the space factor, the higher the utilization. It should be kept in mind, however, in examining space factors that larger institutions tend to be able to have more intensive space

utilization than smaller institutions. Moreover, the nature of the educational program and the size of classrooms will also effect the utilization factor. For example, if an institution is committed to small seminar classes of approximately fifteen students, and most of the classrooms seat thirty students, the utilization will be significantly decreased.

Table 8 presents similar information to that in Table 7, except that it applies to laboratories. In this table, the number of square feet arbitrarily allotted to each student for laboratory space by the University is twenty-five. Again a wide range of utilization appears, with the most intensive utilization at Washington State College, and the least intensive at Aroostook State College. It should be noted that in assessing the space factor at a particular institution, consideration should be given to the purpose of the laboratories being used.

Some states have developed norms for evaluating and projecting utilization of classrooms and laboratories space. In the future, the State of Maine may also want to do so based on the information it has collected, the mission of the various institutions as recently set forth by the Board of Trustees, and further experience.

TABLE 8.

SUMMARY OF INSTRUCTIONAL ROOM UTILIZATION FOR A WEEK: LABORATORIES

SCHOOL FALL SEMESTER, 1968 — UNIVERSITY OF MAINE

(1) CAMPUS	(2) NO. OF ROOMS TOTAL	(3) NO. OF STUDENT STATION TOTAL	(4) TOTAL PERIODS ROOM USED	(5) PERCENTAGES USED OF POSSIBLE PERIODS AVAIL	(6) TOTAL NO. STUDENTS SEATED DURING PERIODS USED	(7) AVERAGE STUDENT HOURS PER STATION	(8) PERCENTAGE OF TIME STATION USED	(9) PERCENTAGE OF STATION USE WHEN ROOM IS OCCUPIED	(10) ACTUAL SPACE FACTOR
Orono	106	2,504	1,381 (1,431)	32.6% (27.0%)	23,801 (24,842)	9.5 (9.9)	23.8% (19.8%)	69.3% (68.5%)	2.63 (2.52)
Farmington State	14	379	181 (181)	32.3% (25.9%)	2,707 (2,707)	7.1 (7.1)	17.9% (14.3%)	52.2% (52.2%)	3.50 (3.50)
Aroostook State	5	150	43 (47)	21.5% (18.8%)	708 (735)	4.7 (4.9)	11.8% (9.8%)	55.5% (53.0%)	5.30 (5.10)
Fort Kent State	5	135	67 (70)	33.5% (28.0%)	1,788 (1,815)	13.2 (13.4)	33.1% (26.9%)	93.6% (88.1%)	1.88 (1.86)
Gorham State	18	396	237 (261)	32.9% (29.0%)	3,410 (3,778)	8.6 (9.5)	21.5% (19.1%)	65.9% (66.4%)	2.90 (2.62)
Washington State	6	152	120	50.0%	2,116	14.9	37.3%	77.1%	1.80

1. Space Factor= $\frac{\text{CLM 3 x 25 S.F.}}{\text{CLM 6}}$ = 2.6 (2.5) Each Student Granted 25 S.F. of Laboratory Space.
2. Figures in Brackets For 50-Hour Week, Day and Eve. Classes; Other Figures 40-Hour week, Day Only.

LIBRARIES

In addition to data collected on the physical facilities of libraries, supplementary information was collected for this study. The data reported here were obtained either directly from the institutions or from their 1968-69 catalogs. Although the data perhaps represents the most extensive information compiled on libraries of higher education institutions in Maine, some important facets of library administration and operation such as interlibrary transactions, salaries, and operating expenditure are not included.

Library Holdings

Table 9 shows library holdings by institution for each campus. In keeping with the current concept of the library as a multi-media information center the number of microforms (films, cards, and prints) are included as

TABLE 9.

LIBRARY HOLDINGS (SEPTEMBER, 1968)

	VOLUMES			PERIODICALS			MICROFORMS		
	ON HAND NOW	YEAR 67-68 WITHDRAWN	YEAR 67-68 ADDED	ON HAND NOW	YEAR 67-68 WITHDRAWN	YEAR 67-68 ADDED	ON HAND NOW	YEAR 67-68 WITHDRAWN	YEAR 67-68 ADDED
University of Maine									
Augusta Branch	5,000	--	2,143	160	N/A	N/A	520	N/A	N/A
Orono Campus	374,081	1,732	22,481	2,558	N/A	N/A	55,426	N/A	N/A
Dow (South) Campus	SOUTH CAMPUS IS SERVED BY ORONO LIBRARY								
Darling Marine Laboratories	HAS NO FORMAL LIBRARY								
Portland Campus	45,158	147	10,499	762	N/A	N/A	5,186	N/A	N/A
Portland School of Law	74,077	--	8,371	583	N/A	N/A	--	--	--
Aroostook State College	42,977	323	4,145	319	1	43	568	--	142
Farmington State College	33,456	2,503	2,721	860	--	200	1,550	--	41
Fort Kent State College	17,000	--	--	--	--	--	--	--	--
Gorham State College	52,866	50	5,400	612	2	76	7,154	--	6,764
Washington State College	39,330	507	9,000	264	1	54	--	--	--
Maine Maritime Academy	8,650	25	2,010	77	2	--	134	--	--
Central Maine Voc.-Tech. Inst.	2,438	--	--	--	--	--	--	--	--
Eastern Maine Voc.-Tech. Inst.	9,000	46	3,700	75	4	39	55	--	30
Northern Maine Voc.-Tech. Inst.	3,232	--	2,621	83	--	79	--	--	--
Southern Maine Voc.-Tech. Inst.	5,400	25	280	197	39	17	--	--	--
Bangor Theological Seminary	56,324	426	2,453	6,327	--	276	--	--	--
Bates College	99,663	309	3,206	*17,895	*5	*806	7,689	--	76
Beal Business College	NOT REPORTED				--	--	--	--	--

* DOES NOT INCLUDE UNBOUND FILES OF PERIODICALS NOR SUBSCRIPTIONS

TABLE 9 (Continued)

LIBRARY HOLDINGS (SEPTEMBER, 1968)

	VOLUMES			PERIODICALS			MICROFORMS		
	ON HAND NOW	YEAR 67-68 WITHDRAWN	YEAR 67-68 ADDED	ON HAND NOW	YEAR 67-68 WITHDRAWN	YEAR 67-68 ADDED	ON HAND NOW	YEAR 67-68 WITHDRAWN	YEAR 67-68 ADDED
Bliss College	3,500	700	200	50	5	1	--	--	--
Bowdoin College	399,508	775	18,409	1,458	--	--	7,957	--	428
Colby College	257,928	1,292	6,839	750	--	--	3,815	--	774
Husson College	13,500	170	6,700	380	2	44	98	--	45
John P. Kennedy College	NOT REPORTED				--	--	--	--	--
Nasson College	80,000	--	--	--	--	--	--	--	--
Northern Conservatory of Music	24,052	N/A	1,058	7	N/A	1	--	--	--
Ricker College	37,000	397	3,717	381	--	42	1,682	--	1,000
St. Francis College	38,797	102	4,354	244	--	26	896	--	223
St. Joseph's College	28,661	100	716	313	8	10	1,138	--	244
Thomas College	15,000	--	--	--	--	--	--	--	--
Unity College	NOT REPORTED			--	--	--	--	--	--
Westbrook Junior College	16,116	138	939	101	2	10	48	--	--

well as the number of volumes and periodicals.

The data in Table 9 reflect the extensiveness of holdings of each institution, and also in part their intensiveness. Whether an institution's holdings are adequate, however, has to be assessed in terms of such factors as (1) the history of the library, (2) the breadth of specialization of the curricula offered by the institutions (3) the amount of graduate work offered, (4) the commitment of the institution to the library, and (5) the number of titles which have become obsolescent. In addition to the areas for further study mentioned above, a study might be made of the adequacy of the libraries utilizing the criteria just enumerated and the standards promulgated by the American Library Association.

Table 10 presents a schedule of operations at each reporting library, as well as frequency of loans per week by volumes, periodicals, and microforms. Table 11 shows the number of professional and nonprofessional staff members and the number of student assistants employed at each library. Table 12 shows the number of square feet allocated to library functions at each institution, the number of student stations, and includes brief comments on future expansion plans by some institutions.

TABLE 10.

LIBRARY USE AND OPERATIONS

University of Maine	STUDENT ENROLLMENT (FALL 1968)	FACULTY STRENGTH	SPECIFIC DAILY HOURS OF OPERATION							FREQUENCY OF LOANS PER WEEK		
			S	M	T	W	T	F	S	VOLS.	PERIODICALS	MICROFORMS
Augusta Branch	242	--	4	13	13	13	13	13	8	--	--	--
Orono Campus	7,581	--	11	16.5	16.5	16.5	16.5	14.5	14.5	4,000	--	--
Dow (South) Campus	--	--	--	--	--	--	--	--	--	--	--	--
Darling Marine Laboratories	--	--	--	--	--	--	--	--	--	--	--	--
Portland Campus	1,177	--	--	--	--	--	--	--	--	--	--	--
Portland School of Law	1,235	8	10	13	13	13	13	13	13	650	350	--
Aroostook State College	537	29	8	14	14	14	14	9	3	615	118	12
Farmington State College	1,020	63	8	14.5	14.5	14.5	14.5	9	3	1,000	NOT LOANED	
Fort Kent State College	307	--	--	--	--	--	--	--	--	650	--	--
Gorham State College	1,271	70	8	14	14	14	14	14	7	960	NO RECORDS KEPT	
Washington State College	450	30	3	12.5	12.5	12.5	12.5	9.5	0	200	75	--
Maine Maritime Acadamy	545	35	NOT REPORTED							NO RECORDS KEPT		
Central Maine Voc.-Tech. Inst.	270	22	--	8	8	8	8	8	--	40	--	--
Eastern Maine Voc.-Tech. Inst.	280	26	--	8	8	8	8	8	--	43	15	10
Northern Maine Voc.-Tech. Inst.	253	30	--	9	9	9	9	9	--	92	NONE	--
Southern Maine Voc.-Tech. Inst.	620	52	2	12	12	12	12	9	3	35	10	--
Bangor Theological Seminary	110	--	--	14	14	14	14	14	4	228	--	--
Bates College	996	72	6.5	13.5	13.5	13.5	13.5	13.5	9	1,145	--	--
Beal Business College	220	--	--	--	--	--	--	--	--	--	--	--

TABLE 10 (Continued)
LIBRARY USE AND OPERATIONS

	STUDENT ENROLLMENT (FALL 1968)	FACULTY STRENGTH	SPECIFIC DAILY HOURS OF OPERATION S	M	T	W	T	F	S	FREQUENCY OF LOANS PER WEEK VOL.	PERIODICALS	MICROFORMS
Bliss College	163	16	NOT REPORTED							--	--	--
Bowdoin College	950	88	11	15.5	15.5	15.5	15.5	15.5	15.5	1,164	NOT REPORTED	
Colby College	1,517	140	9	14.5	14.5	14.5	14.5	14.5	8.5		NOT REPORTED	
Husson College	1,374	63	8	14	14	14	14	9	4	--	--	--
John F. Kennedy College	--	--	--	--	--	--	--	--	--	--	--	--
Nasson College	--	--	--	--	--	--	--	--	--	--	--	--
Northern Conservatory of Music	78	27	--	--	10	2	7	--	4	NOT REPORTED		
Ricker College	--	--	7	14	14	14	14	14	4	NOT LOANED		
St.Francis College	600	45	11	15.5	15.5	15.5	15.5	9.5	4	675	45	20
St.Joseph's College	257	29	13	14.5	14.5	14.5	14.5	9.5	9.5	450	75	7
Thomas College	375	24	--	--	--	--	--	--	--	--	--	--
Unity College	--	--	--	--	--	--	--	--	--	--	--	--
Westbrook Junior College	460	46	8	13.5	13.5	13.5	13.5	13.5	7.5	NOT LOANED		1

TABLE 11.

LIBRARY STAFF

	PROFESSIONAL STAFF	NONPROFESSIONAL STAFF	STUDENT ASSISTANTS
University of Maine			
Augusta Branch	--	3	4
Orono Campus	27	31	75
Dow (South) Campus	--	--	--
Darling Marine Laboratories	--	--	--
Portland Campus	7	8	35
Portland School of Law	3	1	5
Aroostook State College	2	1	12
Farmington State College	2	3-1/4	--
Fort Kent State College	1	--	--
Gorham State College	3	3	30
Washington State College	2	--	10
Maine Maritime Academy	1	--	4
Central Maine Voc.-Tech. Inst.	--	1	--
Eastern Maine Voc.-Tech. Inst.	1	1	7
Northern Maine Voc.-Tech. Inst.	1	--	2
Southern Maine Voc.Tech. Inst.	--	--	4
Bangor Theological Seminary	1	1	4
Bates College	6	6-1/2	27
Beal Business College	--	--	--

TABLE 11 (Continued)
LIBRARY STAFF

	PROFESSIONAL STAFF	NONPROFESSIONAL STAFF	STUDENT ASSISTANTS
Bliss College	1	1	2
Bowdoin College	11	14	Yes
Colby College	7	8	40
Husson College	8	4	12
John F. Kennedy College	--	--	--
Nasson College	--	--	--
Northern Conservatory of Music	1	--	2
Ricker College	2	2	6
St. Francis College	2	6	7
St. Joseph's College	1	2	7
Thomas College	--	--	--
Unity College	--	--	--
Westbrook Junior College	1	10	--

TABLE 12.
LIBRARY PHYSICAL FACILITIES

	TOTAL FLOOR SPACE ALLOCATED TO LIBRARY FUNCTIONS (IN SQ. FT.)	READER SEATING CAPACITY	FUTURE EXPANSION PLANS (IF ANY)
University of Maine			
Augusta Branch	2,000	48	--
Orono Campus	90,000	1,000	Propose new addition to double library space.
Dow (South) Campus	--	--	Branch library being established.
Darling Marine Laboratories	--	--	Has no formal library.
Portland Campus	19,360	292	Propose using more existing space for library.
Portland School of Law	10,000	70	New building expected in Sept. 1971.
Aroostook State College	7,041	112	Propose increasing present library space.
Farmington State College	8,316	125	Present construction will double library space.
Fort Kent State College	5,582	82	--
Gorham State College	19,044	325	Need anticipated for new library.
Washington State College	6,045	75	Propose new library building.
Maine Maritime Academy	2,576	100	Need anticipated for new library.
Central Maine Voc.-Tech. Inst.	1,200	180	--
Eastern Maine Voc.-Tech. Inst.	1,250	50	--
Northern Maine Voc.-Tech. Inst.	3,049	65	--
Southern Maine Voc.-Tech. Inst.	2,701	100	--
Bangor Theological Seminary	8,200	90	--
Bates College	29,288	260	Expansion of library contemplated.
Beal Business College	705	30	--

TABLE 12 (Continued)

LIBRARY PHYSICAL FACILITIES

SPACE

	TOTAL FLOOR SPACE ALLOCATED TO LIBRARY FUNCTIONS (IN SQ. FT.)	READER SEATING CAPACITY	FUTURE EXPANSION PLANS (IF ANY)
Bliss College	880	20	--
Bowdoin College	58,372	538	Expansion of library contemplated.
Colby College	41,800	477	--
Husson College	8,500	137	--
John F. Kennedy College	1,860	24	--
Nasson College	12,809	161	--
Northern Conservatory of Music	634	20	Volumes will be added, but no more floor space.
Ricker College	5,000	73	The new 36,000 S,F, college library opens Sept. '69.
St. Francis College	4,222	68	A new library bldg. is contemplated.
St. Joseph's College	2,510	48	--
Thomas College	1,883	40	--
Unity College	1,404	37	--
Westbrook Junior College	3,285	76	Expanded library facilities are contemplated.

EFFECTS OF NEW TEACHING/LEARNING TECHNIQUES ON PLANNING HIGHER EDUCATION FACILITIES

The proposal for the higher education facilities planning grant included a section for assessing the effects of new teaching/learning techniques and related technological innovations and sociological changes on facilities planning for the next ten to twenty years. For the purpose of this report, such potential effects are considered from two points of view: first, what the students or learners will be like in this decade; second, what implications the new techniques may have on facilities planning.

The Student of the Seventies

The seventies will see an increasing number of students enrolling in our colleges and universities and the expanded enrollments will have a direct influence on facilities planning. Projections of the number of

students likely to enroll in Maine institutions during the next decade were made in Chapter 2. As necessary as facilities are for higher education, however, the first consideration should be the learner, the student: his prior educational experience, his expectations from higher education, and the social environment in which he will pursue his education.

The entering college student of the seventies will be different in many respects from his predecessors. For example:

(1) he will not remember World War II, or even the Korean War;

(2) he will not remember a time when man was not in space (some may even have been unimpressed by the second moon walk);

(3) he will not remember polio as a disease of epidemic proportions;

(4) he will be more sensitive to social unrest, poverty, and human inequities than any other generation of college students;

(5) he will have taken in secondary school courses of study which previously were offered only at the college level;

(6) he will have first-hand knowledge of and experience with a wide variety of technological and electronic devices (some will have a sophisticated acquaintance with computers); and

(7) he will be much more involved in political processes, and it is reasonable to assume that he will be franchised to vote.

These are only a few of the details, but they highlight the fact that colleges will have to be sensitive to the changing character and needs of their students. They will not be content to be passive in the learning situation or to be kept isolated from the world and its issues.

During the past two decades there has been a shift in emphasis at all educational levels upon the student as learner. This has led to a conception of faculty members as resources for learning rather than as dispensors or imparters of knowledge. In addition, in some curricular areas, technology has provided ways for students to learn on their own, at their own pace, without the immediate supervision of a faculty member.

Closed-Circuit Television

The introduction of new teaching/learning techniques has not only been the result of the changing emphasis upon the student as learner, but of the increasing numbers of students as well. Since the end of World War II, college enrollments have grown steadily as a result of the growing population of the 18-21 age group and of the increasing percentage of high school graduates con-

tinuing their education. In many cases colleges were not prepared for the large influx of students, either through lack of facilities or through lack of highly-qualified faculties.

One solution was to make what faculty was available go further, to extend the limited capacity of a lecture hall or classroom through closed-circuit television with receivers in multiple classrooms. Although this surely provided a stop-gap measure, it has made possible a fuller utilization of qualified faculty members. The measure has not turned out to be an unqualified success, in spite of research findings that the amount of information learned and retained by students, as well as their ability to utilize information, were not significantly different than for groups taught face-to-face in the classroom.

Why, then, given the potential merits of providing a uniform quality of teaching by highly-qualified faculty members, has instructional television had only limited success? The answer to that question may lie not so much in the limitations of technology as in the nature of human beings. One reason frequently given is that

college faculties tend to be very traditional in their methods of teaching and resist change. In some cases they may even have feared technological unemployment. A further explanation might be that the medium of television itself requires an adaptation of method, requiring communication and technical skills which are not always easily learned. Furthermore, students have learned to expect professional productions as a result of their exposure to commercial television and entertainment (although entertainment does not preclude learning). Finally, regardless of attempts to make communication possible between the lecturer and students through telephones or other intercommunication devices, television only increases the enforced passivity of learning which is a frequent criticism of the lecture method at its best. For the student it is just as irritating to be held captive before a television screen as in a classroom.

Closed-circuit television is not limited, of course, to the conduct of lecture courses. It can be used to advantage within courses for demonstration purposes, with videotapes, film clips, or kinescopes to bring into the classroom the intellectual resources of outstanding

scholars lecturing on specific topics or problems as a basis for information and discussion. The advantages and limitations of closed-circuit television as a teaching/learning device can be cited for most of the recent adaptations of communication media to educational uses: among which are films, video-recording, and audio-recording.

Language Laboratories

The first extensive application of new learning techniques was the language laboratory which grew out of the audio-lingual approach to teaching modern languages. The approach recognized that language is first of all an oral communication system, and that a student's first contact with a new language should be similar to that of a child's first contact with his native language; that is, through his ears. The approach is often combined with programmed instruction, whereby prerecorded tapes are sequenced in such a way that the student can learn the fundamental sounds and phrases of the language according to his own aptitude and ability, and thus avoid the lock-step of traditional classroom instruction. In

planning facilities for language laboratories, institutions should be cognizant of the trends in the number of students desiring a modern language, as well as the number of students who have already been exposed to the audio-lingual method in secondary schools.

Learning Resource Centers

Perhaps the most important change that will occur in higher education facilities in the next two decades is in the concept of libraries. In ancient and medieval times the library was primarily a place for the preservation and safekeeping of manuscripts. A later concept of the library which developed after the invention of printing and the growth of universities was that of a place for research. More recently, with the moving away from exclusive reliance on lecture and textbook as methods of instruction to independent study utilizing original source materials, libraries have been expanded and adapted for use by undergraduates. With the expansion of knowledge libraries have been engaged in a battle between providing space for books and for students. In addition, the size and comprehensiveness of a college's

library has traditionally been an indicator of the academic status and quality of the institution and an important part of accreditation. The problem of students obtaining source materials has been somewhat alleviated by paperbacks, but there is no end in sight to the number of new books published each year, and their storage and circulation is a major problem.

In many instances, libraries have also taken on the responsibility of storing and disseminating non-printed materials as well. In fact, the sheer size of the library may be detrimental to students in that they often have to spend as much time seeking information sources as in utilizing them.

It is in conceiving of a library as a multi-media information resource center, with electronic communication systems, both within and adjacent to the library, with computerized storage, retrieval, and dissemination systems, that the information essential to acquiring knowledge can become more immediately available. If the existing resource centers are shared among several institutions, it will be possible to control the extensive demands being placed on colleges to enlarge their library facilities.

There are two questions that have to be faced, however, in implementing this concept. What is the initial cost to build and equip such a resource center? How long will it take for the resource center to be utilized productively? In the end, the real question may be: Is higher education putting too much emphasis on the acquisition of knowledge? It may also be questioned whether the kind of knowledge which can be stored and disseminated most readily through computerized systems will be of primary interest to the student.

At any rate, it will be well for higher education adminstrators in Maine to keep informed of developments in this area. In the meantime, institutions can continue to share their libraries both within the State and through NEBHE.

College Without Campuses

With respect to the expansion of physical facilities for higher education in the decades ahead, perhaps the primary question is do colleges need campuses? If they do, what kind of and how much physical facilities are required? The extent to which they are answered in the negative may well determine how progressive higher educa-

cation will be, and the answers will have a significant effect on the capital and operating funds required.

The "no campus" concept is already being implemented on a limited scale in some secondary schools in our larger cities. This is not to suggest that within twenty years college campuses will have been abandoned. But there is reason to believe that they will not be as important as they are now. Their importance is already being diminished by work-study programs and by study in foreign countries. It is likely that the areas in which the "non-campus" college will thrive most are in the social sciences, such as sociology, anthropology, government, and in the humanities.

There are several reasons for a decentralization of higher education. The most pertinent is the attitude exhibited by the present student generation. Many students feel that college campuses with their ivy-covered structures are contrived environments, isolated from the world of where the action is and in which they are interested. For better or worse, they want some immediate evidence that what they are learning has some relevance to their lives and environment. In other words, they are eager to test classroom learning and textbook theory by

putting them into practice in the real world.

The main and branch campuses of a college or university will remain important as centers of human talent and resources. The significant consideration for planning higher education facilities, however, is that there are available today the technology and systems which would permit communication between a central campus with its human and informational resources and "non-campus" learning environments. The most important implication of the concept for facilities planning is that present campuses will be able to accommodate larger numbers of students without major expansion since many academic activities would be occurring off-campus.

Independent Study

Another technique that would alleviate some of the pressures on physical facilities is independent study on a wide scale. Many institutions already have independent study programs, but they are frequently geared only for advanced students who wish to study a subject in depth. From the point of view of facilities, the concept requires that faculty members have sufficiently large offices to accommodate a group of students who are pursuing a similar subject

or topic. To introduce independent study should not be considered as an economy measure, per se. Although independent study may reduce the need for classrooms, it is likely that more faculty members will be required.

There is little doubt that the instructional process in higher education will change in the next decade as a result of new or modified teaching/learning methods. It is not so certain, however, just what changes will be effected, how rapidly new techniques will be implemented, or how extensive the changes will be. Nor are the kinds of economies to be realized predictable, for while new techniques may make possible a reduction in the need for physical facilities, the cost of equiping and of staffing may be increased. Higher educational institutions should be constantly alert to innovations which will improve and enhance the quality of education, but they must be prepared to encounter not only resistance to change but increased costs as well.