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ABSTRACT

A detailed status report of education in North Dakota, with particular emphasis on an assessment of the public expenditure for elementary and secondary education, is contained in this document. This report contains facts based upon 2 years of study and careful fact finding. The statewide study is more than a quest for facts; it is a systematic and reasoned quest for solutions to the state's most persistent and compelling problem: the improvement of education. Discussion includes fiscal support and ability, statewide study of school finance and expenditures, and effects of school district size on cost of education. Data tables are presented to support the discussion. Appendix A presents limitations and treatment of data in the study, and Appendix B is a survey and comparison of curricula offered in the various North Dakota high schools. Related documents are RC 000 179, RC 000 180, RC 004 197, RC 004 198, and RC 004 199. (SW)

Educational Development for North Dakota, 1967-1975

A Product of the
Statewide Study of Education

Public Expenditure for Education in North Dakota

WITH STUDY APPENDICES

The North Dakota Statewide Study of Education

THE NORTH DAKOTA DEPARTMENT OF PUBLIC INSTRUCTION
THE NORTH DAKOTA LEGISLATIVE RESEARCH COMMITTEE
THE UNIVERSITY OF NORTH DAKOTA

1967

STATEWIDE STUDY OF EDUCATION

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Educational Development for North Dakota: 1967-1975

Public Expenditure for Education in North Dakota

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PREFACE

This document contains—in considerable detail—a status report of education in North Dakota, with particular emphasis upon an assessment of the public expenditure for elementary and secondary education. A companion status report, under the title "Educational Personnel in the North Dakota Public Schools," places its emphasis upon an assessment of the personnel situation in elementary and secondary education. This report provides a resumé of vital financial information employed by the Statewide Study Team in formulating its proposed comprehensive plan for educational improvement in North Dakota.

The plan for improvement is itself reproduced in a companion document entitled, "The Foundation Program." As products of the Statewide Study of Education, key elements of the comprehensive plan were developed and reproduced separately. A proposed new Statewide Foundation Program is produced in "A Plan of Public Expenditure for Education in North Dakota." A proposed new teacher preparation program is described in "Developing and Placing Educational Personnel in North Dakota." A plan for enlarging the leadership capacity of the State Department of Public Instruction is developed in "Developing State Leadership for Education in North Dakota."

This report on education in North Dakota is different from the usual survey of state education systems. Although it contains facts, and is itself based upon two years of careful fact finding, the report is more like a physician's diagnosis or a soil analyst's assessment than a compendium of uninterpreted information. The Study Team confronted the fact that North Dakota has modest resources for public services; moreover, the State is losing some of its most precious human resources through migration to other states. It needs to conserve the resources it has. Above all, it needs to use its present and future resources with as much skill and imagination as can be assembled in the public administration of its education system. For this reason, the Statewide Study was not a simple quest for facts; it was a systematic and, hopefully, reasoned quest for solutions to the State's most persistent and compelling problem: the improvement of education.

In conducting the status study, the Team was guided by two basic principles or philosophic assumptions. These were:

* Public support for public education in North Dakota should assure each pupil an adequate and equal educational opportunity, and
* The pattern of public support for education should be not only effective and efficient, but also equitable to all classes of taxpayers.

These principles were used as criteria in assessing the status of North Dakota's public system of education. Systematic efforts were made, therefore, to determine the extent to which the State's 144,000 pupils actually enjoyed an adequate and equal educational opportunity. Systematic inquiry also was directed to determine the extent to which the public system of education could be adjudged to be effective, efficient, and equitable.

The two years of study produced convincing evidence—as will be reported here in detail—that the public system of education in North

Dakota in certain key respects may be demonstrated to be inadequate, ineffective, inefficient, and inequitable. This was observed, despite the facts that North Dakotans make a commendable effort to support public education, and that the public system employs many gifted and talented teachers, administrators, and educational service personnel.

The Study Team tried to get at the root causes of the unsound educational condition. They ascertained that two basic and powerful deterrents mitigate against significant improvements in the education system. The first constitutes a steady drain upon the State's capacity to use its limited resources wisely. The other makes the development of quality programs—particularly at the elementary school level—virtually unfeasible. These root causes are:

* An overly elaborate system of local school district organization, comprised chiefly of small, high cost, low quality, twelve-grade, elementary, and one-teacher school districts.
* Undue reliance—particularly in the small and medium size districts—upon underprepared, and therefore partly unqualified, educational personnel.

The Study Team was forced by the evidence to conclude that additional funds for public education alone would not correct these basic root conditions. Indeed, additional spending within the present structure could not materially alter these conditions. The root causes have to be attacked directly by legislative and administrative action; to be effective this concerted action must be sustained over a period of seven to ten years. As these conditions are corrected, each new dollar invested in the education system then could begin to return a full dollar in benefits to pupils and in service to the State's school communities.

On the basis of the evidence presented here, the Study Team identified seven key objectives to be attained in the State during the period 1967-1975. The Team also proposed a specific plan to achieve these objectives. When fully implemented, the North Dakota public school system then could be deemed to be sound and its public expenditure for education to be effective, efficient, and equitable. The objectives are:

(1) To consolidate and focus the energies of the State's seven public colleges and universities in a dramatic new program of personnel development, research, and service, thereby to make the classroom teacher a vital part of a continuing research and improvement effort.

(2) To prepare and place 1,950 fully qualified and specifically prepared teachers into the State's elementary schools, thereby to improve the quality of education for elementary school children who otherwise would be taught by underprepared teachers (as 23,000 students now are taught).

(3) To place each of North Dakota's 144,000 school children in a reasonably organized and administratively effective school district; each such district would contain at least 12 grades of instruction, and its high school would enroll not fewer than 200 pupils in the upper four grades.

(4) To enlarge the scope, focus and effectiveness of educational services offered by the State Department of Public Instruction, through seven regional service centers; each such center would be designed to energize and facilitate local district study, planning, evaluation, reorganization, and program improvement.

(5) To upgrade the level of financial support for the normal and ordinary recurring costs of education; this requires an improved State Foundation Program that (1) equalizes inequities among local school districts, and (2) enables school districts to use local tax funds more freely for program improvements over and beyond the State guaranteed minimum (for example, for public kindergartens).
(6) To shift to State government the responsibility for the extraordinary costs of educational services: the extraordinary costs are now divided inequitably among local districts for such items as school construction, debt service, transportation, and special services for rural isolated pupils.
(7) To employ State funds to reward those local school districts that take the initiative to improve the quality and efficiency of their operation; an appropriate reward would make State aid directly proportionate to the number of fully qualified teachers that a district employs.

The Study has certain inherent limitations. The financial analyses set forth in this document refer principally to information available through and including the 1965-66 school year. Comparable information for 1966-67 was not available during the Study period. However, inspection of 1966-67 figures (available in December, 1967) suggests that—with minor exceptions—the observations and conclusions herein advanced are valid for that year as well.

Notably absent from this report are data treating the several revenue systems used in North Dakota to raise funds for public education. The omission is deliberate. The Statewide Study Team did not believe itself to be competent to examine tax and assessment practices. Moreover, these issues were examined in detail by tax and assessment authorities in other studies. The Study Team strived to design a desirable new and potentially more effective and efficient pattern for the expenditure of public funds for education. In this task, the Team believes it was successful. It is to be hoped that property assessment and equalization practices also would be improved so that the overall burden for public support of education in the State increasingly may become equitable.

* * *

This report and the companion studies and plans for action in North Dakota reflect the cooperative efforts of three principal agencies and institutions. These are:

The North Dakota Department of Public Instruction
The North Dakota Legislative Research Committee
The University of North Dakota.

Funds to support the Statewide Study and planning activities were provided by the State Legislature, by the federal government, through a grant made to the State Department of Public Instruction under provisions of Title V, Elementary and Secondary Education Act of 1965, and by the University of North Dakota.

Grateful acknowledgement is given to the many State and local school officers and staff who generously gave of their time and resources to make the Statewide Study complete.

Kent G. Alm, Director
Statewide Study of Education
December, 1967

Public Expenditure for Education in North Dakota

Overview

North Dakota operates a complex system of public schools that enrolls approximately 144,000 children and youth (K-12). These pupils are engaged in programs that are developed and administered by 527 independent and operating local school districts.[1] The purpose of the State system of schools is to guarantee for each child an appropriate and equal educational opportunity. The State intends that these guarantees shall be extended to each pupil regardless of his place of residence, and without regard to family status or position, physical or mental limitation, color, creed, or national origin.

1. Fiscal Effort and Ability

Simply to operate the public school system, North Dakotans annually spend about $62 millions, an amount roughly equivalent (in 1966) to $427 per pupil. An additional sum, equivalent to $116 per pupil, or about $16.7 millions, is expended annually for certain extraordinary costs of education, including transportation, debt service on bonds for prior construction, and new school construction. When compared with levels of expenditure for similar purposes in other states, North Dakota falls well below the national average. But family income in the State also is less than the national average, hence the State's ability to support public education is, by measure of family income, relatively low. To provide a comparable program of instruction, North Dakotans necessarily must exert a greater proportionate financial effort than citizens in many other states. Typically, this effort has been and continues to be made. Nevertheless, present levels of financial support remain inadequate. Moreover, some of the funds now invested in public education fail to produce the most efficacious result possible, because the system of financing itself—quite apart from levels and objects of educational expenditure—tends to reward ineffective and inefficient use of the State's limited resources.

2. The Road Ahead

To fulfill its basic purposes, the State system of education must successfully overcome two formidable problems. These are:

* To increase and further equalize the level of financial support for each pupil in the State, and
* To gain more effective utilization of available funds by redressing certain inequities within the present system of financing.

Despite limitations of wealth and a certain indifference to modern systems of educational organization, North Dakotans can—if they so desire—provide the means needed to guarantee each of their children an appropriate educational opportunity. This can be achieved most readily within the context of a comprehensive, Statewide plan of educational development in which gradual increments in the total of support for education are coupled with systematic improvements in the pattern of utilization of public funds. The elements of such a plan have been derived from the Statewide Study of Education and are presented in detail in "Educational Development for North Dakota, 1967-1975: The Overview."

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[1]As reported in North Dakota Educational Directory: 1966-67, p. 89.

The Statewide Study of School Finance

The pattern of public expenditure for education is the visible expression of the State's underlying programs and provisions for education. When well constructed, the State system of school finance faithfully reflects a basic healthy educational condition. A sound financial system should have these characteristics:

* The level of financial support is sufficiently high to guarantee: an educational program that is geared appropriately to the individual differences of each child; a corps of professionally qualified school personnel; and an educationally sound teaching environment.
* The manner in which public funds are expended rewards effective and efficient educational organization and performance.

When the financial support system becomes deficient in any one or all of these characteristics, it symptomizes one or another serious underlying condition within the educational system itself. Simple addition or deletion of support funds will not correct the underlying condition. The required treatment may be a careful restructuring of the educational organization and/or curriculum, or a basic change in the numbers, and a pattern of utilization of qualified educational personnel.

1. The Nature of Financial Analysis

To be instructive, therefore, a study of state school finance must involve more than a simple enumeration of revenues and expenditures. It must avoid mistaking the symptoms of inadequate financing for the underlying educational conditions that produce the symptoms.

The heart of the financial analysis, herein attempted, aims to get behind the facts and figures to the causes of the State's basic educational problems. Indeed, the prescriptions later to be recommended necessarily deal as much with factors of school organization, utilization of personnel, and content of school programs, as with dollars and cents. Personnel services and school programs are the vital reasons for expenditure, and local school organization is the mechanism through which expenditures are made. If these are not deployed effectively and efficiently, the system of financial support cannot itself become effective and efficient.

To be sure, facts and figures are presented in this report. To the extent possible, the facts are permitted to speak for themselves. When required, however, the Study Team has made judgments and invoked interpretations of the data. These analyses in no way alter the validity of the basic data. Rather, they cause otherwise unrelated data to be focused upon the basic fiscal problems and issues that now confront the State.

2. The Basic Questions Examined

The Statewide Study of school finance was focused upon three basic questions. These were:

* How adequate is the present level of financial support for public education?
* How effective and efficient is the present pattern of public expenditure for education?
* How equitable is the system of financing itself?

In the sections that follow, attention is drawn to five important aspects of educational finance in the State. These are:

* Level of financial support for education

* Pattern of educational expenditures
* Effectiveness of educational expenditures
* Efficiency of educational expenditures
* Equity of the State financing system.

Conclusions are set forth in a separate section. Attention is then drawn to some possible steps to remedy the financial situation. Finally, elements of a possible new Statewide plan for the support of public education are developed and presented.

3. The Nature and Treatment of Data

The data employed to develop the financial analyses that follow were obtained from the several mandatory reports that are submitted annually to the State Department of Public Instruction by the State's 527 local school districts. These data were duplicated on punched cards and submitted to computer analyses. Three kinds of information were examined. These were:

* Mill levy and taxable valuation data for each class of local school districts
* Sources of revenue for education obtained from general and special funds
* Expenditures for public education by budget category.

In general, the data were adequate for the analyses undertaken. This reflects commendably upon the reporting system that has been developed and implemented by the Department of Public Instruction. In some other states, similar studies of finance have been limited, if not frustrated, by inadequate financial reports. In those cases, research teams have had to devise new records and reports. Were the procedures of this Statewide Study to be continued in effect through subsequent years, certain adjustments in the present records and reporting system would be beneficial, and steps toward revising the reporting and accounting systems should be undertaken by the State Department before the 1969 session of the Legislature.

As in any scientific study, however, caution should be exercised in the interpretation of data. The definitions employed in this study have their own special meaning. For reasons later to be discussed, the measures reported here are not always comparable with those employed in other states or in nationwide surveys. In each case, however, the measure or interpretation of data actually employed was adjudged to be the most appropriate or most useful for analyzing the financial problems of the State. .

The Study Team compiled financial and enrollment statistics for three recent academic years: 1963-64; 1964-65; and 1965-66. Estimates were made both for aggregate levels of expenditure and for certain unit costs. Comparisons were then made among the 527 local school districts using these estimates. Specifically, comparisons were made for each of the following aspects of school finance:

* **Tax ability,** as measured by the assessed valuation of taxable property. Since districts vary greatly in the magnitude of total assessed valuation, a comparable unit was developed and expressed as **valuation per pupil.**
* **Tax effort,** as measured by the number of mills levied by the local school district upon its taxable property valuation.
* **Current expenditure,** as measured by the number of dollars expended annually to conduct the school program—and also to pay the cost of tuition for some children to be educated outside the home district. Expenditures for current operation vary

widely among the districts. Hence, a comparative unit was developed and expressed as **expenditure per pupil.**

* **Capital expenditure,** as measured by the number of dollars expended annually by the local districts, principally for costs of new construction and/or payments on debts incurred earlier for construction.
* **Total educational expenditure,** as measured by the combined annual expenditure both for operating and capital costs.

The estimate of expenditures used in analysis was that reported officially by the local district on June 30 for the immediate past fiscal year. The number of pupils employed in calculations involving per pupil expenditure was that reported by the district to be enrolled on September 30 of the fiscal year in progress. Other measures of student population may be used for such purposes, and would yield different data; when referring to per pupil expenditures, therefore, care must be exercised to avoid inappropriate comparisons. The data and ratios herein reported may not be compared to data based upon average daily attendance or membership as measures of student population. Estimates using expenditures per child in average daily attendance and/or membership will be slightly larger than those expenditures per child estimates using September 30 enrollment. However, comparisons among the 527 local school districts are validly made using the one measure employed here. A detailed description of data is attached as a Technical Report in Appendix A.

TABLE 1

COMPARISON OF SEPTEMBER 30 ENROLLMENT DATA WITH AVERAGE DAILY MEMBERSHIP DATA FOR THE SCHOOL YEAR 1964-65, BY TYPE OF DISTRICT

Type	A Elementary ADM	B Elementary Sept. 30	Percent B is of A	C Secondary ADM	D Secondary Sept. 30	Percent D is of C
1	357	362	101.4	125	129	103.2
2	3,893	3,904	100.3	1,728	1,755	101.5
3	1,043	1,035	99.2	508	506	99.6
4	581	612	105.3	333	341	102.4
5	346	375	108.3	122	126	103.2
6	86	86	100.0	22	22	100.0
7	1,433	1,447	101.0	656	668	101.8
8	4,921	5,090	103.4	2,359	2,387	101.2
9	7,854	7,948	101.1	3,665	3,723	101.8
10	9,201	9,272	100.7	4,356	4,398	101.0
11	10,335	10,311	99.7	4,737	4,800	101.3
12	10,402	10,455	100.5	5,269	5,331	101.1
13	5,512	5,535	100.4	3,005	3,043	101.2
14	2,172	2,171	99.9	869	885	101.8
15	4,927	4,893	99.3	3,213	3,253	101.2
16	28,283	28,194	99.9	10,587	10,839	102.3
17	1,497	1,494	99.7			
18	1,317	1,367	103.7			
19	1,277	1,313	102.8			
20	1,345	1,336	99.3			
21	2,426	2,494	102.8			
TOTAL	99,208	99,694	100.49	41,544	42,206	101.59

These contrasting definitions of pupils may be observed to apply in the 1965-66 data. In that year, the "enrollment" (i.e., the total number of different pupils reported to be in membership that year, including duplications of students who transferred from one school to another)[2] was 154,854 (K-12); the average daily attendance (ADA) was reported to be 139,764. Average daily membership (ADM) was calculated at 139,764. Membership on September 30 of that school year was reported to be 147,484 (K-12). Question: How many children were in school? The answer is: It depends! More specifically, it is a matter of agreement, depending upon the use to which the information is to be put.

Level of Financial Support

North Dakotans have not been ungenerous in their support of the State school system. During 1965-66, for example, approximately $543 per pupil was expended from all sources for public education. These funds were raised from multiple sources. The principal source, however, was the local district; moreover, the property tax was employed to raise approximately 70% of all funds. The percent of funds derived from each source is summarized in the following table.

Sources of Financial Support: 1965-66
(In Percent)

	Local	County	State	Federal
General Fund	41.2	22.8	28.0	8.0
All Funds (including construction)	52.3	18.1	22.5	7.1

County-levied property taxes technically are not state derived funds; they tend to have the effect, however, of a state property tax. Funds derived from state appropriations represent about 23% of the total support for elementary and secondary education. North Dakota ranks 40th among the states in this regard, as reported by the National Education Association in Table 2, column D.

Of the total amount available to the schools, approximately $427 per pupil, or 78.5%, was expended for current school operations,[3] exclusive of transportation services, debt service, and construction. About 14% was expended for new school construction and payment on debts incurred earlier for construction.[4] Approximately 7.5% was invested to transport children to and from schools.[5]

The significance of these amounts becomes evident when they are compared to expenditure levels in other states, and with measures of the State's ability to support public education. Comparable data are reported by the National Education Association (NEA) for the several states in the 1964-65 academic year. In the NEA report, North Dakota was ranked 34th among the 50 states with respect to level of financial ability to support public schools and 34th with respect to the level of financial support actually provided to the schools in that year. However, the State was ranked 13th in current expenditure as percent of personal income, a useful measure of the financial effort made by the State to support public education. In that year,

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[2]Average daily membership figures were compared with September 30 enrollments for 17 different classes of school districts for the school year 1964-65. Results are reproduced in Table 1.

[3]Includes total general fund expenditures less transfers and transportation plus revenue into recreation and social security funds.

[4]Includes revenue paid into building, construction proceeds, sinking and interest, and special assessment funds.

[5]Includes general fund expenditure for transportation and revenue paid into high school transportation fund.

North Dakota dedicated an estimated 4.2% of personal income to public schools. One can infer, therefore, that North Dakotans—despite apparent limitations in wealth—endeavor to support public schools at laudable, albeit subpar levels. It was outranked in effort (as measured by percent of personal income) only by these states:

New Mexico (5.6%); Wyoming (5.3%); Utah (5.1%); **South Dakota** (5.0%); **Montana** (5.0%); Oregon (4.8%); Arizona (4.7%); **Minnesota** (4.7%); Washington (4.6%); and Mississippi (4.3%). Neighboring states are boldfaced. Details of the NEA report are reproduced in Table 2.

As commendable as these figures appear to be, the level of financial support for public schools still falls far short of desired minimums. Less than 80% of the available funds directly support the instructional programs. One dollar in 13 is expended simply to move children to and from school, and one in seven to construct the physical facilities in which they are taught. These are essential expenditures, to be sure. But the high cost of providing the basic conditions in which teaching can take place necessarily limits the magnitude of funds that remain available for personnel services and other direct costs of instruction. For example, whereas the average teacher in the nation earned $6,600 in 1965-66, North Dakota teachers received an estimated average annual salary of only $5,353. The State was ranked 43rd among the 50 states in payment to teachers in that year.[6] These figures indicate the distance North Dakotans—despite their commendable past effort—still must travel to provide adequate financial support for their public schools.

Pattern of Educational Expenditure

Granted, total funds available to the public schools are limited. The question remains: What are the objects of public expenditure for education? The annual expenditure per pupil is $543. In terms of goods and services, what does $543 actually buy? Answers are suggested by the categories of expenditure in each local school district's budget. They include expenditure for administration and instructional services, for plant maintenance and operation, and for certain fixed charges that include social security payments and other required forms of insurance. In addition, some districts expend funds to support sizeable transportation systems. All districts, at one time or another, build new school facilities or add to or improve existing facilities. Because 249 of the State's 527 districts[7] do not operate complete (grades one though twelve) school programs, public funds also are expended to make tuition payments to other districts for their services to children who cannot be educated in the home district. These expenditures appear as "transfer payments" in the district's accounting ledgers, and cannot be traced exactly as to object of expenditure.

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[6]The State's low salary position is explained in large part by the presence in the elementary schools of large numbers of underprepared teachers. These teachers earn relatively low salaries, hence pull the State's average down to its present level. But to explain the problem is not to solve it. North Dakota confronts a personnel situation that must be changed if there is to be any significant improvement in the quality of elementary instructional services. Better prepared teachers must be employed. Necessarily, their salaries will be higher. Hence, the level of total financial support in the future will have to be increased commensurately with increases in numbers of fully qualified teachers.

[7]Sixty-eight districts are non-operating. They send all of their pupils to other districts that operate school programs. One hundred sixty-eight districts provide one-room schools that offer portions of grades one through eight. An additional 81 districts offer graded instruction at the elementary level but must send their high school pupils to twelve-grade districts elsewhere. Only 278 districts operate twelve-grade programs; 67 of those are not accredited.

TABLE 2

PER CAPITA PERSONAL INCOME, PER PUPIL EXPENDITURE AND EXPENDITURE AS PERCENT OF PERSONAL INCOME

State	Per capita personal income, 1965		Current expenditures per pupil in ADA, 1965-66		Current expenditures in 1964-65 as percent of income in 1964		Percent of revenue from the State	
	Amount	Rank	Amount	Rank	Amount	Rank	Amount	Rank
50 States and D.C.	2566		533		3.8		39.1	
Alabama	1749	47	356	48	4.1	16	60.8	7
Alaska*	3116	5	718	2	4.5	11	51.4	14
Arizona	2233	31	524	21	4.7	8	36.3	29
Arkansas	1655	48	376	44	4.0	20	43.4	21
California	3103	6	603	8	4.0	20	38.5	25
Colorado	2566	18	530	19	4.2	13	24.6	41
Connecticut	3281	2	637	5	3.4	40	32.8	30
Delaware	3460	1	548	16	3.1	48	75.5	1
Florida	2251	29	458	35	3.5	37	48.8	18
Georgia	1843	41	384	42	3.8	27	61.4	6
Hawaii	2622	14	515	23	3.8	27	61.5	5
Idaho	2020	39	388	41	4.1	16	38.5	25
Illinois	3041	7	612	6	3.2	45	22.9	43
Indiana	2544	19	512	24	3.9	45	37.1	28
Iowa	2376	24	503	25	4.1	16	13.5	47
Kansas	2346	27	495	27	4.1	16	21.6	45
Kentucky	1830	46	364	46	3.4	40	52.0	11
Louisiana	1877	44	468	32	4.8	6	69.2	2
Maine	2132	35	410	40	3.7	32	29.0	35
Maryland	2867	10	566	12	3.5	37	32.0	31
Massachusetts	2965	9	530	19	3.0	50	22.1	44

TABLE 2 (Continued)

State	Per-capita personal income, 1965		Current expenditures per pupil in ADA, 1965-66		Current expenditures in 1964-65 as percent of income in 1964		Percent of revenue from the State	
	Amount	Rank	Amount	Rank	Amount	Rank	Amount	Rank
Michigan	2755	11	545	17	4.0	20	43.9	20
Minnesota	2375	25	573	11	4.7	8	38.0	27
Mississippi	1438	50	318	50	4.3	12	51.0	15
Missouri	2600	17	471	30	3.1	48	31.8	32
Montana	2252	28	580	9	5.0	4	27.9	36
Nebraska	2349	26	423	37	3.6	35	5.9	50
Nevada	3248	3	535	18	3.8	27	51.9	13
New Hampshire	2377	23	469	31	3.3	43	10.7	49
New Jersey	3005	8	662	3	3.6	35	21.2	46
New Mexico	2041	38	524	21	5.6	1	65.5	4
New York	3162	4	869	1	3.9	25	44.2	19
North Carolina	1913	42	379	43	3.8	27	65.9	3
North Dakota	**2133**	**34**	**460**	**34**	**4.2**	**13**	**26.1**	**40**
Ohio	2646	12	503	25	3.7	32	27.4	37
Oklahoma	2083	37	411	39	3.8	27	29.4	34
Oregon	2606	15	612	6	4.8	6	26.5	38
Pennsylvania	2601	16	565	13	3.3	43	41.7	23
Rhode Island	2514	20	576	10	3.2	45	31.6	33
South Carolina	1655	48	350	49	4.0	20	59.7	8
South Dakota	1879	43	466	33	5.0	4	11.9	48
Tennessee	1859	45	361	47	3.5	37	49.5	16
Texas	2188	32	450	36	3.9	25	52.0	11
Utah	2156	33	473	29	5.1	3	49.0	17
Vermont	2119	36	475	28	4.2	13	26.2	39
Virginia	2239	30	415	38	3.4	40	39.4	24

TABLE 2 (Continued)

State	Per-capita personal income, 1965		Current expenditures per pupil in ADA, 1965-66		Current expenditures in 1964-65 as percent of income in 1964		Percent of revenue from the State	
	Amount	Rank	Amount	Rank	Amount	Rank	Amount	Rank
Washington	2635	13	556	15	4.6	10	58.3	9
West Virginia	1965	40	367	45	3.7	32	52.1	10
Wisconsin	2490	21	557	14	4.0	20	23.8	42
Wyoming	2441	22	661	4	5.3	2	42.0	22

*The purchasing power of $1 in four large Alaska cities averages about 76 cents as compared with the purchasing power of $1 in areas covered by the Consumer Price Index of the U.S. Bureau of Labor Statistics. All dollar amounts shown for Alaska should be reduced by about one-fourth to make the purchasing power of Alaska figures comparable to figures reported for the United States.

SOURCE: National Education Association Research Bulletin, February, 1966, p. 13.

1. Problems in Accounting

One cannot pinpoint exactly how much was spent for public education in North Dakota in any academic year; nor can one pinpoint exactly for what funds were expended. This is not to say that school officials are poor recordkeepers, but, rather that the records they are required to keep fail, in certain key respects, to reveal the whole financial story. The problem lies in the fact that the accounting system is designed to monitor "transactions," that is: the flow of dollars in and out of the several accounts maintained for educational revenues and expenditures. Locally raised revenue, for example, is lodged in a general fund from which most operating expenses are paid. In addition to the general fund, there are ten other separate and special funds. An account is maintained for each such special fund. These special funds have restricted but overlapping uses. Moreover, moneys may be transferred among several of the funds; interfund transfers create additional "transactions" and a single dollar may be recorded in and out more than once. When the dollars paid in, out, and among these several accounts are tabulated to a grand total, the appearance is created that more money is raised and spent than really was available for education. Moreover, there is no Statewide system for tabulating the useful objects of expenditures from the several funds. Indeed, to get an accurate Statewide picture, it would be necessary to assimulate the 527 separate local district records of incomes and expenditures, and to combine these in comparable ways.

Each separate account can be audited, of course, and these comments are not intended to imply misuse of public funds or to imply that there is indifferent accounting practice. When one is interested in tracing public expenditure to instructional programs, however, or to different functions and objects of expenditure, the present system does not serve that purpose well. Nor does the accounting system lend itself to new management techniques (e.g., programming-planning-budgeting operations) or to research on the relationships of costs to educational benefits.

These conditions are not serious. The accounting system does distort somewhat an accurate picture of educational finance in the State, hence steps should be taken to simplify both the number and types of accounts maintained at State, local, and county levels; more importantly, the accounting system should be placed on a program basis. By doing so, both research and program planning in the State can be facilitated materially.

For the future, the State Department of Public Instruction and the State Legislature should study the possibilities of eliminating all or most of these special accounts. Indeed, modern practice would suggest a new system that approaches as closely as possible single fund accounting. More importantly, the accounting system should be redesigned so that it may become a useful management tool in the planning for the future of the State's educational system. To become useful in this respect, records of expenditure should be related to at least three elements of educational programs:

* The characteristics of pupils (thereby to enable the planner to ascertain the amounts of funds invested locally, regionally, and Statewide in different classes of population, as for example: underachieving pupils; educationally disadvantaged pupils; rural isolated pupils; pupils with physical or mental handicaps, etc.).
* Educational outcomes (thereby to enable the planner to estimate the benefits that derive to pupils from their schooling; measure

of basic skills, occupational skills, social development, health, and personal development should be developed, and accounts maintained, by these measures of outcome).

* Inputs to the educational system (thereby to enable the planner to examine the relationship of different educational approaches to measures of educational outcomes for students of different characteristics, and to compare the cost/benefit relationships of different educational approaches).

Recommendations to this effect are presented in a companion publication entitled, "Developing State Leadership for Education in North Dakota," a product of the Statewide Study of Education.

2. Objects of Public Expenditure for Education

In 1965-66, approximately $427 was spent per pupil for the normal recurring costs of education in North Dakota. Approximately $420 was expended from the local district's general fund; nearly seven additional dollars per pupil was paid into the district's revenue accounts for recreation and social security funds.

An additional $40.82 per pupil was expended from general fund accounts for school transportation and $0.65 per pupil paid into high school transportation funds.

Payments were made in the amount of $75.68 per pupil into the several fund accounts to be used to pay debt service on prior construction and to finance new school construction.

Of the funds expended for normal, recurring costs of education, approximately three-fourths went to instructional services. About 14% was invested in plant maintenance, and operation and the remainder into administrative and related service and fixed charges.[8] Approximately the same pattern of expenditure has been reported each year since 1963-64.

3. Expenditures for Instructional Services

The focal point of public expenditure for education should be the qualified teacher in the classroom. All other services (administrative, supervisory, sub-professional) are justified only as they support the teacher in a suitable program for each child under her charge. To be effective, the teacher must first of all be adequately prepared. Today, minimum preparation for career service in the elementary or secondary school is considered to be a college education in an appropriate program. To attract and hold qualified teachers requires an adequate level of financial support. Besides a competitive salary, the qualified teacher also needs other direct supports to be effective. These include: a full range of teaching materials that include textbooks, reference volumes, supplementary readers, incidental teaching supplies and materials, films, filmstrips, and other audio-visual devices. Above all, she needs assistance in the preparation and duplication of the myriad instructional materials that she must fashion in order to suit each pupil's unique interests and competencies.

During 1965-66, North Dakota made a commendable effort to provide appropriate levels of instructional services for their public school pupils. The pattern of public expenditure for instructional services as reproduced in Table 3 reflects an uneven array of accomplishment

[8]These expenditures cannot be determined exactly. Estimates were made on the basis of expenditures reported from General Fund accounts as summarized in the State Department of Public Instruction. The Department's own system of analysis differs from that used in this study. Their estimates are summarized in Table 3 of the Appendix.

in this area, however. Salary levels for teachers, as indicated earlier, were uniformly low in the State. Hence, the State will continue to experience difficulty in attracting and holding fully qualified career personnel.

The average salaries provided teachers varied by size of district and by teacher qualifications.[9] For all elementary teachers, the average salary reported for 1965-66 was $4,966. However: elementary teachers in twelve-grade districts (principally because of their higher average level of preparation) received an average of $5,075; those in eight-grade districts received an average of $4,026; and rural one-room school teachers received only $3,839. High school teachers (all of whom hold the bachelor's degree) received an average annual salary of $6,085. All teachers combined (i.e., elementary and secondary) received an average annual wage of $5,353, nearly $1,300 less than the national average for that year.

At these relatively low levels of support, the State necessarily encounters difficulty in staffing its elementary schools with qualified career teachers. Indeed, as will be emphasized later, 2,684, or 59% of the State's 4,542 elementary teachers are not fully prepared for career positions in the schools. The fact that underprepared teachers

TABLE 3

PATTERN OF GENERAL FUND EXPENDITURE FOR INSTRUCTIONAL SERVICES: 1963-66

(In Rounded Dollars Per Pupil)

Object of Expenditure	TYPE OF DISTRICT: Elementary Districts 1963-64	1964-65	1965-66	Twelve-Grade Districts 1963-64	1964-65	1965-66
A. Professional Salaries						
(1) Principals	8	6	10	11	12	12
(2) Supervisors	2	2	4	1	5	2
(3) Teachers	225	231	241	226	234	250
(4) Others	1	2	1	4	4	4
(5) Sub-Total	236	241	256	242	254	268
B. Non-Professional Salaries						
(6) Secretarial	1	1	1	2	2	3
(7) Others	3	3	4	1	1	2
(8) Sub-Total	4	4	5	3	3	5
C. Non-Salary Expenditures						
(9) Textbooks	7	8	9	5	5	6
(10) Library-Audio Visual	2	2	3	3	3	4
(11) Supplies	8	9	15	8	8	14
(12) Other	6	6	8	2	2	3
(13) Sub-Total	23	25	34	18	18	26
D. Grand Total	264	270	295	263	276	299

NOTE: Totals in some columns do not always agree with the sums of column elements due to rounding.

[9]Average annual salaries for all classes of professional school employees are reproduced in Appendix C.

are paid at lower rates than fully qualified teachers is a reasonable practice and should be continued. However, the fact remains that the elementary schools of the State are undersupported in relation to need for fully prepared personnel. It is this latter condition that must be corrected if elementary instructional services are to be improved significantly in the next few years.

Ultimately, to displace* underprepared teachers and to staff all schools with fully qualified teachers is the paramount task to be achieved in the State. But the pattern of public expenditure for other instructional services that support the qualified teacher must also be altered. In Table 3, the dollars invested in instructional services during the period of 1963 and 1966 are reported by object of expenditure. In each type of district and in each year, the largest share of the instructional dollar is invested in teacher salaries. This expenditure accounts for about 83% of total instructional expenditure in each year. This proportion is maintained at both elementary and secondary levels, and in elementary and twelve-grade districts. The support levels for critical non-salary items, however, are quite low. These represent the per pupil expenditures for textbooks, audio-visual aids, teaching and related educational supplies and services.

The expenditure for teaching supplies normally includes items such as: construction and drawing paper, disposable laboratory supplies and equipment; crayons, chalk, film and filmstrip rentals, and duplicating services for teacher-made instructional materials that are crucial to effective classroom instruction. Until 1965-66, funds for teaching supplies were unreasonably low, averaging less than $10 per year per child. During 1965-66, expenditures for supplies were increased to new levels of $12-$18 per child.

Similar gains have not been made in other critical areas, however. Library acquisitions (both of reference and reading volumes and audio-visual materials) remain pitifully low. In the elementary districts, for example, only $3 per pupil was expended in 1965-66, the equivalent of about one book per child.[10] On a classroom basis—where most elementary school libraries are maintained—the average teacher in elementary school districts had only $54 to spend for library and audio-visual materials in 1965-66. The elementary teacher in the twelve-grade districts had barely $100; and high school teachers—where courses are more diversified—had but $120. These amounts are barely adequate to replace antiquated or worn-out volumes and materials in already well-provisioned libraries. Most school libraries in the State, however, are not well-provisions to begin with. Hence, the allocations for library materials must be significantly increased if teachers are to be adequately supported in their instructional programs.

A similar situation exists with respect to expenditures for textbooks and supplementary readers. Nine dollars per child was expended in the elementary districts, or only $162 per average classroom of 18 pupils. An average of $6 per child was expended in the elementary schools of twelve-grade districts. This represents but $138

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*A major program of teacher qualification is recommended in companion reports of the Statewide Study. "Displacement" of unqualified teachers, in many cases, should be accomplished by enabling the underqualified incumbent to complete his own interrupted professional education, then to return as a fully qualified professional.

[10]The introduction of "bookmobiles" and other public library services in these areas is laudable. They are not an appropriate substitute, however, for fully provisioned and diversified classroom and school libraries.

per average classroom of 23 children. At the high school level, textbook and supplementary reader allocations were even less. The $6 per student invested in 1965-66 represented only $120 per average classroom of 20 students. These sums will permit an annual increment of but two to three volumes per student. In a teaching situation in which students are responsible for from four to six subjects, the present rate of acquisitions seems deficient. The problem is further complicated by the fact that at each grade level, and in each subject therein, the normal spread of reading abilities among enrolled pupils is four years. In other words, for each subject taught at each grade level, a teacher needs at least four different texts (or their equivalent) simply to meet the reading needs of her pupils. Most teachers properly insist upon using more than a single text for each subject in order to enrich instruction. Hence the regular, normal need for each subject at each grade level is eight to twelve different books, manuals and bulletins. Confronted with this reality, it is clear that the level of expenditure for textbooks and supplementary readers—as well as for library acquisitions and audio-visual materials—must be doubled or even trebled.

The task of the teacher—particularly at the elementary school level—is further complicated by a lack of appropriate secretarial and related para-professional services. Fully two-thirds of the instructional materials used in good elementary school teaching are teacher-prepared, incidental teaching materials. These range from graphs, charts, exercises and tests, to reading and science materials reproduced from a variety of non-textbook sources. Most teachers have become accustomed not only to preparing the materials but to duplicating or reproducing them as well. The latter is clearly a para-professional task and would be performed more economically by secretarial assistants. High school teachers also devote substantial periods of time to essentially para-professional tasks, as for example: grading tests; reproducing instructional materials; setting up and cleaning laboratory materials, etc.

Secretarial and related para-professional services are practically non-existent in North Dakota schools. An average of only five dollars per pupil was expended for non-professional salaries for the school year 1965-66. For the teacher in the elementay school districts, a maximum of $18 (one dollar per pupil in an average class of 18 pupils) was available for secretarial assistance in that year. In fact, such services were usually employed for administrative matters rather than in support of classroom teaching. The situation in twelve-grade districts was not materially better. An average of three dollars per pupil was expended in 1965-66 for secretarial services. Theoretically, this represented about $69 of service per teacher in that year. Practically speaking, little if any of this service reached the classroom.

To avoid using relatively expensive professional employees in essentially sub-professional tasks, secretarial and related services should be provided in the schools. The need is for about one secretarial or para-professional position for each six teachers. At an annual salary of $2,250 per secretarial position, or its equivalent, this would represent an investment of about $375 per year per teacher; allowing for differences in average class size or in pupil-teacher ratios, these services would cost about $16 per pupil in twelve-grade districts and $21 per pupil in elementary districts.

From the above discussion, it is evident that the State should consider altering its pattern of public expenditure, particularly for instructional services. The problem is not resolved merely by increasing

the number of dollars for instruction, although that must be done. Equally important, new levels of support are needed for certain key services. These include: salaries for qualified elementary teachers; dramatic increases in support for all kinds of instructional materials; and a new emphasis upon the employment and use of secretarial and related para-professional assistance in the schools.

Fortunately, new federal support has recently become available for the purchase of textbooks and related instructional materials through provisions of Title II, Elementary and Secondary Education Act of 1964 (P.L. 89-10). These funds—while not earmarked for exclusive use in public schools—can help materially to improve the instructional services picture in the State. Nevertheless, the State's own investment in support of basic instructional services also should be materially increased.

Effectiveness of Educational Expenditure

In earlier sections, the discussion centered principally upon quantitative matters. How much money is expended for education? What kinds of goods and services are purchased with these funds?

In this and subsequent sections, discussion will be centered on matters more of quality than quantity. A greater degree of interpretation and judgment is reflected in these analyses. The central question examined in this section is: How **effective** is the pattern of public expenditure for education in North Dakota? For the dollars invested annually in the public schools, how well is the State doing in its endeavor to extend guarantees of appropriate and equal educational opportunity to its children and youth?

The discussion is limited to the examination of two principal aspects of the problem. These are:

* Are expended funds providing qualified instructional personnel in the numbers needed to carry out an appropriate educational program?
* Are school programs sufficiently diverse to meet the learning requirements of most, if not all, of the State's children and youth?

If the answer to these questions is an unqualified "yes," the State system of financing may be adjudged to be effective. To the extent that one may not answer "yes" to these questions, the State's fiscal support system for education properly may be judged to be ineffective and in need of appropriate remedy.

1. Criteria of Effectiveness

In order to assure each public school child an appropriate and equal educational opportunity, at least three conditions must be satisfied. These are:

* A fully qualified teacher, prepared for instruction in the area to which she is assigned, is available for significant periods of time to each child enrolled in her charge. The maximum number of students that can be attended adequately by each qualified teacher, it is generally believed, is 25 per qualified elementary school teacher and 22 per qualified secondary school teacher.
* A comprehensive instructional program in which each child may pursue a course of studies that is precisely suitable to his individual interests, competencies, and educational goals.
* A safe, sanitary, and educationally sound school facility, and the means to get the children to and from the facility swiftly and safely.

The single most important of these conditions is the availability of the fully qualified teacher. This is also the single most costly service to be provided, hence may properly be used as basic criterion in determining the effectiveness of the State financial support system for education.

2. Effectiveness of Expenditure for Personnel

Three factors are crucial in determining the effectiveness of expenditure for personnel. These are:

* The level of professional preparation, hence the likely competence, of teachers assigned to the schools.
* The load assigned each teacher, as represented by the average number of pupils in her charge.
* The level of salary provided the qualified teacher, hence the likelihood that the State can attract and hold qualified teachers in numbers sufficient to staff each of its classrooms.

Approximately 47% of all funds expended for education in North Dakota are invested in teacher salaries. This represents about 60% of all current annual expenditures (exclusive of transportation, bonded indebtedness and capital construction), and 83% of all funds expended for instructional services. These proportions of expenditure to support instructional service personnel compare favorably with those in other states. However, the level of competence among teachers provided by the public expenditure for education is grossly uneven among the 527 local districts.

At the secondary school level, the situation is relatively satisfactory. Each of the State's 2,465 high school teachers has earned at least a bachelor's degree in an appropriate field of study. This condition reflects commendably upon the State certification requirements, which in 1955 prohibits the issuance of teaching certificates to applicants holding less than the bachelor's degree. Just over 12% (306) hold a master's degree, however, and the State still ranks very low among the several states because of the limited number of teachers who hold the master's degree.

The situation at the elementary school level, however, is far less satisfactory. In 1965-66, only 1,858, or 41% of the State's 4,541 elementary school teachers were fully qualified by formal preparation to teach at their respective grade levels. The large majority of elementary teachers have not completed an appropriate college education. Indeed, 599 or 13.2% have completed less than three years of initial preparation. An additional 2,084 or 45.9% have completed three years but not a full four-year teacher preparation program."

The impact of these people upon the overall quality of education in the State is crucial. At the secondary school level, high school students are exposed to appropriately qualified professional personnel, even though in many instances the program in which they are engaged may not itself be adequate. At the elementary school level, however, 61,984 or 59.2% of the State's elementary pupils in 1965-66 were taught by teachers who were not fully prepared. Worse still is the fact that 13,832 of those elementary pupils were taught by persons who were grossly underprepared.

Contrary to popular expectation, this situation is not confined to isolated rural areas. Of the 2,392 children enrolled in one-teacher rural schools, all but 165 were taught by teachers holding less than a college degree. Only 764 or 14% of the 5,539 pupils enrolled in

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"EDUCATIONAL PERSONNEL IN THE NORTH DAKOTA PUBLIC SCHOOLS (Grand Forks: 1967) p. 12.

graded elementary districts were able to study under college-prepared teachers. Of the 6,274 elementary pupils enrolled in non-accredited twelve-grade districts, only 1,023 were attended by fully prepared teachers. These essentially rural districts combined, however, enroll only 13.6% of all the State's elementary school pupils. As desperate as the situation may appear to be in the rural districts, their impact upon the State as a whole is not as critical as that of the small twelve-grade districts.

The vast majority of the State's elementary school pupils are enrolled in accredited twelve-grade districts. These districts enrolled an aggregate of 90,498 or 86.4% of all elementary pupils enrolled in 1965-66. Here, size of district is the dominant factor in determining the percent of qualified elementary teachers. Typically, the smaller districts provided proportionately fewer qualified teachers than the larger, urban districts. Those twelve-grade districts that enrolled fewer than 400 students in their high school, for example, enrolled an aggregate of 50,246 elementary pupils. Of these, 38,483 or nearly two-thirds were instructed by non-degree teachers. In other words, 62% of all pupils that were instructed by non-degree teachers in 1965-66 were enrolled in small accredited twelve-grade districts. Over 70% of all such children were enrolled in small twelve-grade districts of all types, accredited and non-accredited.

By contrast, less than 10,000 or 16% of the 61,984 elementary pupils that were enrolled under non-degree teachers in 1965-66 were enrolled in large twelve-grade districts. Clearly, then, the small twelve-grade district in North Dakota is the source of most of the State's inadequate elementary school instruction. The statistics in support of this discussion are reproduced in detail in the Statewide Study report on school personnel. These data are reproduced in Table 4.

Moreover, the State lacks key educational service personnel, even among the largest urban school districts.

School librarians are in short supply: 284 full-time librarians are are needed, as judged by minimum standards. Only 202 are now employed—most of them part-time—and even they have completed less than 50% of required preparation in the library sciences.

High school counselors now provide essentially part-time services to 16,500 of the State's 44,466 high school students; for nearly two-thirds of the high school population, the schools offer no access to qualified academic and vocational counseling services. At least 92 additional full-time counselors are required, and the preparation of counselors now in service needs to be increased.

Teachers for the educationally handicapped are virtually non-existent. At least 199 special education teachers are needed in elementary schools, and 85 at the high school level.

Except in the largest districts, elementary supervisors and administrators are generally part-time. Moreover, they are underprepared for their leadership responsibilities. Only 68 of the State's 261 principals qualify for State certification; and 58 of those who do qualify are employed by the 11 school districts of the State that enroll 1,750 or more pupils. At least 259 qualified, full-time elementary administrators and supervisors are needed in the State.

High school supervisors and administrators, as a group, are even less well-prepared than those in the elementary schools. There are only 38 fully qualified high school principals in the State. An additional 201 persons hold part-time positions as high school administrators,

TABLE 4

STUDENT ENROLLMENT AND NUMBERS OF TEACHERS BY SIZE OF SCHOOL DISTRICT: 1965-66

Classification of District by Enrollment Grades 9-12	Number of Districts	September 30 Enrollment			Number of Teachers			
		Elem.	Sec.	Total	Elem. Non-Degree	Elem. Degree	Sec.	Total
A. Non-Accredited High School Districts								
1-24	6	365	114	479	14	6	16	36
25-49	47	3,918	1,713	5,631	161	28	133	322
50-74	9	1,093	517	1,610	46	8	31	85
75-99	4	580	334	914	22	2	21	45
100-149	1	318	144	462	9	10	6	25
Sub-Total	67	6,274	2,882	9,096	252	54	207	513
B. Accredited High School Districts								
1-24	1	87	18	105	3	1	5	9
25-49	15	1,416	631	2,047	51	14	61	126
50-74	39	5,019	2,416	7,435	198	43	190	431
75-99	45	7,972	3,792	11,764	270	80	271	621
100-149	37	9,068	4,411	13,479	315	74	275	664
150-199	28	10,442	4,900	15,342	318	124	293	735
200-299	24	10,523	5,468	15,991	276	147	292	715
300-399	9	5,665	2,963	8,628	154	70	158	382
400-499	2	2,475	971	3,446	33	60	42	135
500-999	5	5,537	3,192	8,729	95	121	144	360
1000 or more	6	30,964	11,197	42,161	248	1,012	527	1,787
Sub-Total	211	89,168	39,959	129,127	1,961	1,746	2,258	5,965
C. Elementary Districts								
1-49	47	1,443		2,051*	96	12		108

TABLE 4 (Continued)

Classification of District by Enrollment Grades 9-12	Number of Districts	September 30 Enrollment Elem.	Sec.	Total	Number of Teachers Elem. Non-Degree	Elem. Degree	Sec.	Total
50-99	20	1,320		1,876	57	16		73
100-199	10	1,330		1,890	57	7		64
200 or more	4	1,446		2,055	58	8		66
Sub-Total	81	5,539		7,872	268	43		311
D. One-Room Rural	168	2,392		3,400	203	15		218
E. GRAND TOTAL	527	103,373	42,781	149,495	2,684	1,858	2,258	7,007

*Projected 1-12 Elementary plus estimated High School Tuition Students.

but are not qualified to do so, in accordance with minimum certification standards. No fewer than 109 full-time qualified secondary administrators are needed in the State.

In order to remedy this situation, the State faces two potential challenges. These are:

* To qualify 2,690 presently employed elementary teachers by further preparation and/or to replace them with persons who are adequately prepared.[12]
* To alter the pattern of school district organization in ways that will minimize the undesirable influence on instruction of small twelve-grade districts.

Higher standards have already been introduced by the State to insure that new personnel seeking positions in elementary schools will be prepared adequately for the task. More dramatic action will be needed, however, to get at the heart of the problem. Two conditions still prevail that mitigate against self-correcting solutions. Underprepared teachers tend to persist in their positions, and—left to their own initiative—do not take appropriate steps to upgrade their formal preparation.

Turnover among teaching personnel is significantly low among those local districts that rely principally for instruction upon non-degree teachers.[13] Moreover, non-degree elementary teachers are not now progressing satisfactorily toward completion of their professional preparation programs. During the past five years, only 44% of the non-degree teachers completed additional study beyond their initial two or three years of preparation. The average progress reported by these teachers during the five-year period was 16.2 semester hours of study, an amount equivalent to about one course per year.[14] At this rate of progress, a teacher with three years of initial preparation would require not less than 10 additional years to complete her formal study. The 599 elementary school teachers with only two years of initial preparation would require 20 years to complete their study. Needless to say, the content of their initial preparation would be grossly out-dated before completion of their studies. Importantly, the majority of elementary school children would continue to be exposed to underprepared teachers during these periods. A more expeditious means to qualify teachers now in-service, or—where necessary—to displace them with qualified personnel, must be developed and implemented if the State is to meet its basic obligations at this level.

It may fairly be inferred, therefore, that the pattern of public expenditure for personnel services is not effective. The basic underlying personnel condition is itself inequitable, in that the majority of elementary students in the State are not receiving instruction from qualified teachers. Funds expended in support of non-degree personnel are not wasted, to be sure. There is something to be gained

[12]The value of experience in providing quality instruction is not discounted. Nor is the fact that an individual teacher who has not initially been fully prepared might not perform credibly—even brilliantly, in isolated instances—in the classroom. The issue, however, is one of public policy. Good public policy dictates that each child should have an appropriate and equal educational opportunity. To be appropriate, the educational opportunity afforded the school child should be provided by a qualified instructor. To be equal, all children enrolled in the State's schools—not some or most—should be instructed by fully qualified teachers. As the basically prepared teacher gains in experience through actual classroom teaching, the quality of her instruction should increase to higher levels than can be attained by the initially underprepared teacher.

[13]Ibid, p. 35.

[14]Ibid, Table 5.

simply by having the children in school, even with underprepared teachers. However, the point affecting public policy is this: the dollars invested in the larger, urban districts—where most of the fully prepared elementary teachers are employed—provide a more effective educational situation than do those expended in the small twelve-grade districts and in the rural graded and one-teacher schools. A monumental effort will be required to place a qualified elementary teacher in every classroom in the State. Concomitantly with that effort, the State faces the task of also increasing its total level of support for qualified personnel. Neither task will be easy. Each, however, is essential.

3. Effectiveness of Expenditure for Instructional Programs

Qualified instructional and educational service personnel determine the quality of education. North Dakota is deficient in this respect. However, students also must be engaged in a school program that is relevant to the State's needs for literate, skilled, and productive citizens. The school program also must provide for the individual needs, aspirations, and capabilities of its pupils. A good school program is one that reconciles these needs—those of society and of the individual student—into an individualized program of instruction. The characteristics of a good program are these:

* The courses of study are relevant; that is: when successfully completed, the student is equipped to behave intelligently as a citizen, to pursue additional education on his own, to use a marketable skill, and to solve personal and social problems within the limits of his intellectual abilities.
* The courses of study are sufficiently broad and diverse that they permit a wide range of individual choice in program planning, and permit each student to pursue educational and vocational goals appropriate to his needs, interest, and aspirations.
* Qualified instructors are available in numbers sufficient to permit a high degree of individualized instruction; moreover, each teacher is supported adequately with instructional materials, aids, and equipment, and the advice and assistance of qualified educational service personnel (e.g., librarians, counselors, supervisors, administrators).

When examined against these criteria, North Dakota presents a mixed picture. Some schools are exceptionally good. They offer a broad range of programs; qualified personnel are retained in numbers sufficient to enable instructional programs to be individualized for each student; instructional materials and aids are reasonably well developed, educational service personnel are retained in near appropriate numbers. Most schools, however, appear to be mediocre. A distressingly large number clearly are inadequate.

The Typical School

Schools in North Dakota vary widely with respect to enrollment, breadth of curriculum, quality of professional services, and adequacy of instructional materials. With such diversity in performance, generalizations are difficult to support.

The majority (64.8%) of students are enrolled in 74 of the State's 527 operating districts. In this sense, the "typical" school may be defined as one attended by most students. By this criterion, the typical student attends school in a district of about 1,300 pupils, of which 900 are enrolled in grades 1-8, and 400 in grades 9-12. Such a district may operate several elementary schools, but typically contains just one high school. (Re-examine Table 4 for details.)

Most school districts in North Dakota, however, are far smaller than those "typical" data would suggest. The median size district enrolls 265 pupils in grades 1-12, of which 175 are enrolled in grades 1-8, and 90 in grades 9-12. By this measure, the typical school district is about one-tenth the size deemed by the Conant Report to be minimal for effective and economic instruction.

The median size North Dakota elementary school enrolls sufficient pupils (175) to justify a full-time teacher in the early and intermediate grades, and a single teacher for combined 7th and 8th grade classes. The median size high school enrolls about 90 students. It offers a minimum of 22 and a maximum of 28 different courses each year, the equivalent of seven courses per grade. In the typical high school, the high school student may obtain courses in English, social studies, mathematics, and some aspects of business education. He has difficulty in obtaining sufficient courses in the natural sciences, advanced mathematics, foreign language, or agriculture. Girls have slightly broader choices in program planning than boys. Typically, they may obtain courses in homemaking, as well as in certain aspects of business education. Boys, however, have few choices beyond basic English, mathematics, and social studies. Vocational or pre-vocational courses—because they are extremely costly—are scarce; when offered, choices are limited. If a student has a special learning problem, the typical school is unable to provide special corrective or remedial assistance.

Influence of District Size on Program Effectiveness

It was established earlier that the typically small school district in North Dakota employs the greatest proportion of non-degree teachers. Also it employs the fewest number and proportion of educational service personnel (counselors, librarians, special education instructors, qualified supervisors, and administrators). District size reflects disadvantageously in the program areas as well.

* Curriculum choices are extremely restricted in small high school districts; most cannot provide a comprehensive high school program despite—in a few instances—heroic attempts to do so.
* The number of courses available to a student in a given year is significantly less in small high schools than it is in those that enroll 1,000 or more.
* The quality of academic attainment among students in small districts also is significantly less than students in the State's few large enrollment districts.
* Moreover, teachers in the State's small districts typically must teach in fields outside their own field of preparation; the number of different classes taught by teachers in small schools far exceeds those in the State's well-organized districts.

District Size and Breadth of Curriculum

A survey of high school curricula was made by size of district in North Dakota. The full results are reproduced in Appendix B. The key findings, however, warrant the conclusion: more than any other factor, the place where the pupil lives in the State determines the degree and quality of educational opportunity available to him.

For example, the high school student in Grand Forks can plan his four-year program from among 93 different course selections. The same pupil—were he to move to the typical 90-pupil high school in the State—would be limited to 26 or 27 courses. In Table 5, the average number of courses in grades 9-12 is given for each category of

twelve-grade districts in the State. It should be noted that—although the State requires that a high school to be accredited must offer no fewer than 26 courses—the average number of courses offered by some schools in six different classes of districts falls below minimum. About 22,900 high school pupils, or 53.7% of those enrolled in 1965-66, attended classes in districts that offer minimal or substandard course offerings.

Small schools have exercised great ingenuity in meeting minimum curriculum standards. Typically, they try to do so by offering different courses in alternate years, and by employing teachers to teach in more than one field; also they eliminate or limit services that typically would be available to students in larger districts(particularly counseling, special education, etc.).

The plurality of students in the State are enrolled in high school programs that afford them such limited choices and opportunities that—for all practical purposes—each student gets essentially the

TABLE 5

AVERAGE NUMBER OF HIGH SCHOOL COURSES OFFERED IN NORTH DAKOTA: 1965-66

Classification of Districts (by enrollment in grades 9-12)	Number	Average Enrollment	Average Number of Teachers	Average Number of Courses
A. Non-accredited 12-grade Districts				
1-24	6	19	2.7	13
25-49	47	36	2.8	16
50-74	9	57	3.4	20
75-99	4	83	5.0	26
100-149	1*	144	6.0	35
Sub-Total	67	42**	3.1	16
B. Accredited High School Districts				
1-24	1	18	5.0	18
25-49	15	42	4.0	21
50-74	39	62	4.9	24
75-99	45	84	6.0	27
100-149	37	119	7.4	29
150-199	28	175	10.5	33
200-299	24	228	12.2	37
300-399	9	329	17.5	38
400-499	2	485	21.0	43
500-999	5	638	28.8	48
1000 or more	6	1866	87.8	71
Sub-Total	211	127	15.0	37

SOURCE: A Survey and Comparison of North Dakota High School Curicula, reproduced in Appendix B.

Notes: * This district exemplifies the extraordinary effort required to provide a comprehensive program for limited numbers of students. Five teachers serve 18 pupils and teach 18 different courses annually, an average of 4.5 different courses per grade. The per pupil cost in the district, however, is estimated to be $1,121 per pupil, as compared to $403 per high school pupil for the State as a whole.

** These are median estimates, that is, midpoints. One half the districts score higher than the median; one half, lower.

same educational fare, regardless of pronounced individual differences. Indeed, in a State that traditionally prides itself in its local control of education, local districts themselves have imposed upon their students an educational program more limited and unyielding than any State authority would dare impose.

District Size and Achievement

Contrary to popular conviction, students in the State's small school districts do not—on the average—perform as well as students in large school districts as measured on standard tests of academic achievement.

In 1965, 16,534 ninth and eleventh grade students—43% of all the State's high school enrollment in that year—were tested in eight significant areas of academic achievement. These included:

Basic Social Concepts
Natural Science Background
Correctness of Expression
Quantitative Thinking
Interpretation: Social Studies
Interpretation: Natural Sciences
Interpretation: Literature
Composite Scores
Uses of Sources of Information.

A total of 196 schools participated in the ninth grade testing program; a total of 8,454 students were tested. For grade eleven, 196 schools participated; a total of 8,080 students were tested.

The selection of the ninth grade for testing produced one objective basis for assessing the impact of elementary instruction on student achievement. The tests were administered to ninth graders in November of the school year, hence could not reflect the potential contribution of high school instruction to test scores. By inference, the testing measured the contribution of eight previous years of elementary instruction.

The testing program among 11th graders similarly provided one objective basis for assessing the impact of two previous years of high school instruction, as well as the eight earlier years of elementary school instruction.

Test results at both ninth and eleventh grades on composite scores (that is: achievement averaged over the eight skill areas) were potentially disturbing. With two exceptions, pupils in larger schools obtained higher average achievement test scores than pupils in smaller schools. The results are summarized in Table 6.

Lack of high academic achievement among ninth graders in small and medium school districts doubtlessly reflects the paucity of quality instruction in their elementary school experience. The small districts are those that retain chiefly underprepared elementary teachers; devote substantially smaller sums to instructional materials, texts, and related equipment, and provide practically no special services to promote learning. Contrariwise, where achievement is high—in large districts—fewer non-degree teachers are employed; expenditure for instructional aids is greater; special service personnel more frequently are employed.

The situation with respect to eleventh grade students follows the same general pattern: small schools reflect less average achievement than large school districts. The data are summarized in Table 7.

Evaluations based upon a single test battery, of course, have

limited value. The test program herein described, however, demonstrates clearly a relationship between size of district and educational performance. In summary, these relationships are:

Districts that enroll fewer than 300-400 pupils in the upper four grades characteristically: retain fewer qualified teachers; offer fewer curriculum opportunities at the high school level; provide little or no special learning aids; and their students, on the average, perform less well on standardized tests of achievement.

District Size and Teacher Load

Not only are teachers in small districts less well prepared than their counterparts in large districts: characteristically they also have more complex, even heavier, teaching assignments. This is occasioned by the fact that the relatively small number of pupils in the rural and village areas do not permit teachers to group pupils conveniently for instruction.

TABLE 6

MEAN ACHIEVEMENT ON COMPOSITE SCORES (IOWA TEST OF EDUCATIONAL DEVELOPMENT): Ninth Grade by Size of District

Classification of District (by Enrollment in Grades 9-12)	Total No. Schools	Number Tested	Number Pupils	Mean Score
A. Non-Accredited High School Districts				
1-24	6	2	14	*
25-49	47	36	347	31.0
50-74	9	7	111	30.7
75-99	4	3	64	30.1
100-149	1			
B. Accredited High School Districts				
1-24	1	1	8	*
25-49	15	11	133	29.7
50-74	39	24	389	32.7
75-99	45	27	624	31.3
100-149	38	23	712	31.4
150-199	28	21	995	31.9
200-299	24	21	258	32.8
300-399	9	8	682	33.0
400-499	2	2	255	35.8
500-999	5	4	868	36.5
Above 1000	6	6	2,994	36.7

SOURCE: Summary Analysis of 1965 Iowa Tests of Educational Development; State of North Dakota, Gary E. Boyles, University of North Dakota, June 30, 1966, (Mimeograph).

NOTE: *Sample to small to justify comparison. Mean score invalid.

Test of Significance: "t" Test for significant differences among means was established at the .01 level of confidence. Highest average achievement is recorded by students in schools enrolling 400 or more; median achievement by pupils in schools of 100-399; lowest achievement was recorded for pupils in schools enrolling fewer than 100 students.

TABLE 7

MEAN ACHIEVEMENT ON COMPOSITE SCORES (IOWA TEST OF EDUCATIONAL DEVELOPMENT): Eleventh Grade by Size of District

Classification of District (By Enrollment in in Grades 9-12)	Total Number Schools	Number Tested	Number Students Tested	Mean Scores
A. Non-Accredited High School Districts				
1-24	6	3	15	*
25-49	47	36	306	39.7
50-74	9	7	106	36.9
75-99	4	3	64	38.4
100-149	1			
B. Accredited High School Districts				
1-24	1	1	3	*
25-49	15	10	106	38.1
50-74	39	24	368	43.9
75-99	45	28	555	42.6
100-149	38	23	668	41.5
150-199	28	22	931	42.2
200-299	24	20	1,032	43.4
300-399	9	8	639	44.8
400-499	2	2	200	45.8
500-999	5	3	476	45.3
Above 1000	6	6	2,611	47.3

SOURCE: Summary Analysis of 1965 Iowa Tests of Educational Development: State of North Dakota, Gary E. Boyles, University of North Dakota, June 30, 1966 (Mimeograph).

NOTE: *Sample to small to justify comparison. Mean score invalid.

Test of Significance: "t" test for significant differences among means was established at the .01 level of confidence. Highest average achievement is recorded by students in schools enrolling 300 or more students in grades 9-12; least average achievement is recorded by students in schools that enroll fewer than 75 pupils.

In 1965-66, many North Dakota elementary teachers were assigned combination classes. The reason for these assignments rarely had to do with program innovation or team teaching. Rather, the assignments were imposed upon the school and the teacher because of the limited school enrollment. In other words, a school might enroll 100 elementary pupils. Of this number, 80 might be enrolled in grades 1-6, with an average of 12-18 students per grade. At the 7th and 8th grade level, however, the combined enrollment is 20. The district might calculate that it cannot afford to provide a full-time teacher for each 12 pupils in grades 1-6, and a separate teacher for grade seven and grade eight. Hence, it combines these classes in different ways and assigns teachers to teach pupils at two or more grade levels. This occurs sometimes in larger districts as well; there it is sometimes expedient to combine two grades for a few children in order not to exceed a reasonable pupil-teacher ratio in some potentially

crowded class. This may be justified when it is a non-recurring action. In small schools, however, the combining of classes occurs year in and year out due to limited enrollments.

In 1965-66, about one in six teachers in the State reportedly was assigned to a combination class. (This figure is probably too low, due to inaccurate reporting from certain districts. One in five probably would be a more realistic estimate.) Most of the combination classes were offered in small schools. These figures are summarized in Table 8.

TABLE 8

ASSIGNMENT OF ELEMENTARY TEACHERS TO COMBINATION CLASSES 1965-66

Classification of District (By Enrollment in Grades 9-12)	Total Teachers	Number Assigned to Combination Classes	Percent
One-Room Rural Schools	189	189	100.0
Graded Elementary Districts	297	154	51.8
Accredited Small Twelve-Grade Districts (Enrolling fewer than 200 in Grades 9-12)	1219	101*	8.3*
Non-Accredited Twelve Grade Districts	251	37*	14.7
Type 1 Accredited Districts	1596	61	3.8

SOURCE: State Department of Public Instruction Annual Personnel Report.

Note: *An obvious error in reporting; correct figure more nearly 20%.

From the table it is clear that the larger twelve-grade districts assign significantly fewer teachers to combination classes. In the larger districts, moreover, most of those so assigned are music teachers, who provide their special instruction at all grade levels. Consequently, it may be inferred that the number of children involved in undesired combination class instruction can be reduced in schools that are of relatively large size. The practice exists principally in small schools. The implication is clear, therefore, that it can be largely eliminated by reorganizing small schools into large ones within Type 1 accredited districts.

The situation at the high school level is only slightly better in this respect than that reported at the elementary level. Each high school teacher in North Dakota was appropriately prepared, basically, to teach in the high schools of the State. However, many were so assigned as to misuse the teacher's skills.

In large school districts, the high school teacher almost invariably is assigned to teach exclusively in an area in which he has been prepared to teach (e.g., science, mathematics, English, social studies, etc.). This practice is both necessary and desirable for high achievement by students in those areas.

In smaller schools, however, high school teachers must do double, even triple duty. That is, they not only teach in their field of specialization, but also must teach in a field in which they have had minor or superficial preparation, if any.

Some combining of fields, of course, is desirable. One frequently combines science and mathematics, or music and art, or physical

education and social studies. It is difficult, however, to prepare a teacher with combinations of skills frequently demanded in small schools. These include: foreign language, industrial arts, business education, etc. Consequently, these courses frequently are omitted from the programs of small schools; when offered, unqualified teachers often are assigned to teach them.

In Table 9, a revealing picture is unfolded. Of the 2,465 high school teachers employed in that year, 1,302 or 52.8% were assigned courses in two or more fields of specialization. Approximately 47% taught solely in their field of major, the accepted practice. Seven percent of the teachers were assigned to teach in as many as four different fields of instruction, a task beyond the capabilities of all but the most accomplished scholar. An additional 12% were assigned to teach in three different fields of instruction, and 34% were assigned courses in two different fields.

TABLE 9

ASSIGNMENT OF HIGH SCHOOL TEACHERS TO DIFFERENT FIELDS OF INSTRUCTION: 1965 - 1966

Assignment	Number of Local Districts		High School Enrollment		Number of Teachers	
	No.	%	No.	%	No.	%
Solely in major field of pre-service preparation	46	16.5	23,791	55.61	1,163	47.18
In two different fields	111	39.9	13,121	30.67	844	34.23
In three different fields	64	23.0	3,495	8.17	288	11.68
In four or more fields of instruction	57	20.5	2,374	5.55	170	6.90
TOTAL	278	100.0	42,781	100.00	2,465	100.00

SOURCE: State Department of Public Instruction Annual Report.

Combination teaching at the high school level in 1965-66 affected 18,990 or 44.4% of all students enrolled in that year. Not all of that instruction can be deemed to be inappropriate. Certainly, however, the 5,869 students who were instructed by teachers who taught in three or more different fields of specialization were not obtaining top quality instruction in one or more fields. The extent of combination teaching at the high school level varies with size of school. Small high schools require their otherwise qualified teachers to attempt an almost impossible number of different course assignments.

Most teachers can teach at either of three or four different levels of courses in their field of major. For example, it can be assumed that, as required, a properly prepared English teacher is able to teach freshman, sophomore, junior, and senior courses in English, including grammar, composition, and American and English literature. Similarly, a teacher of mathematics can undertake to teach freshman and advanced algebra, trigonometry, plane and solid geometry, and—in some cases—elements of calculus. Similarly, a science teacher may be able to teach freshman general science, inorganic chemistry, elementary biology, and elementary physics. However, this degree

of generalized teaching skill can hardly be expected in the future in view of the advances in each of the sciences in recent years.

The foreign language teacher has a different problem. She can teach elementary French and Spanish, perhaps, and can offer advanced courses in one or the other, but rarely in both. In the small school, however, enrollments in language courses are so small—when they are offered at all—that the school typically cannot afford to support a teacher who is assigned full-time to language courses. The qualified language teacher, however, has no other strong field of concentration in which she can ably teach. To assign her to teach something other than language does both the teacher and the student a disservice.

Therefore, a district should have sufficient enrollment to warrant the assignment of teachers to no more than three different levels

TABLE 10

DIFFERENT COURSES ASSIGNED HIGH SCHOOL TEACHERS IN 1965-66 BY SIZE OF DISTRICT

Type of District	Number	Average Enrollment	Average Number Teachers/ District	Average Courses Offered	Average Different Courses/ Teacher
Non-Accredited 12-Grade Districts					
1-24	6	19	2.7	13	4.8
25-49	47	36	2.8	16	5.7
50-74	9	57	3.4	20	5.9
75-99	4	83	5.0	26	5.2
100-149	1	144	6.0	35	5.8
Sub-Total	67	42**	3.1	16	5.2
Accredited 12-Grade Districts					
1-24	1	18	5.0	18	3.6*
25-49	15	42	4.0	21	5.3
50-74	39	62	4.9	24	4.8
75-99	45	84	6.0	27	4.5
100-149	37	119	7.4	29	3.9
150-199	28	175	10.5	33	3.1
200-299	24	228	12.2	37	3.0
300-399	9	329	17.5	38	2.2
400-499	2	485	21.0	43	2.0
500-999	5	638	28.8	48	1.7
1000+	6	1,866	87.8	71	0.8
Sub-Total	211	127**	15.0**	37**	2.5**
TOTAL	278	154	8.9	27	3.0

*This district exemplifies the extraordinary effort required to provide a comprehensive program for limited numbers of students. Five teachers serve 18 pupils and teach 18 different courses annually, an average of 4.5 different courses per grade. The per pupil cost in this district, however, is estimated to be $1,120.94 per pupil, as compared to $402.91 per high school student for the State as a whole.

**These are median estimates, that is, the midpoint. One-half of the districts score higher on this measure and one-half score lower.

of instruction, and all in the teacher's field of major or strong secondary emphasis. A school needs to enroll at least 200-215 students in the upper four grades in order to achieve this level of assignment. The State Department of Public Instruction recognizes this fact in accrediting districts. Only if it enrolls a minimum of 215 students in the upper four grades (senior high school) does a district achieve Type 1 accreditation. In Table 10, the relationship between high school district enrollment and the number of different courses assigned to teachers is reported. Note that the average number of different courses for all high school teachers for 1965-66 was three. For most teachers, this means that they were able to teach principally in their field of specialization. Note also, however, that no class of districts that enrolled fewer than 200 pupils in the upper four grades was able to attain that ratio of three different courses per teacher. Districts enrolling 1,000 or more pupils were able to guarantee that the teacher was assigned to her field of specialization. Districts enrolling as few as 50 pupils in the upper four grades required their teachers to teach in excess of five different fields or levels, a task for which the teacher was not prepared, nor indeed could be prepared in order to perform satisfactorily.

SUMMARY

Expenditure of funds alone does not guarantee that the educational system will be able to offer each North Dakota school child an appropriate and equal educational opportunity. Only people can do that, by design of good curricula, and by conduct of good instruction, and related educational services.

From the survey of education in North Dakota, it seems evident that the educational system is deficient in certain key aspects. These are:

(1) The educational system is comprised principally of small school districts; their very size prohibits the development of broad curricula, appropriate teacher assignments and the provision of basic services at reasonable cost.

(2) The educational system relies unduly upon underprepared—and therefore partly unqualified—educational personnel, particularly at the elementary school level.

The net social result of these conditions is that the public expenditure for public education largely is dissipated and unproductive. Moreover, pupils are penalized; despite the State's policy of equal and adequate educational opportunity, place of residence in the State largely determines the extent and quality of the pupils' educational opportunity.

The condition can be corrected only by substantial administrative reorganization and by massive training and retraining of educational personnel. Mere added expenditure will not suffice.

Efficiency of Educational Expenditure

In the preceding section, it was established that the public expenditure for education in North Dakota essentially is non-productive and ineffective, in relation to the broad policies and goals of the education system. Guarantees of equal and adequate educational opportunities had not been established in the State by 1965-66, either at the elementary or secondary level. The central problem to be corrected at the elementary school level is that of the underprepared teacher. The central problem at the secondary level is that of limited curriculum and learning services, occasioned in largest part by an ineffective pattern of local district organization.

In this section, the efficiency and economy of the public expenditure is considered. To be efficient, there should be an appropriate educational return for each dollar invested. The investment of one dollar in educational support should purchase approximately equal value in one school district as in another (with due allowance for regional differences in cost of public administration). Efficiency also dictates that there be a productive distribution of funds among the various factors contributing to education: professional services, learning aids, physical plant, and administration.

Influence of District Size on Cost of Education

District size already has been demonstrated to be a major factor in program effectiveness. It is clear that each dollar invested in small school districts in North Dakota purchases less service, and less quality of service, than does the dollar of expenditure in large districts. From the ensuing discussion it also will become clear that small districts consume large sums of money—indeed, proportionately greater sums than large districts—while producing less useful and productive educational services. In other words, not only are small districts ineffective; they also are extremely expensive to maintain. The evidence, as summarized in Table 11, is clear and compelling.

The effect of school district size on four different categories of education expenditures in 1965-66 is readily discernable from data presented in Table 11. In Column 2 of the table, the average cost to provide the normal, recurring operational services (exclusive of transportation) attendant upon local school districts may be seen to be significantly higher where school enrollment is lower. The overall average expenditure in the State in 1965-66 was estimated to be $426.62 per pupil. But the average cost among small non-accredited high school districts was $450.15; among small accredited high school districts the cost differential ranged from $400 to $547.

The six largest districts in the State (those enrolling 1,000 or more pupils in grades 9-12) also expended more than the State average per pupil. In 1965-66, the average expenditure in those districts was reported to be $442.65. This level of expenditure seems warranted there: teachers are qualified; salaries are higher; curriculum is broad are diverse; extensive educational services are provided; instructional materials and aids are used; average educational performance and achievement is the highest in the State.

The exceptional expenditure among smaller districts, however, does not reflect this quality and extent of service. Teachers largely are underprepared; combination classes are common; instructional materials and aids are in limited use; curriculum is limited and uniform; salaries are low; educational services are virtually non-existent; average educational performance and achievement is the lowest in the State.

Specifically, the expenditures in Table 11 include:

Current Operating Expenditure (Column 2)

1. Total General Fund expenditure less Transfers and Transportation.
2. Revenue paid into Recreation Fund.
3. Revenue paid into Social Security Fund.

Transportation (Column 3)

1. General Fund expenditures for Transportation.
2. Revenue paid into High School Transportation Fund.

TABLE 11

AVERAGE EXPENDITURES FOR ESSENTIAL SERVICES BY SIZE OF DISTRICT: 1965-66

(In Dollars Per Pupil)

Classification of District (By Enrollment in Grades 9-12)	Number of Districts (1)	Current Operating Expenditures (2)	Transportation (3)	Capital Expenditure (4)	Total Expenditures (5)
A. Non-Accredited High School Districts					
1-24	6	547.14	32.87	37.87	617.88
25-49	47	452.23	70.09	65.04	587.36
50-74	9	392.61	68.61	76.69	537.91
75-99	4	452.56	79.44	90.51	622.51
100-149	1	520.19	22.97	37.00	580.16
Sub-Total	67	450.15	66.42	66.81	583.38
B. Accredited High School Districts					
1-24	1	547.04	85.24	180.02	812.35
25-49	15	527.61	66.31	72.21	665.99
50-74	39	470.31	63.18	99.69	633.18
75-99	45	456.90	74.59	101.44	632.93
100-149	37	407.40	62.11	81.66	551.17
150-199	28	399.28	60.58	85.55	545.41
200-299	24	402.19	47.67	79.19	529.05
300-399	9	398.81	59.08	50.28	507.98
400-499	2	339.24	12.18	59.68	411.10
500-999	5	405.91	8.90	84.99	499.80
1000 or more	6	442.65	4.34	72.25	519.24
Sub-Total	211	424.95	37.44	79.06	541.45
C. Elementary Districts					
1-49	47	471.84	55.59	17.82	545.25
50-99	20	370.57	76.87	77.47	524.91
100-199	10	364.75	79.97	60.80	505.52
200 or more	4	424.11	80.52	17.73	522.36
Sub-Total	81	409.42	73.00	42.32	524.74
D. One-Room Rural Districts	168	409.42	73.00	3.91	527.98
E. GRAND TOTAL	527	426.62	41.48*	75.68	543.12

SOURCE: Statewide Survey

*Transportation costs per transported pupil are about $106. Every pupil is not transported. When total transportation costs are divided by the total number of pupils, the cost per enrolled pupil is $41.48. By expressing transportation costs here in terms of cost per enrolled pupil, it is possible then to add transportation costs to other costs to attain a total cost per pupil for all services.

Capital Expenditure (Column 4)

1. Revenue to Building Fund.
2. Local Revenue to Construction Proceeds Fund.
3. Federal Revenue to Construction Proceeds Fund.
4. Revenue to Sinking and Interest Fund.
5. Revenue to Special Assessment Fund.

Of even greater concern is the relatively high expenditure level among elementary and one-room rural districts. Thees districts provide only up to eight grades of education; they do not provide the expensive upper four grades, although they do make tuition payments to other districts for high school services. Elementary districts enrolling 200 or more pupils, for example, expend at the State average per pupil level. One-teacher schools cost nearly as much.

One may speculate as to the potential influence of administrative reorganization upon the cost of public education in North Dakota. In 1965-66, if all districts had enrolled at least 200 pupils in the upper four grades, some considerable economies might have been effected; these savings then might have been invested in quality improvements in education. Specifically, districts then might have been enabled to increase efficiency of operations by appropriate additional expenditures for instructional materials, plant maintenance, and added instructional services.

Equity of Educational Expenditure

Earlier the point was established that: place of residence—more than any other single factor—determines the quality and extent of educational opportunity available to pupils in the State of North Dakota. Therefore, not only may the education system be deemed to be ineffective and inefficient; it may be considered to be inequitable as well. By re-examining Table 11, the inequity of the system may be seen in dollars spent for current operating expenditure, and also in the costs of extraordinary expenses of education.

The normal and recurring "current operating expenses" of education typically include salaries, instructional materials, welfare benefits, maintenance and operation of physical plant, and minor improvements or replacements in buildings and equipment. In 1965-66, this averaged $426.62 per pupil. However, the total number of dollars invested in education in that year was an average $543.12 per pupil. The additional dollars were required for two principal "extraordinary" costs, namely: transportation of pupils and service charges for the construction of facilities. In other words, about 78% of the total expenditure was required to operate school programs; 22% was used to house and transport pupils. Each of these expenditures is necessary, to be sure. Children must be housed. Also they must be bused to and from school when they reside in isolated areas. The normal, recurring costs of instruction also must be supported.

The costs are borne inequitably by the citizens of the State, with place of residence being a determinant of dollar input, just as it is a determinant of educational opportunity. Notice (in Table 11) the great variance in costs per pupil for transportation and capital expenditure among the districts. In the large districts (those enrolling no fewer than 500 pupils in the upper four grades), the districts expend only an average of $4.34 to $8.90 per pupil for transportation (Column 3). For the six largest districts in the State, this represents less than 1% of their total expenditure for education. At the other extreme, accredited high school districts that enrolled but 100-149

pupils in the upper four grades spent $62.11 or more than 11% for school transportation. In other words, smaller districts—because of their relatively sparse concentration of pupils—typically are forced to devote proportionately more money on transportation; hence, either they must spend proportionately more money overall than do larger districts, or they must restrict their investments in instruction.

Similar observations are warranted with respect to capital expenditures. In Column 4 of Table 11, one may observe that the average per pupil expenditure for school facilities varies from $3.91 in the 168 one-room rural districts to $180.02 in the accredited high school districts that enrolled fewer than 25 pupils in the upper four grades.

These expenditures, however necessary, have an inequitable impact on local districts. In other words, certain districts in the State must—because of a lack of concentration in population—spend proportionately more money than other districts simply to get children to and from school. Although the State provides some assistance for transportation, the bulk of the impact falls upon the residents of the local district; hence, unless the district makes some extraordinary local effort to pay for transportation, it necessarily must conserve on its expenditure for instruction. In terms of public policy, this must be considered to be inequitable.

The same principle may be applied to capital expenditures. Local districts vary in their abilities to tax themselves for education. This is due to differences in assessed valuation on property. Yet, under the present system, each district must raise funds locally from time to time to construct new facilities, or to remodel or renovate existing facilities. This burden falls upon the local residents. The net result is inequity. The district with greater tax capacity can finance new construction with less effort than other districts; moreover, it can finance new construction without need to cut back its support for instruction. Poorer districts do not have these options. Hence, the present system must be considered to be inequitable as it applies to capital costs, as it is with respect to transportation costs.

Concepts of Extraordinary Costs

To rectify this situation, the Statewide Study Team would like to introduce a new concept in financing of education, namely: the concept of extraordinary costs. As applied in our State, the "extraordinary" costs of transportation and capital expenditure now are borne inequitably by local districts. School children in all districts must be housed adequately and, when necessary, transported, since the guarantee of equal and adequate educational opportunity for all pupils is the central obligation of the State system. Transportation expense and capital costs therefore cannot be avoided, but they need not be borne inequitably.

The Study Team advances the thesis that these extraordinary costs properly are the obligation of all the people, that is, of the State government. When the burden of such costs is borne inequitably throughout the State, the maldistribution should be equalized by shifting the burden from local government (i.e., school districts) to State government. By doing so, local districts can be freed to concentrate their local tax resources in the establishment and maintenance of adequate instructional programs. Statewide tax resources can be utilized to support the extraordinary items, which are needed in some places, over and above the normal current operating

expenses. This leads to an equalization of educational opportunity, by permitting an equivalent quality of instruction to be offered in each local district that is reasonably well organized.

The principle of State financing for the extraordinary costs of education should not be limited to transportation and school facilities. It should be applied whenever any special or extraordinary condition exists. These special conditions include:

* The extraordinary costs to educate pupils who live in remote, sparsely populated areas. An estimated 10% of North Dakota pupils still reside in excess of 20 miles from a natural school center. Conventional school programs simply will not guarantee an equal or adequate educational opportunity for these pupils. Hence, extraordinary measures must be taken. The burden of additional costs for these services should be borne by all the people through State government, thereby meeting the State's equal opportunity obligation.
* The extraordinary costs to educate certain kinds of pupils who have disabling handicaps, either physical or personal. An estimated 5-7% of the total school population are so handicapped. These are not distributed equally among school districts; moreover, the cost of their education may be one-and-one-half to two times the cost of non-handicapped pupils.

Summary and Conclusions

Despite a commendable and continuing effort to support public education, the State system of public schools in North Dakota is deficient in certain key aspects. Administrative organization is antiquated, and leads to an undesirable dissipation of public funds and resources. Districts vary markedly in their capacity to provide minimum educational opportunities; hence, place of residence within the State is crucial in determining the scope and quality of education available to pupils. Qualification of school personnel also is low, particularly among elementary teachers. Lack of qualified personnel in other key areas also mitigates against quality education. These include: counselors, librarians, supervisors and administrators. Scope and quality of school programs—particularly at the high school level —vary markedly among the districts. The resident of the typically small school district in North Dakota can guarantee his children much less opportunity than can the resident of the State's larger districts. These deficiencies in administrative organization, school personnel, and instructional programs have created a pattern of public expenditure for education that is ineffective, inefficient, and inequitable. The dollars available for education in North Dakota simply do not guarantee adequate or equal education service. The situation is such that additional expenditure alone will not correct it. Indeed, as a matter of public policy, each new dollar invested in the educational system should be tied to specific educational improvements. These are: administrative reorganization; employment and retention of qualified instructional and service personnel; expansion and diversification of school instructional programs.

The Statewide Study Team not only concluded that significant improvements in the educational system were needed, but also that they could be achieved. A comprehensive plan for educational improvement has been developed and suggested for consideration in the State. This plan is reproduced in three volumes:

"Educational Development in North Dakota: 1967-1975: The Overview."

"A Plan of Public Expenditure for Education in North Dakota."

"A Plan: Developing and Placing Educational Personnel in North Dakota."

These publications are available from the Office of the Superintendent of Public Instruction in Bismarck. They are recommended reading for every citizen in the State.

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The ideas expressed here are deemed to be valid. Moreover, they are feasible of achievement. Now a serious and systematic review of the proposed new plan of public expenditure should be conducted by all responsible educational agencies and institutions. Following that review, a coordinated and appropriate new program of legislative and administrative action should bring these first vital steps of the plan into reality.

APPENDIX A

LIMITATIONS AND TREATMENT OF DATA EMPLOYED IN THE STATEWIDE STUDY OF EDUCATION

TECHNICAL REPORT

Revenue and expenditures were classified and analyzed for three years: 1963-64, 1964-65, and 1965-66. Classifications of districts were established based on the status of districts in 1965-66. These classifications were kept intact for the two preceding years; that is, the same districts were kept in each classification for the three years which were analyzed. These classifications are outlined below.

Type of District

Non-accredited high school districts with enrollment in grades 9-12 as follows:

1-24
25-49
50-74
75-99
100-149

Accredited high school districts with enrollment in grades 9-12 as follows:

1-24
25-49
50-74
75-99
100-149
150-199
200-299
300-399
400-499
500-999
1000 or more

Elementary school districts with enrollment in grades K-8 as follows:

1-49
50-99
100-199
200 or more

One room rural districts

District not operating a school

Only 527 of the 529 public school districts which operated schools were included in the financial analysis. Two high school districts were excluded because they had experienced major reorganization during 1963-66 and financial data could not be secured for all three years. These districts were: Alexander District #2 in McKenzie County, which had 115 elementary and 67 secondary pupils on September 30, 1965; and Central Valley District #3 in Traill County, which had 262 elementary pupils and 121 secondary pupils on September 30, 1965. The 74 public school districts which did not operate schools also were excluded from the financial analysis. Four schools which were considered public schools for some purposes were eliminated from this analysis because they were irregular public schools. They did not receive tax revenue from a school district, but

operated on tuition payments or State funds for their support. These districts and their enrollments on September 30, 1965 were as follows:

District	Enrollment in Grades K-8	Enrollment in Grades 9-12
Benson County Agricultural School	——	203
Walsh County Agricultural School	——	272
Minot Model High School	208	118
Marmot High (State Training School at Mandan)	35	51

The financial data for the 527 public school districts in this study were classified into three categories: current operation, capital cost, transportation, and total. Following is a detailed description of the specific expenditure and revenue accounts which were included in each category.

CURRENT OPERATION

General Fund Expenditure Accounts:

- 1-0100 Administration
- 1-0200 Instruction
- 1-0300 Attendance Services
- 1-0400 Health Services
- 1-0600 Operation of Plant
- 1-0700 Maintenance of Plant
- 1-0800 Fixed Charges
- 1-0900 Food Services
- 1-1000 Student Body Activities
- 1-1100 Community Services
- 1-1200 Capital Outlay
- 1-1300 Debt Service from Current Funds

Revenue Accounts:

- 10-0010 Revenue from local sources into the Recreation Fund
- 12-0010 Revenue from local sources into the Social Security Fund

CAPITAL COST

Revenue Accounts:

- 2-0010 Revenue from local sources into the Building Fund
- 4-0010 Revenue from local sources into the Construction Proceeds Fund
- 4-0040 Revenue from federal sources into the Construction Proceeds Fund
- 5-0010 Revenue from local sources into the Sinking and Interest Fund
- 9-0010 Revenue from local sources into the Special Assessment Fund

TRANSPORTATION

General Fund Expenditure Accounts:

- 1-0510 Salaries
- 1-0520 Contracted Services
- 1-0540 Transportation Insurance
- 1-0550 Payments in Lieu of Transportation
- 1-0560 Other Expenses
- 1-0530 Replacement of Vehicles

For each finance category listed, the total number of dollars were tabulated and dollars per pupil were calculated. Dollars per pupil were determined by dividing the total dollars, as obtained above, by the appropriate number of pupils enrolled on September 30 of that school year. Before using September 30 enrollment as the divisor, it was compared by type of district with average daily membership. The differences between the two measures were small in each instance.

The classification of general fund expenditures was relatively clear, but the special funds posed serious problems. In some of these funds, especially the building fund, large amounts may be accumulated over a period of years and then spent in one year. That would distort the expenditure picture. To avoid that problem, revenue into these funds was considered to be the district's expenditure for the fund. This method posed a small problem in the case of the building fund and sinking and interest fund, because money could be transferred from either of these funds to the general fund and expended from it. When this occurs, the same dollars could be counted as an expenditure as they entered the building or sinking and interest fund and counted again as they were spent from the general fund. Fortunately, there appeared to be relatively little money transferred from either of those funds to the general fund. Statewide, during 1965-66, 21 school districts transferred $195,338 from the building fund to the general fund and 16 districts transferred $154,570 from the sinking and interest fund to the general fund. During that same year, revenue into the building fund was $3,080,319 and into the sinking and interest fund $6,795,544. The transfers out of these funds were a very small portion of the revenues into those funds.

Certain of the special funds were not included in this financial analysis. These funds and the reason for excluding them were:

1. **Bond Proceeds Fund**—This fund was excluded because the amounts of revenue into it were minimal and because several districts reported incorrect data. Some districts apparently reported the sale of bonds as local revenue. Receipts into the bond proceeds fund are largely from the sale of bonds. The bonds are repaid out of the sinking and interest fund which was included in the financial categories. To count the receipts from the sale of bonds again would have been a duplication.
2. **Special Reserve Fund**—The revenue into this fund was not included because money could not be spent from this fund; it could only be transferred to the building fund or the general fund. The money transferred to the general fund would be picked up as an expenditure as it was spent from the general fund. The money transferred to the building fund could not be identified, but it was felt that the amounts involved would be small because transfers to the building fund cannot be made without the approval of the electorate at an election.
3. **High School Tuition Fund**—This fund was excluded because all revenue into it was ultimately transferred to other school districts and spent from their general fund; there was no need for these moneys to be counted twice.
4. **High School Transportation Fund**—This fund was excluded because it was felt that a large portion of the revenue into it was transferred to other districts to pay for transportation services and thus would have been counted twice. Also, the

amount of money involved was small; there was only $.64 per pupil in revenue into this fund on a Statewide basis.

5. **Junior College Fund**—This fund was not included because it was not used to finance public education in grades K-12.

It was next to impossible to obtain transportation costs "clean" because the amounts spent for the acquisition of new buses could not be identified. New buses could be purchased from the general fund account 1-1235, the building fund account 2-1235, the bond proceeds fund account 3-1235, and the construction proceeds fund account 4-1235. In each case, the 1235 account was grouped with all other equipment expenditure accounts and could not be separated. For that reason, it was impossible (without gathering data from each district) to determine how much had been spent for the purchase of additional buses. The costs of replacing buses and operating the transportation system were more easily identified and tabulated. Money spent to acquire additional buses was classified as current operation if spent from the general fund, or as capital cost if spent from the other funds.

The components of the financial categories described earlier were selected to avoid counting some dollars as expenditures twice. This could happen when money was transferred as a payment from one district to another, if the transfer was classified as an expenditure and the dollars were counted again as they were spent from the general fund of the receiving district. Transfers among funds within a district could also result in some moneys being counted twice, if transfers were considered expenditures. Every effort was made to avoid these duplications.

Three factors cause the expenditures in this report to vary from other reports such as "Summary of Facts" published by the State Department of Public Instruction. These are: 1. Duplication resulting from transfer payments was avoided whenever possible. 2. 74 non-operating districts and 2 high school districts were not included in this tabulation. 3. In calculating per pupil expenditures, September 30 enrollment was used rather than average daily membership, average daily attendance, or cumulative enrollments.

APPENDIX B

A SURVEY AND COMPARISON OF NORTH DAKOTA HIGH SCHOOL CURRICULA

As part of a long-range plan to strengthen public education in the State, North Dakota undertook a Statewide Study of Education which, in fact, requires several separate studies. One important area of inquiry concerns the controversy which has developed with the advent of school district reorganization: Does the larger high school provide a better education than the smaller school?

The basic requirements of this and other phases of the overall study include the comparison of curriculum offerings in schools of various sizes. The increasing mobility of North Dakota's population reveals certain disadvantages accruing to children of within-State migrants; in transferring from one district to another, they often find their personal high school programs disrupted by curriculm differences. Further, the Statewide preparation of students for post high school education is uneven as a result of an imbalance in opportunities for completing entrance requirements for college and, even more seriously, for prevocational courses.

The working outline for this survey and comparison called for the curriclum of each school to be measured against the minimum requirements of the State of North Dakota; these apply to all schools and a student must complete them before graduation. The outline also made it necessary to classify all high schools in the State by size of enrollment and type of accreditation, for the purpose of curriculum comparison.

North Dakota State Course Requirements (Grades 9 through 12):

Basic: 1. English—four years
2. Social Studies—three years
3. Mathematics—one year
4. Science—two years
5. Physical Education—one credit unit.

In addition to the basic course requirement, there is a minimum requirement that six units of the total credits earned by a graduating student must be in elective areas. These electives may contain a maximum of two units in music and one unit in typing.

Classification of North Dakota High Schools (Grades 9 through 12):

a. Non-accredited schools: Types 1 through 5, enrollments on a rising scale by types, from under 25 through 149.

b. Accredited Schools: Types 6 through 16, enrollments on a rising scale by types, from under 25 through 1000 or more.

Table of School Classification

Non-accredited Type	Accredited Type	Enrollment	Accredited Type	Enrollment
1	6	0-24	11	150-199
2	7	25-49	12	200-299
3	8	50-74	13	300-399
4	9	75-99	14	400-499
5	10	100-149	15	500-599
			16	1000+

The classification of courses within specific academic disciplines is in accordance with that which the Department of Public Instruction used in collating the data on which this survey is based. The data for this portion of the Statewide Study were furnished by the Department of Public Instruction, and are part of the "Annual Reports of Districts Operating High Schools," on file in the Office of the Superintendent of Public Instruction since November 15, 1965.

A COMPARISON OF THE NUMBER OF COURSE OFFERINGS IN NORTH DAKOTA SCHOOLS

Comparisons Within Each School Type

TYPE 1

The schools in Type 1 offered their students an average of only 13 courses during the school year 1965-66. The maximum of courses offered by a school in this group was 19; the minimum was 10. The average number of courses offered by the six schools in Type 1 was only slightly more than three for each year of high school.

TYPE 2

The 47 schools in this classification offered a slightly wider range of subjects than did Type 1 schools. The greatest number of course offerings was 22, the smallest 10, the average 16. On the average, four courses per grade level were available to students in Type 2 schools.

TYPE 3

Students in the schools of this group had available to them a few more courses than students in the smaller non-accredited schools. The average in Type 3 schools was five courses per grade level, for a total of 20. Subjects offered during the school year totaled a maximum of 26, a minimum of 11.

TYPE 4

The minimum number of course offerings in Type 4 schools was double the minimum in Type 3. With this low figure of 22 courses and a high of 28, the four schools in the group offered an average of 26 courses, giving students a choice of approximately six and one-half courses each high school year.

TYPE 5

Only one school was in this classification, which is the largest of the non-accredited group in terms of enrollment and smallest in terms of number of schools involved. The school offered a total of 35 courses.

TYPE 6

With only one school, Type 6 was the smallest of the accredited school types both in number of schools involved and in student population. This school offered 18 courses, an average of four and one-half courses per high school year.

TYPE 7

This classification contained fifteen schools, offering an average of twenty-one courses, with a maximum of twenty-five and a minimum of eighteen, giving students in these schools a choice of approximately five courses a year.

TYPE 8

Thirty-nine schools comprised the Type 8 group, offering a maximum of 33, a minimum of 17, and an average of 24 courses. These figures represent a slight increase over course offerings in Type 7 schools, with students being offered an average of **six courses** per year.

TYPE 9

The 45 schools in this type make up the second largest group of schools as classified in this study. These schools offered an average of 27 courses, with a range of from 33 down to 20 and an average yearly offering of almost **seven courses.**

TYPE 10

Slightly more than **seven courses** per year were offered by the 37 schools in this group, with an average total, grades 9 through 12, of 29 courses. Maximum offering was 36, minimum 25.

TYPE 11

The average offering of 33 courses in this type gave the students a choice of approximately **eight courses** each year. The maximum offering was 54, the minimum 26.

TYPE 12

The average offering of schools in this type was 37 courses, with a range within the group of from 49 to a low of 32. Students in the 24 schools in Type 12 had a choice of slightly more than **nine courses** each year.

TYPE 13

The nine schools within this type offered only one more course, on the average, than the Type 12 schools. The range, with a maximum of 49 and a minimum of 33, averaged 38.

TYPE 14

There were only two schools in this type, each offering 43 courses, nearly **eleven** per high school year.

TYPE 15

Students in the five schools of this group were offered almost **12 subjects per year;** maximum number of courses offered in this type was 50, minimum 45.

TYPE 16

The six largest public high schools in North Dakota made up this type; they offered a maximum of 93 courses, a minimum of 51, and an average of 71, giving students a choice of approximately **18 subjects** per high school year. The comparatively extensive range of offerings within this type could probably be laid to the fact that the classification system set no upper limit on school size; enrollments differed widely among schools having more than 100 students.

Comparison of Course Offerings in All Schools

The average number of courses offered by all North Dakota public high schools during 1965-66 was 27, with Types 4 and 9 (schools having student populations of 75 through 99) most closely approaching the average. Type 4 schools averaged 26 courses; Type 9 schools offered exactly 27.

Figure 1 (page 66) shows the differences in the number of courses offered by the schools within each type. It is apparent that the non-accredited school even with a student population comparable to that of an accredited school, offers fewer courses.

Of the 278 public high schools operating during the school year 1965-66, 19 offered 27 courses, which makes that figure the mode as well as the average. Seventeen schools offered 20 courses. The number of schools offering the same number of courses may be determined from Figure 2 (page 67).

Non-Accredited Schools

Among the sixty-seven non-accredited public high schools, the average number of course offerings was slightly under eighteen; nine of the schools offered 20, the most common number. Figure 3 (page 68) shows the distribution of course offerings among non-accredited schools.

Accredited Schools

The average number of courses offered by the 211 accredited public high schools in North Dakota during 1965-66 was slightly less than 31. The most common number of course offerings among the accredited schools was 27. Figure 4 (page 69) shows distribution of courses in accredited schools.

A COMPARISON OF COURSES OFFERED WITHIN SUBJECT AREAS

Language Arts

Twelve language arts courses are listed among the curricula of public high schools of North Dakota during the school year 1965-66. The basic courses included the four-year English program, augmented in some cases by such courses as speech, journalism, debate, dramatics and developmental reading.

The average number of language arts courses ranged from three in Type 1 to almost eight in Type 16. In general, the average number of offerings was in proportion to the size of the districts, with some exceptions; for instance, the Type 14 schools offered fewer language arts courses than did the schools in Type 11, 12 and 13.

The four-year English course was standard in all sixteen school types, but not all schools offered all four courses during the school year studied. This is doubtless a result of the practice (common among smaller North Dakota high schools) of offering certain courses on an alternate-year basis. The smallest schools offering all four years during 1965-66 were the Type 4 and Type 9 schools, with enrollments of 75 to 99. It should be noted that, although some of the schools did not offer English each year, there were numerous offerings of such courses as journalism and speech.

Another point of interest was that 76 schools offered a first-year speech course but only one Type 16 school offered a second year of speech. Thirty-four schools in all types offered Journalism I, but only three schools, in Type 16, offered Journalism II.

Developmental reading was offered in seventeen high schools. This type of program is relatively new in North Dakota education, which means that its appearance in six percent of the total districts is more significant that it seems at first glance.

Table B-1 presents a breakdown of the various language arts courses offered during 1965-66 and indicates the relative weaknesses and strengths of these programs within the various school types. It

TABLE B-1

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN LANGUAGE ARTS COURSES

School Type	Number of Schools	Courses Offered: English I	English II	English III	English IV	Special Senior English	Journalism I	Journalism II	Speech I	Speech II	Debate I	Dramatics I	Developmental Reading	Average Number of Courses Offered
1	6	6	6	4	2	..	..	..	..	..	..	..	..	3
2	47	45	47	27	30	..	2	..	6	..	..	1	1	3.4
3	9	9	9	6	7	..	1	..	1	..	..	..	..	3.7
4	4	4	4	4	4	..	..	..	..	..	..	..	..	4
5	1	1	1	1	1	..	..	..	..	..	..	..	..	4
6	1	1	1	1	..	..	..	..	1	..	..	..	..	4
7	15	15	15	12	10	..	..	..	2	..	..	..	..	3.6
8	39	39	39	36	35	..	6	..	8	..	..	..	1	4.2
9	45	45	44	44	44	1	3	..	6	..	..	1	5	4.3
10	37	37	37	37	37	1	5	..	8	..	..	..	..	4.4
11	28	28	28	27	28	2	5	..	14	..	..	1	2	4.8
12	24	24	23	24	24	..	4	..	11	..	..	..	4	4.8
13	9	9	9	9	9	..	3	..	7	..	..	..	2	5.3
14	2	2	2	2	2	..	..	..	1	..	..	..	..	4.5
15	5	5	5	5	5	..	2	..	5	..	2	1	..	6
16	6	6	6	6	6	4	3	3	6	1	2	2	2	7.8
TOTAL	278	276	276	245	242	8	34	3	76	1	4	6	17	4.27
Percent		99	99	88	87	3	12	1	28	.4	1	2	6	

is of interest that the accredited schools offered more language arts courses than did non-accredited schools of comparable size.

Twenty-eight percent of the surveyed schools offered a speech class; only in Types 1, 4 and 5 were there no schools offering speech. A relatively greater number of schools in Types 13 through 16 offered this course than did schools of other types.

The Statewide average offering of language arts courses in North Dakota's public high schools during 1965-66 was 4.27. Schools in Types 8 and 9, with averages of 4.2 and 4.3, respectively, most closely approached the average.

Social Studies

Twelve separate titles were included in the social studies courses offered. The two most prevalent were world history and United States history, offered by more than 80% of the 278 schools. Runner-up was a course in problems of democracy, offered by 73% of the schools.

The smallest number of social studies courses offered in any school was two: the lone Type 6 school offered only citizenship and world history. As in the case of English courses, **alternate year offerings permit some small districts to fulfill the North Dakota minimum requirements for courses in a subject area while listing fewer than the minimum.**

Predictably, Type 16 was in the forefront in the number of offerings. The six schools in this group averaged more than seven social studies courses.

Table B-2 records a noticeable variation in the number of social studies courses offered by the different schools within each grouping. This variation recurs in almost all the subject areas, as would be anticipated from the disparity in total course offerings by the same schools.

A fact of some interest is that all fourteen schools offering a course in family and marriage were in Types 7 through 12; this course was not offered in the larger and smaller districts.

In the general area of social studies, the average offerings among North Dakota's public high schools, 1965-66, was 4.10 courses. As with the language arts courses, the schools with an enrollment of 75 through 99 most closely matched the average.

Natural Sciences

A total of sixteen separate natural science courses were offered by North Dakota's public high schools in 1965-66. First in frequency was biology, offered by 83% of the schools.

Natural science offerings ranged from one and one-half in Type 1 to a high of seven courses in Type 16. As in the case of language arts, natural science courses were more numerous in accredited schools than in non-accredited schools of the same enrollment size.

Distribution of course offerings in the natural sciences appears in Table B-3, with the smallest variety offered by the Type 6 school and all sixteen courses offered only in the schools of Type 16.

The average offering in natural sciences in North Dakota public high schools was 3.10 courses. Schools with a student population of approximately 150 were nearest to the average in their offerings.

Mathematics

The most usual mathematics course in the 278 schools was algebra I, offered by 92% of the schools; a poor second was plane geometry,

TABLE B-2

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN SOCIAL STUDIES COURSES

School Type	Number of Schools	Courses Offered: Orientation	Citizenship	World Geography	World History	United States History	American Government	Problems of Democracy	International Relations	Sociology	Family and Marriage	Economics	Psychology	Average number of courses offered
1	6	1	2	1	3	3	0	2	0	0	0	0	0	2.1
2	47	11	15	21	25	23	3	26	4	3	0	2	13	3
3	9	1	1	7	6	5	0	8	1	2	0	0	0	3.4
4	4	2	3	2	4	3	0	4	0	0	0	1	2	5.3
5	1	1	1	0	1	1	0	0	0	0	0	0	0	5
6	1	0	1	0	0	1	0	0	0	0	0	0	0	2
7	15	6	6	4	12	7	1	8	0	0	1	1	5	3.4
8	39	6	9	16	32	30	5	26	2	1	1	3	8	3.6
9	45	12	11	24	45	43	4	39	0	0	1	4	11	4.4
10	37	6	9	14	36	36	2	34	0	1	4	3	10	4.2
11	28	1	4	16	28	28	5	24	0	2	5	6	10	4.6
12	24	3	2	12	24	23	7	17	1	6	2	8	18	5.0
13	9	1	3	6	9	9	3	6	0	1	0	3	7	5.3
14	2	0	1	2	2	2	1	1	0	1	0	1	2	6.5
15	5	0	3	4	5	5	1	4	0	0	0	2	4	5.6
16	6	2	3	6	6	6	4	2	2	2	0	4	5	7.3
TOTAL	278	53	74	135	238	225	36	202	10	24	14	38	96	4.1
Percent		19	27	49	86	81	13	73	4	9	5	14	35	

TABLE B-3

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN NATURAL SCIENCE COURSES

School Type	Number of Schools	Courses Offered																
		General Science	Introduction to Physical Science	Biology	BSCS (Yellow)	BSCS (Green)	BSCS (Blue)	Geology	Chemistry	Chemistry Study	CBA Chemistry	Advanced Chemistry	Physics	PSSC Physics	Physiology	Astronomy	Other Science N.E.C.	Average number of courses offered
1	6	2	1	3	0	0	0	0	3	0	0	0	0	0	0	0	0	2.5
2	47	15	13	29	0	0	0	0	22	0	0	0	6	0	0	0	0	1.8
3	9	3	6	4	0	0	0	0	6	0	0	0	3	0	0	0	1	2.6
4	4	1	3	4	0	0	0	0	3	0	0	0	1	0	0	0	0	3.0
5	1	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0	0	4.0
6	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2.0
7	15	6	8	10	0	0	0	2	9	0	0	0	4	0	1	0	0	2.7
8	39	15	24	33	1	0	0	1	20	0	0	0	16	0	0	0	0	2.6
9	45	15	29	42	0	1	1	2	24	0	0	0	22	1	0	0	0	3.0
10	37	16	23	37	0	0	0	1	24	1	0	0	21	0	0	0	0	3.3
11	28	12	16	28	0	0	0	0	24	0	0	0	23	0	3	0	1	3.8
12	24	9	16	20	3	0	2	1	24	1	0	0	19	1	3	0	0	4.1
13	9	3	8	8	0	2	0	0	9	0	0	0	8	0	2	0	0	4.4
14	2	2	1	2	0	0	0	0	2	0	0	0	2	0	1	0	0	5.0
15	5	3	4	5	0	0	0	0	4	1	0	0	4	1	0	0	1	4.6
16	6	4	5	6	1	2	1	1	5	3	1	1	5	2	1	1	3	7.0
TOTAL	278	106	159	232	5	5	4	8	181	6	1	1	141	5	11	1	6	3.1
Percent		38	57	83	2	2	1	3	65	2	.4	.4	51	2	4	.4	2	

TABLE B-4

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN MATHEMATICS COURSES

School Type	Number of Schools	Courses Offered														
		General Mathematics	Advanced General Mathematics	Computer-Oriented Mathematics	Modern Mathematics (Senior)	Advanced Mathematics (Senior)	Algebra I	Algebra II	Geometry, Plane	Geometry, Solid	Geometry, Integrated	Geometry, Analytical	Trigonometry	Calculus	Other Mathematics	Average number of courses offered
1	6	1	0	0	0	0	3	4	2	0	0	0	0	0	0	1.7
2	47	13	1	0	0	0	36	23	20	0	1	0	4	0	1	2.1
3	9	4	0	0	1	0	8	2	3	0	0	0	0	0	0	2.1
4	4	2	0	0	0	1	4	2	1	0	1	0	0	0	0	3.3
5	1	0	1	0	0	1	1	1	0	0	1	0	0	0	0	5
6	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
7	15	5	1	1	1	0	12	7	6	1	1	0	3	0	0	2.5
8	39	8	0	0	1	2	38	20	24	1	0	0	15	2	0	2.8
9	45	19	1	0	2	7	43	28	34	9	2	1	17	0	1	3.9
10	37	20	1	1	1	4	35	22	31	5	1	0	10	0	1	3.6
11	28	18	1	0	1	8	28	19	22	4	5	1	9	0	3	4.3
12	24	17	1	0	4	12	24	24	22	7	2	2	14	0	0	5.4
13	9	8	0	0	2	6	9	9	8	1	1	0	2	0	0	5.1
14	2	2	0	0	0	1	2	2	1	0	1	1	1	0	0	5.5
15	5	5	0	0	0	4	5	5	3	1	2	1	1	0	0	5.4
16	6	5	0	0	1	4	6	6	5	1	3	2	3	0	1	6.2
TOTAL	278	127	7	2	14	50	255	172	185	33	20	8	79	2	7	3.5
Percent		46	2.5	.7	5	18	92	62	66	12	7	3	28	.7	2.5	

listed by 65%. In third place was algebra II, offered by 62% of the schools. No other math course appeared in the curriculum of as many as 50% of the schools.

All schools in Types 11, 12, 13, 14, 15 and 16 offered algebra I, and all schools in Types 12 through 16 offered algebra II. No other courses appeared throughout the entire listed curricula of any of the other multiple-school groups. Courses in calculus, computer-oriented mathematics, advanced general mathematics and analytical geometry were infrequently found throughout the whole North Dakota high school system.

Mathematics courses for all 278 schools averaged approximately three and one-half, ranging from nearly two to more than six for Types 1 through 16 respectively. As in the case of the subject areas previously reported, the schools most closely approximating the average were those with from 75 through 99 students.

The space race and federal aid programs seem to have had nc great impact upon the mathematical phase of North Dakota's educational program. Table B-4 makes it very clear that general mathematics and algebra, the time-honored standby basics, are still the most common in the State's schools.

Foreign Languages

Instruction in foreign languages seemed to be the prerogative of students in the larger school districts. Non-accredited schools and accredited schools with enrollments under 50 had only token offerings of such courses.

Six different languages were being taught in North Dakota high schools in 1965-66, with German leading French two to one; two schools offered Russian, another two taught Norse. One school (Type 16) offered four years of Spanish and three schools listed three years of Latin in their curricula.

Schools in Types 1 and 6 offered no foreign language courses; at the other end of the scale, Type 16 schools offered an average of eight and one-half courses, including Latin I, taught in all six schools in the group, and Russian II, offered by one school. The average for foreign language courses taught in all schools in the State during 1965-66 was about three-fourths of one course. As in the cases of subject areas previously inventoried, the average offering of foreign language courses was most nearly attained by schools having enrollments of 100 students.

Table B-5 displays the range of foreign language offerings in North Dakota public high schools during the school year 1965-66.

Business Education

All North Dakota schools apparently viewed business education courses as essential; even the smallest schools, Type 1, offered Typing I, which was listed in the curricula of 273 of the total 278 schools in the sample. Second in frequency for business education courses was Bookkeeping I, offered by 73% of the schools and represented in every type classification. The number of business education courses ranged from two and one-half to almost nine courses in Types 1 and 16 respectively.

The average 1965-66 offering of business education courses was three and eight-tenths per school, which makes business education the third most frequently offered subject area, following language arts and social studies.

TABLE B-5

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN FOREIGN LANGUAGE COURSES

School Type	Number of Schools	Courses Offered: French I	French II	French III	French IV	German I	German II	German III	German IV	Latin I	Latin II	Latin III	Russian I	Russian II	Spanish I	Spanish II	Spanish III	Spanish IV	Norse I	Norse II	Average number of courses offered
1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	47	0	0	0	0	3	1	0	0	0	0	0	0	0	1	0	0	0	0	0	.1
3	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.2
4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	.25
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.0
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	15	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	.3
8	39	4	1	1	0	7	0	0	0	2	1	0	0	0	1	0	0	0	0	0	.4
9	45	4	1	0	0	7	3	1	0	1	0	0	1	0	1	0	0	0	1	0	.4
10	37	3	1	0	0	8	2	0	0	2	1	0	0	0	4	1	0	0	0	0	.6
11	28	5	4	0	0	10	7	0	1	3	1	1	0	0	3	1	0	0	0	0	1.4
12	24	3	3	0	0	10	5	0	0	3	2	0	0	0	3	3	0	0	0	0	1.3
13	9	2	2	0	0	6	5	1	0	2	2	0	0	0	1	0	0	0	0	0	2.3
14	2	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	3.5
15	5	1	1	0	0	3	2	1	0	3	1	0	0	0	4	4	1	0	0	0	4.2
16	6	5	5	4	1	5	5	1	0	6	5	2	0	1	4	4	2	1	0	0	8.5
TOTAL	278	30	19	6	2	61	31	4	1	22	13	3	1	1	25	14	4	1	1	1	.75
Percent		11	7	2	.7	22	11	1	.4	8	5	1	.4	.4	9	5	1	.4	.4	.4	

Table B-6 presents the figures relative to the distribution and frequency of the 18 different business education courses offered in North Dakota public high schools during the school year 1965-66.

Practical Arts, Health and Physical Education

Thirty-three courses in this largest single classification were offered by the various schools; however, physical education was the only offering listed by more than 25% of the State schools. Physical education and health classes for boys were offered by 94% of the schools; 88% of the schools provided similar courses for girls. Scheduling of these courses for alternate years may account for the fact that fewer than 100% of the schools offered these courses in 1965-66.

This general classification includes such diverse subject areas as driver education, general shop, metalworking and graphic arts. Driver education, classroom, was offered by 21% of the schools, and behind-the-wheel driver training by 25%. General shop courses also were offered by 25% of the schools. These courses and others in the grouping are considered to be of practical worth but are not classified as vocational. The overall range of such offerings is from one and one-half to slightly more than ten courses for Types 1 through 16, with an average for all courses in all schools of three and five-tenths. Table B-7 presents a full description of courses as offered in each type grouping of schools.

Vocational Education

Courses under the heading of vocational education are listed here in accordance with the classification as set forth by the North Dakota Department of Public Instruction. Certain courses listed have names similar to or identical with those of courses listed under other classifications; they have, however, different course numbers in the departmental catalogue.

Two Home Economics courses far outnumbered all other offerings in Vocational Education: Home Economics I, listed by 47% of the schools, and Home Economics II, offered by 44% of the schools. The only other course approaching these numbers was Home Economics III, offered by 25% of the schools.

An unexpected finding of this curriculum survey was that North Dakota, with an economy based largely on agriculture, has only 64 schools offering vocational agriculture courses in 1965-66. Fewer than 24% of the public high schools offered such courses during the school year studied.

Courses listed as "vocational business" were offered by about one percent of the schools, but this figure may be unrealistic and related to a degree of confusion in designation of course content. Several courses with identical names were listed in some schools under the business education classification. The possible extent of this confusion is indicated by a comparison of Table B-6 and Table B-8: Shorthand I was listed by 133 schools under business education, by four schools as a vocational education course.

As shown in Table B-8, the Statewide average for vocational education courses offered in 1965-66 was one and five-tenths. The range was from zero in Type 1 schools to an average of nearly eight in Type 16 schools. Again, the Type 9 school offerings were nearest the average.

TABLE B-6

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN BUSINESS EDUCATION COURSES

School Type	Number of Schools	Courses Offered: General Business	Typing I	Personal Typing	Business Law	Consumer Education	Business Arithmetic	Business English	Salesmanship	Retailing	Advertising	Shorthand I	Notehand	Shorthand II	Bookkeeping I	Bookkeeping II	Clerical Office Practice	Secretarial Office Practice	Cooperative Part-time Office Practice	Average number of courses offered
1	6	2	6	1	2	0	0	0	0	0	0	1	0	0	2	0	1	0	0	2.5
2	47	22	42	0	18	5	6	0	1	0	0	16	0	1	24	1	8	7	0	3.2
3	9	4	9	0	2	0	2	0	1	0	0	0	0	0	6	0	3	1	0	3.1
4	4	0	4	0	2	0	2	0	0	0	0	1	0	1	4	1	3	0	0	4.5
5	1	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	4.0
6	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3.0
7	15	7	15	1	5	1	5	0	0	1	0	5	0	0	8	1	2	1	0	3.5
8	39	23	39	1	11	0	9	0	1	0	0	16	0	0	22	0	8	2	1	3.4
9	45	20	45	3	17	0	7	2	0	0	0	15	0	0	31	0	9	7	0	3.5
10	37	13	37	0	12	1	7	1	0	0	0	20	1	1	33	0	10	7	0	3.9
11	28	9	28	1	8	1	4	1	1	0	0	18	0	1	25	0	13	9	0	4.25
12	24	6	24	0	15	1	6	0	2	0	0	20	0	2	24	0	5	11	0	4.8
13	9	2	9	2	3	1	2	0	0	0	0	8	0	0	9	0	4	3	0	4.8
14	2	1	2	0	1	1	0	0	0	0	0	2	0	1	2	1	2	0	0	6.5
15	5	3	5	0	2	0	2	1	2	1	1	5	0	1	5	0	1	4	0	6.6
16	6	5	6	5	5	1	3	0	0	2	0	6	1	3	6	2	2	3	2	8.7
TOTAL	278	107	273	14	104	12	55	5	8	4	1	133	2	11	203	6	74	55	3	3.8
Percent		38	98	5	37	4	20	2	3	1	.4	48	.7	4	73	2	27	20	1	

TABLE B-7

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN PRACTICAL ARTS, HEALTH AND PHYSICAL EDUCATION COURSES

School Type	Number of Schools	Courses Offered																		
		Driver Education (Classroom)	Drivers Education (Classroom and behind wheel)	Health and Physical Education (Boys)	Health and Physical Education (Girls)	Physiology	General Shop I	General Shop II	Bench Woodworking	Machine Woodworking	Furniture Making	Upholstery	Cabinet Making	Bench Metals	Welding	Machine Tools	Mechanical Drawing	Advanced Mechanical Drawing	Architectural Drawing	Pre-Engineering Drawing
1	6	0	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	47	6	1	40	38	2	1	0	0	0	0	0	0	0	0	0	2	0	0	0
3	9	0	1	8	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	4	1	4	4	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
5	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	15	5	1	13	13	0	2	1	0	0	0	0	0	0	0	0	4	0	0	0
8	39	7	11	36	30	4	8	5	5	4	1	0	0	0	0	0	4	1	1	1
9	45	11	15	44	43	3	19	12	5	2	3	0	0	1	2	0	8	0	0	0
10	37	11	14	36	35	3	14	7	5	0	0	0	1	0	1	0	11	1	2	0
11	28	6	9	28	24	1	5	2	4	5	1	1	1	1	5	0	6	0	4	0
12	24	4	12	23	24	1	7	3	1	6	1	1	0	1	3	0	8	1	3	0
13	9	1	2	9	9	0	4	3	2	0	1	0	0	0	0	0	2	2	0	0
14	2	1	0	2	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0
15	5	2	1	5	5	0	3	2	2	2	0	0	0	2	0	0	3	0	0	0
16	6	3	1	6	6	0	4	0	4	4	2	0	0	4	0	1	5	2	4	1
TOTAL	278	59	70	261	246	15	69	37	29	23	9	2	2	9	10	1	54	7	14	2
Percent		21	25	94	88	5	25	13	10	9	3	.7	.7	3	4	.4	19	2.5	5	.7

TABLE B-7 (Continued)

School Type	Number of Schools	Courses Offered															
		Sheet Metal Drawing	Graphic Arts I	Graphic Arts II	Graphic Arts III	Printing I	Electricity	Electronics	Power Mechanics	Automotive Machines	Home Economics	Crafts I	Crafts II	Leather	Plastics	Average number of courses offered
1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5
2	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9
3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9
4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.0
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.0
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.0
7	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.6
8	39	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3.1
9	45	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3.8
10	37	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3.9
11	28	0	2	0	0	0	2	2	4	1	1	3	1	2	1	4.4
12	24	1	0	0	0	0	0	0	2	0	0	0	0	2	1	4.4
13	9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4.0
14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.5
15	5	0	0	0	0	0	3	2	1	0	0	0	0	0	0	6.6
16	6	0	2	2	1	1	1	0	2	3	0	3	0	0	0	10.3
TOTAL	278	1	4	2	1	1	6	4	9	4	1	10	3	6	2	3.5
Percent		.4	1	.7	.4	.4	2	1	3	1	.4	4	1	2	.7	

TABLE B-8

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN VOCATIONAL EDUCATION COURSES

School Type	Number of Schools	Courses Offered																											
		Vocational Agriculture I	Vocational Agriculture II	Vocational Agriculture III	Vocational Agriculture IV	Distributive Education I	Distributive Education II	Coordinative Education	Home Economics I	Home Economics II	Home Economics III	Home Economics IV	Home Economics (Co-Educational)	Senior Homemaking	Home Economics (Boys)	Electronics I	Auto Mechanics I	Shorthand I	Shorthand II	Secretary Office Practice	Clerical Office Practice	Cooperative Education	Drafting and Design I	Drafting and Design II	Carpentry and Cabinet Making I	Carpentry and Cabinet Making II	Practical Nursing	Maintenance and Repair I	Average number of courses offered
1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	47	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	.1
3	9	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.6
4	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.5
5	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.0
6	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
7	15	—	—	—	—	—	—	—	1	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.4
8	39	—	—	—	—	1	—	—	15	12	4	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	.9
9	45	3	31	21	2	—	—	—	17	15	9	—	2	—	—	—	1	1	—	1	—	—	—	—	—	—	—	—	1.1
10	37	10	10	1	3	1	—	—	24	23	9	1	1	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	1.7
11	28	192	182	121	41	—	—	—	24	23	13	2	1	1	—	—	1	—	—	—	—	—	1	1	1	1	—	—	2.7
12	24	174	174	183	101	2	—	—	23	22	17	1	1	—	—	—	—	1	—	1	—	1	1	—	1	—	—	—	3.5
13	9	61	61	4	51	—	—	—	9	9	5	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	3.1
14	2	0	0	0	0	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	3.0
15	5	4	4	4	4	—	—	—	5	5	2	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	3.0
16	6	2	3	3	1	4	1	1	6	6	5	1	1	2	1	3	3	1	—	3	2	1	1	1	—	—	1	2	7.7
Total		63	63	53	37	8	1	1	13	11	70	5	6	5	2	3	5	4	1	5	2	2	6	3	3	2	1	3	1.5
Percent		22.7	22.7	19.1	13.3	3	.4	.4	47	44	25	2	2	2	.7	1	2	1	.4	2	.7	.7	2	1	1	.7	.4	1	

TABLE B-9

NUMBER OF NORTH DAKOTA SCHOOLS IN EACH TYPE CLASSIFICATION OFFERING CERTAIN FINE ARTS COURSES

School Type	Number of Schools	Courses Offered: Art I	Art II	Art III	Art IV	Art V	Commercial Art	Instrumental	Band	Woodwinds	Brass	Percussion	Strings	Orchestra	Boy's Chorus	Girl's Chorus	Mixed Chorus	Other Fine Arts	Music Appreciation	Music Theory	Music History	Average number of courses
1	6	—	—	—	—	—	—	1	2	—	—	—	—	—	1	1	1	—	—	—	—	1.0
2	47	—	—	—	—	—	—	2	8	1	1	1	—	—	14	17	15	—	—	—	—	1.3
3	9	2	—	—	—	—	—	—	6	—	—	—	—	—	4	4	6	—	1	—	—	2.7
4	4	—	—	—	—	—	—	3	1	—	—	—	—	—	1	1	2	—	1	—	—	2.25
5	1	—	—	—	—	—	—	1	1	—	—	—	—	0	1	1	1	—	—	—	—	5.0
6	1	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1	—	—	—	—	—	3.0
7	15	1	—	—	—	—	—	—	8	2	2	2	—	—	6	9	8	—	1	—	—	2.6
8	39	1	—	—	—	—	—	6	32	1	1	1	—	—	19	25	27	—	3	3	1	3.1
9	45	—	—	—	—	—	—	5	36	1	1	1	—	—	25	28	31	1	1	2	1	2.9
10	37	—	—	—	—	—	—	8	32	3	3	2	—	—	29	32	34	2	3	1	—	3.5
11	28	2	—	—	—	—	—	6	23	3	2	3	—	1	15	17	23	3	3	—	—	3.6
12	24	2	—	—	—	—	—	7	22	2	2	2	0	0	14	17	22	—	1	2	—	3.9
13	9	2	—	—	—	—	1	2	7	1	1	1	—	—	4	5	8	—	1	1	—	3.8
14	2	—	—	—	—	—	—	2	2	—	—	—	—	—	—	1	2	1	—	—	—	4.0
15	5	3	1	—	—	1	1	—	4	—	—	—	2	1	3	4	5	—	—	—	—	5.0
16	6	4	3	2	1	—	1	2	6	—	—	—	2	4	4	5	6	1	1	2	1	7.2
Total	278	17	4	2	1	1	3	45	191	14	13	13	4	6	141	168	191	8	16	10	3	3.1
Percent		6	1	.7	.4	.4	1	16	69	5	5	5	1	2	51	60	69	3	6	4	—	

Fine Arts

The general classification of fine arts includes 13 music courses and six courses in the field of art. One separate category, "other fine arts," is also listed under this category, and was offered by eight schools during the 1965-66 school year.

Vocal music was the most common offering Statewide; 69% of the schools offered mixed chorus, 60% offered girls' chorus, and 51% listed boys' chorus.

Band courses matched the popularity of mixed choruses; 69% of the schools offered this course. Other instrumental music courses were much less frequently offered; only six schools offered "orchestra" and 45 schools listed a course called merely "instrumental music."

In 1965-66, the average fine arts offering was one course for Type 1 schools to more than seven courses in Type 16 schools. The overall average for North Dakota public high schools was three and one-tenth courses. Table B-9 presents the compilation of fine arts course offerings.

Special Education

Special education courses appeared rarely in the curricula of North Dakota's public high schools in 1965-66. Only three such courses were offered, listed by four schools in three different types.

One school in Type 9 provided a course for persons with special health problems, a school in Type 12 offered a course for students having speech and hearing difficulties, and two Type 16 schools listed courses for mentally retarded students.

Summary

This study dealt with curricular inequalities in North Dakota's public high schools in the school year 1965-66; the purpose of the study was to determine the degree of disparity in course offerings among the 278 schools. Data for the study were furnished by the North Dakota Department of Public Instruction.

A comparison of course offerings established that there is great inequality of educational opportunity among North Dakota's public high schools; each of the size-types of schools, other than those which included fewer than three schools, offered a range of courses strikingly disparate in number and variety.

Except for the one-school categories, as classified for this study, all size-groups of schools were found to contain at least one school offering a decidedly more limited number of courses than were listed by other schools in the same type. The number of schools in the type seemed unrelated to the degree of disparity in the curricula within the school type.

In Types 2 and 9, the groups largest in terms of numbers, the range of difference in number of courses offered was 12. On the other hand, the 28 schools in Type 11 showed a difference of 13 courses between the largest and smallest number of offerings. The six schools in Type 16 had a greater range, from 51 to 93 courses.

In general, **the average number of course offerings is greater in schools of larger size. Non-accredited schools, on the average, offered fewer courses than did accredited schools of comparable size.** It is not clear how the number of courses relates to accreditation status.

Some smaller schools appeared at first glance not to be offering the State's minimum requirements, e.g., in the field of language arts. For

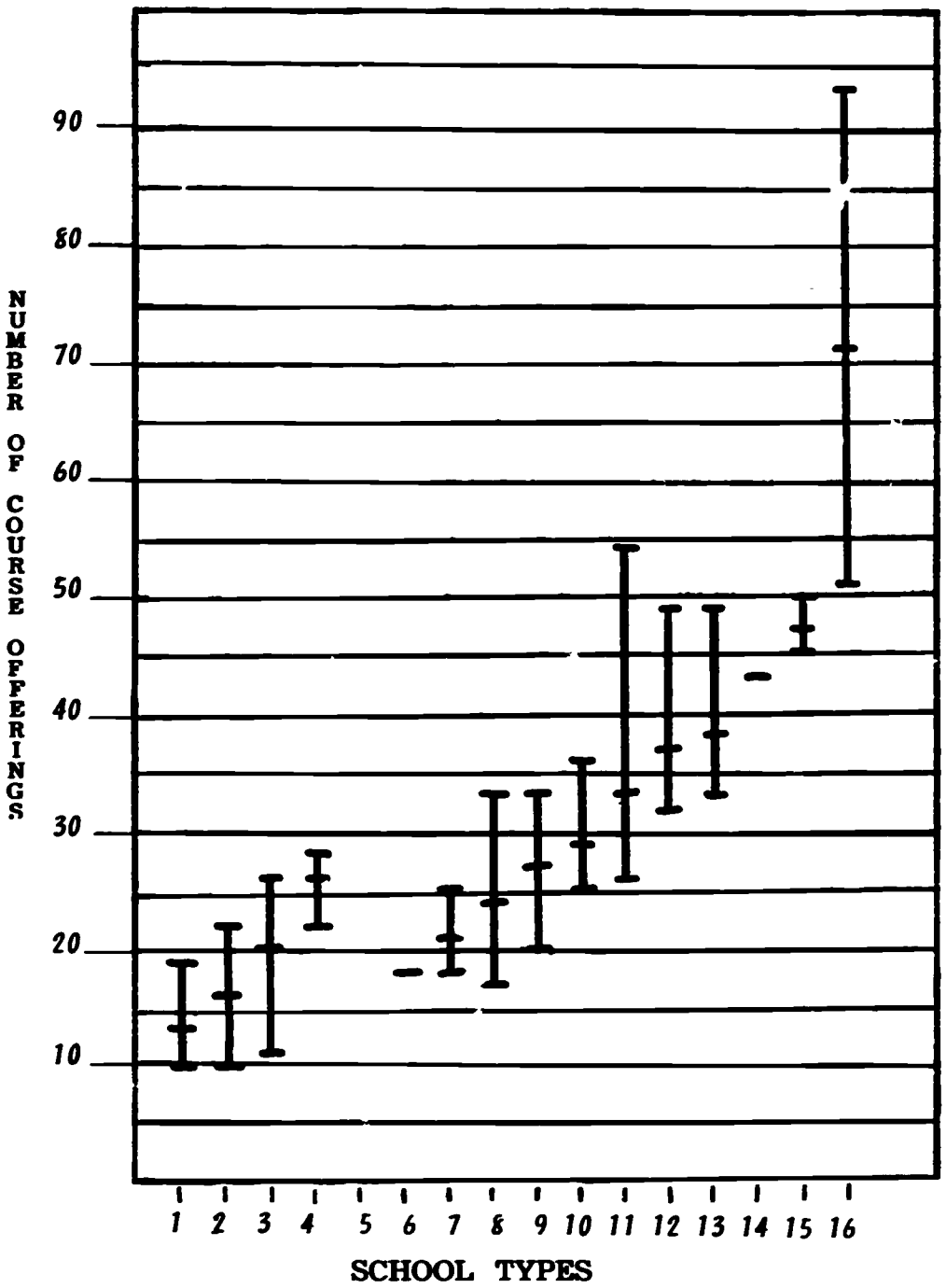

FIGURE 1—Number of Course offerings by school type showing high, mean, and low.

years, however, these schools have been offering an alternate-year schedule in some courses, for instance: English I and English III in one year, English II and English IV the next year.

In several cases, the alternation of required courses was not accompanied by the alternation of elective courses, six of which are the minimum requirement for North Dakota high school graduates. This fact raises a question as to whether in some schools the elective courses have been given more importance than the required courses.

The "typical" North Dakota high school can be described as an accredited school with a student population of from **75 to 99,** offering an average of **27 separate courses for its four years of secondary education.** Table B-10 shows a breakdown of the courses most frequently listed.

The results of the Statewide Study provide a yardstick by which local educators and laymen may measure the curriculum status and needs in their own schools for the purpose of upgrading their program offerings.

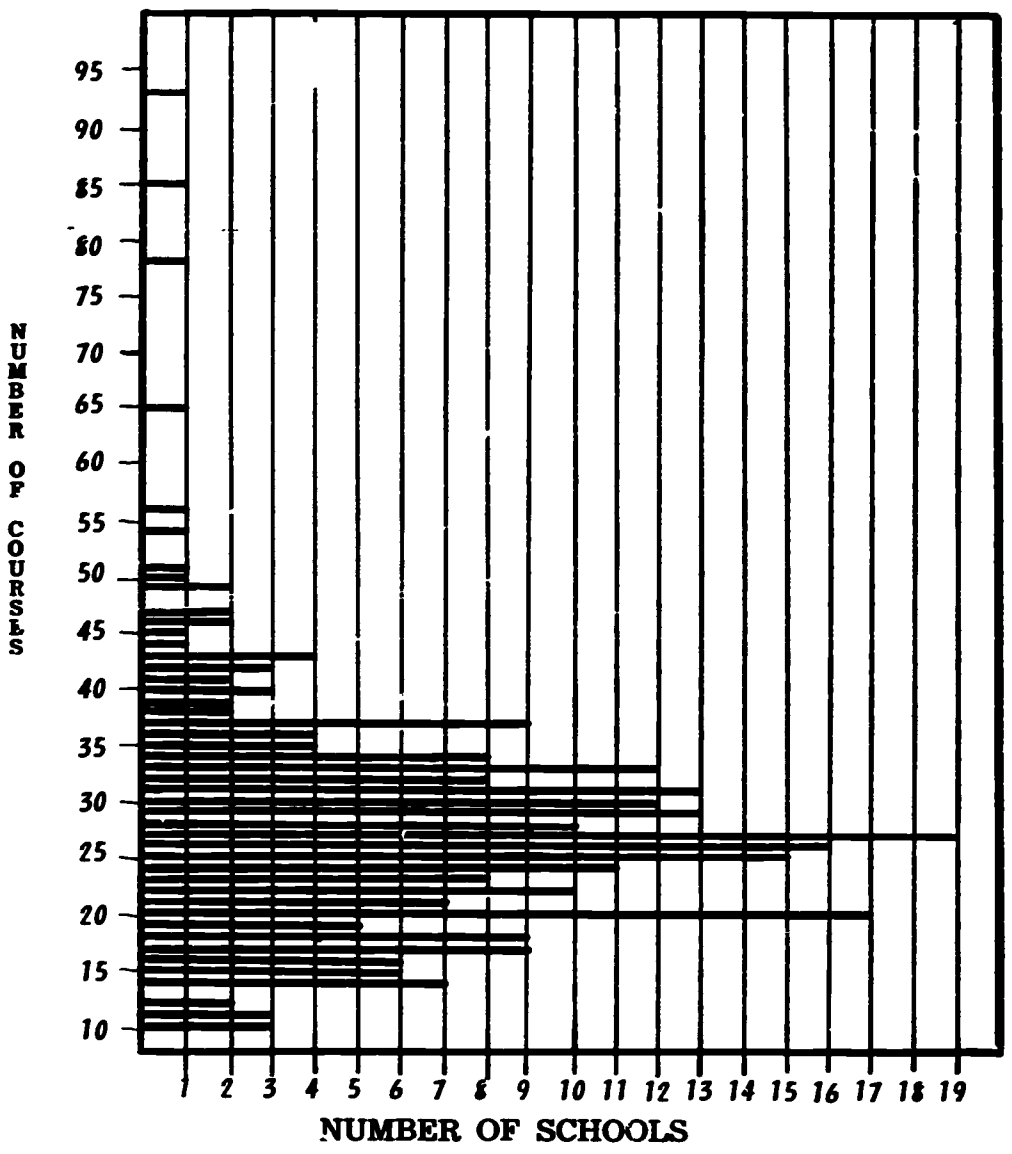

FIGURE 2—Number of courses offered in North Dakota public high schools during school year 1965-1966.

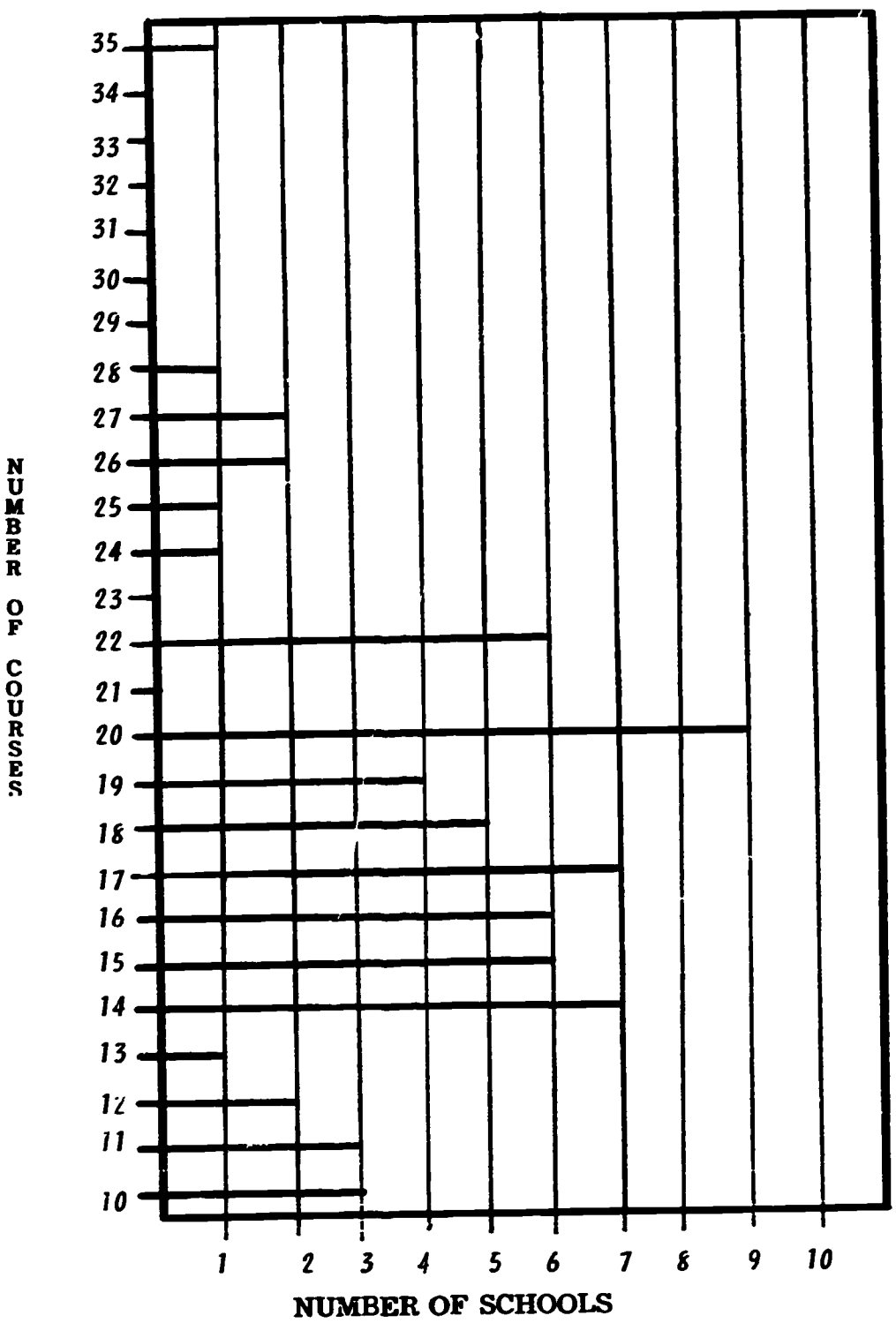

FIGURE 3—Number of courses offered in North Dakota non-accredited public high schools during school year 1965-1966.

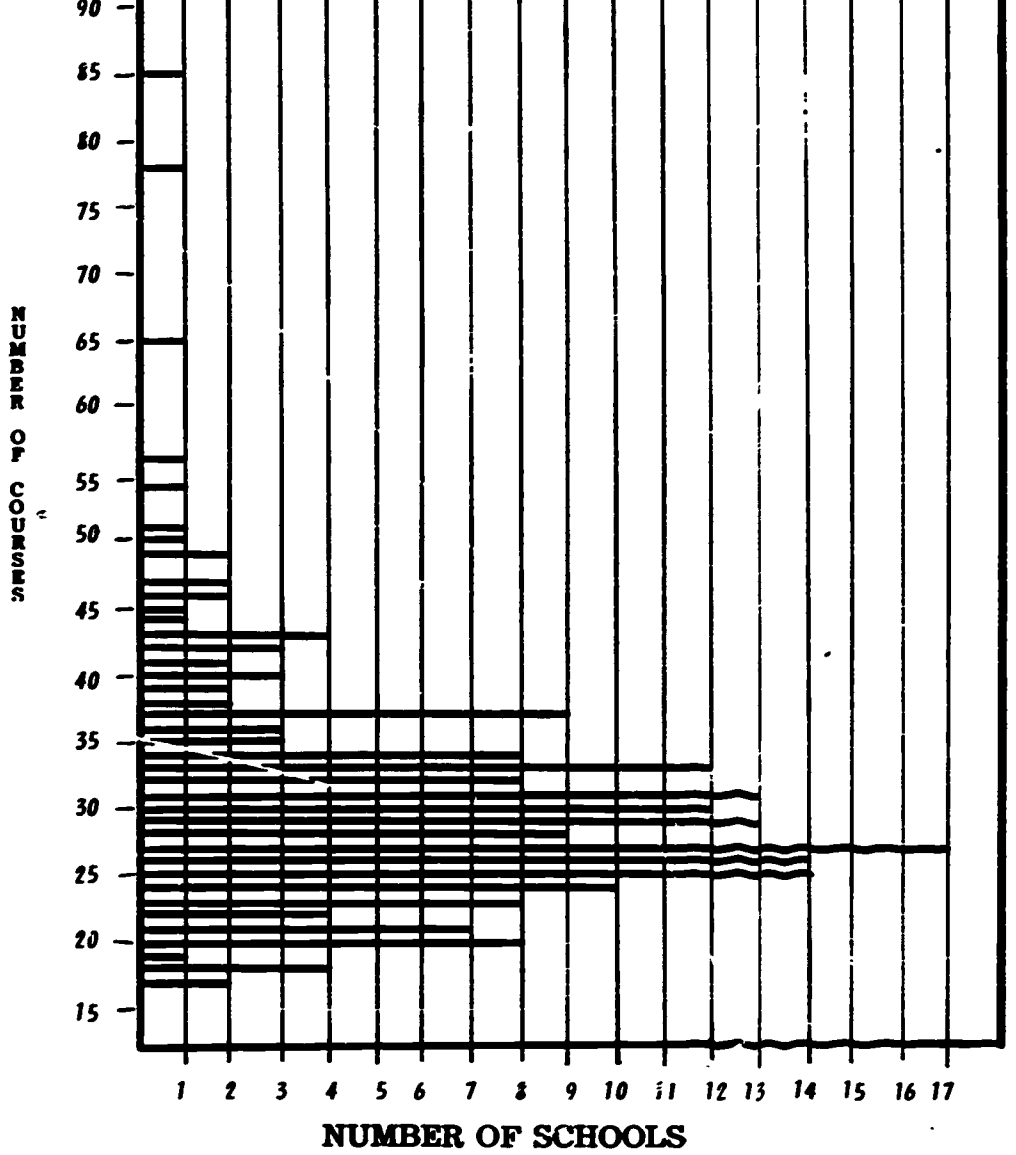

FIGURE 4—Number of courses offered in accredited North Dakota public high schools during school year 1965-1966.

TABLE B-10

THE OFFERINGS OF THE TYPICAL NORTH DAKOTA PUBLIC HIGH SCHOOL DURING 1965-1966

Language Arts
- English I
- English II
- English III
- English IV

Natural Science
- Biology
- Chemistry
- Introduction to Physical Science

Foreign Languages
- German I

Practical Arts, Health and Physical Education
- Health and Physical Education (Boys)
- Health and Physical Education (Girls)
- Driver Education (Classroom and behind-wheel)

Social Studies
- World History
- United States History
- Problems of Democracy
- World Geography

Mathematics
- Algebra I
- Plane Geometry
- Algebra II

Business Education
- Typing I
- Bookkeeping I
- Shorthand I
- General Business

Vocational Education
- Home Economics I
- Home Economics II

Fine Arts
- Band
- Mixed Chorus
- Girls Chorus

In some instances, the average course offerings were such that one-half course was offered in a particular field, e.g., mathematics. If these had been included, the total would then have run to more than the average of 27 course offerings.)

TABLE B-11

COURSE LISTING AND CODE NUMBERS USED BY NORTH DAKOTA DEPARTMENT OF PUBLIC INSTRUCTION

Language Arts	
English I	1110
English II	1120
English III	1130
English IV	1140
Special Senior English	1180
Journalism I	1210
Journalism II	1220
Speech I	1310
Speech II	1320
Debate I	1350
Debate II	1360
Dramatics I	1410
Dramatics II	1420
Developmental Reading	1510
Social Studies	
Orientation	2110
Citizenship	2110
World Geography	2210
World History	2310
United States History	2320
American Government	2410
Problems of Democracy	2420
International Relations	2430
Sociology	2510
Family and Marriage	2530
Economics	2610
Psychology	2710
Cooperative Marketing	2810
Mathematics	
General Mathematics	3110
Advanced General Mathematics	3112
Computer-Oriented Mathematics	3114

TABLE B-11 (Continued)

Modern Mathematics (Senior)	3116
Advanced Mathematics (Senior)	3118
Algebra I (Elementary)	3210
Algebra II (Advanced)	3212
Algebra III (College Freshman)	3214
Geometry, Plane	3310
Geometry, Solid	3312
Geometry (Integrated) (Plane and Solid)	3314
Geometry, Analytical	3316
Trigonometry	3410
Calculus	3510
Probability and Statistics	3610
Other Math, N.E.C.	3910
Natural Science	
General Science	4110
Introduction to Physical Science for 9th Grade	4120
Biology	4210
BSCS (Yellow)	4212
BSCS (Green)	4214
BSCS (Blue)	4216
Geology	4310
Chemistry	4410
Chemistry Study	4412
CBA Chemistry	4414
Advanced Chemistry	4416
Physics	4510
PSSC Physics	4512
Advanced Physics	4514
Applied Physics	4516
Physiology	4610
Astronomy	4710
Aeronautics	4810
Other Sciences, N.E.C.	4910
Languages	
First Year French	5110
Second Year French	5120
Third Year French	5130
Fourth Year French	5140
First Year German	5210
Second Year German	5220
Third Year German	5230
Fourth Year German	5240
First Year Latin	5310
Second Year Latin	5320
Third Year Latin	5330
Fourth Year Latin	5340
First Year Russian	5410
Second Year Russian	5420
First Year Spanish	5510
Second Year Spanish	5520
Third Year Spanish	5530
Fourth Year Spanish	5540
First Year Norse	5610
Second Year Norse	5620
Business Education	
General Business	6110
Typewriting I	6113
Personal Typing	6115
Business Law	6130
Consumer Education	6133
Business Arithmetic	6135
Business English	6140
Salesmanship	6143
Retailing	6145
Advertising	6150
Shorthand I	6210
Notehand	6215
Shorthand II	6220
Bookkeeping I	6310
Bookkeeping II	6320
Clerical Office Practice	6410
Secretarial Office Practice	6420
Cooperative Part-time Office Practice	6510
Practical Arts, Health and Physical Education	
Driver Education—Classroom	7010
Driver Education—Classroom and Behind-Wheel	7020
Health and Physical Education (Boys)	7110
Health and Physical Education (Girls)	7120
Physiology	7150
General Shop I	7210
General Shop II	7211
Bench Woodworking	7221
Machine Woodworking	7222
Furniture Making	7223
Upholstery	7224
Cabinet Making	7225
Pattern Making	7226
Bench Metals	7231
Welding	7232
Foundry	7233
Machine Tools	7234
Mechanical Drawing	7241
Advanced Mechanical Drawing	7242
Architectural Drawing	7243
Pre-Engineering Drawing	7244
Sheet Metal Drawing	7245
Electrical Drawing	7246

TABLE B-11 (Continued)

Graphic Arts I	7251
Graphic Arts II	7252
Graphic Arts III	7253
Photography	7254
Printing I	7258
Printing II	7259
Electricity	7261
Communication	7262
Electronics	7263
Power Mechanics	7271
Automotive Machines	7272
Auto Body Shop	7273
Home Mechanics	7281
Crafts I	7291
Crafts II	7292
Leather	7293
Plastics	7294
Vocational Education	
Vocational Agriculture I	8010
Vocational Agriculture II	8011
Vocational Agriculture III	8012
Vocational Agriculture IV	8013
D. E. I	8110
D. E. II	8120
Cood. Education	8150
Home Economics I	8210
Home Economics II	8220
Home Economics III	8230
Home Economics IV	8240
Home Economics (Co-educational)	8250
Senior Homemaking	8260
Home Economics (Boys)	8270
Electronics I	8330
Electronics II	8340
Electronics Tech	8350
Construction Electronics	8332
Automotive Data Process	8333
Auto Mech I	8430
Auto Mech II	8443
Air Conditioning and Refrigeration I	8433
Air Conditioning and Refrigeration II	8440
Shorthand I	8510
Shorthand II	8520
Secretary Office Practice	8530
Clerical Office Practice	8540
Cooperative Education	8550
Drafting and Design I	8630
Drafting and Design II	8640
Carpentry and Cabinet Making I	8631
Carpentry and Cabinet Making II	8641
Practical Nursing	8740
Trowel Trades I	8830
Trowel Trades II	8840
Maintenance and Repair I	8831
Maintenance and Repair II	8841
Fine Arts	
Art I	9110
Art II	9120
Art III	9130
Art IV	9140
Art V	9150
Commercial Art	9170
Instrumental	9210
Band	9211
Woodwind	9215
Brass	9216
Percussion	9217
Strings	9218
Orchestra	9219
Boys' Chorus	9221
Girls' Chorus	9222
Mixed Chorus	9223
Other Fine Arts	9229
Music Appreciation	9231
Music Theory	9232
Music History	9233
Special Education	
Classes for Blind	101
Classes for Partially Seeing	102
Classes for Deaf	103
Classes for Hard of Hearing	104
Classes for Speech and Hearing	105
Classes for Crippled	106
Classes for Special Health Problems	107
Classes for Emotionally Disturbed	108
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Classes for Mentally Retarded	110

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APPENDIX C

PATTERN OF PUBLIC EXPENDITURE FOR EDUCATION IN NORTH DAKOTA

TABLE C-1

1966-67 NORTH DAKOTA FULL TIME CERTIFICATED ADMINISTRATIVE AND TEACHER PERSONNEL SALARIES BY SIZE OF SCHOOL DISTRICTS

Average Annual Salary by Major Assignment

Number of High School Districts	Enrollment in High School	Administrator	Supervisor, Coordinator, or Director	Librarian	Guidance Personnel	Elementary Principal	Secondary Principal	Elementary Teacher	Secondary Teacher	All Teachers	All Personnel
8	600 & above	15,788	10,276	6,988	8,459	10,044	10,376	6,133	7,035	6,397	6,718
3	500-599	13,333	9,274	6,981	7,822	8,508	10,687	5,955	6,774	6,224	6,525
3	400-499	12,100	6,192	6,159	7,584	8,525	8,900	5,425	6,325	5,723	5,953
6	300-399	11,264	———	5,532	7,305	7,474	7,886	4,979	6,263	5,472	5,715
29	200-299	9,653	4,800	5,897	6,727	6,563	7,338	4,642	5,905	5,164	5,421
26	150-199	9,033	———	5,501	6,571	6,190	7,016	4,638	5,895	5,136	5,370
40	100-149	8,194	———	4,905	5,900	5,246	6,346	4,224	5,585	4,791	5,022
52	75-99	7,786	———	4,902	6,550	5,376	6,050	4,168	5,628	4,812	5,042
51	50-74	7,103	———	5,625	6,000	———	5,879	4,034	5,456	4,646	4,909
54	25-49	6,670	———	———	———	———	5,571	3,964	5,351	4,482	4,781
6	24-less	6,125	———	———	———	———	———	3,604	5,254	4,325	4,610
278	H. S. Dist. Ave.	8,190	9,861	6,212	7,774	8,714	7,550	5,075	6,085	5,449	5,716
69	Elem. Dist. Ave.	7,450	———	———	———	4,818	———	4,026	———	4,026	4,100
134	Rural Dist. Ave.	———	———	———	———	———	———	3,839	———	3,839	3,839
481	All Dist. Ave.	8,185	9,861	6,121	7,774	8,196	7,550	4,966	6,085	5,353	5,613

SOURCE: Department of Public Instruction.

TABLE C-1 (Continued)

1966-67 NORTH DAKOTA FULL TIME CERTIFICATED ADMINISTRATIVE AND TEACHER PERSONNEL SALARIES BY SIZE OF SCHOOL DISTRICTS

Number of High School Districts	Enrollment in High School	Average Annual Salary by Degree: Education Specialist and Doctor's Degree	Master's Degree	Bachelor's Degree	Less Than Bachelor's Degree	Average Salary of All
8	600 & above	12,638	8,792	6,296	4,875	6,718
3	500-599	9,000	8,689	6,401	4,854	6,525
3	400-499	———	8,323	6,011	4,691	5,953
6	300-399	———	8,316	5,993	4,561	5,715
29	200-299	———	8,169	5,734	4,219	5,421
26	150-199	———	7,796	5,691	4,270	5,370
40	100-149	———	7,730	5,489	4,025	5,022
52	75-99	7,875	7,649	5,533	3,954	5,042
51	50-74	5,000	6,886	5,435	3,905	4,909
54	25-49	———	6,690	5,432	3,853	4,781
6	24 or less	———	6,475	5,233	3,598	4,610
278	Ave. for H.S. Dist.	10,953	8,364	5,891	4,202	5,716
69	Ave. for Elem. Dist.	———	6,411	4,311	4,048	4,100
134	Ave. for Rural Dist.	———	———	4,035	3,822	3,839
481	Ave. for All Dist.	10,953	8,357	5,873	4,163	5,613

TABLE C-2

PATTERN OF PUBLIC EXPENDITURE FOR INSTRUCTIONAL SERVICES: 1963-66

(In dollars per pupil)

	Elementary Districts		
Professional Salaries	1963-64	1964-65	1965-66
Principals	7.88	6.27	9.54
Supervisors	2.90	1.80	4.32
Teachers	225.27	231.10	241.40
Other	1.35	1.66	.88
TOTAL	236.59	240.83	256.14
Non-Professional Salaries			
Secretarial	.94	1.15	1.31
Other	3.36	2.75	3.53
TOTAL	4.30	3.90	4.84
Non-Salary			
Textbooks	7.08	8.20	8.54
Library—Audio-Visual	1.78	1.85	2.60
Supplies	8.05	8.84	14.84
Other	5.80	6.14	8.12
TOTAL	22.71	25.03	34.10
GRAND TOTAL	263.60	269.76	295.08

TABLE C-2 (Continued)

PATTERN OF PUBLIC EXPENDITURE FOR INSTRUCTIONAL SERVICES: 1963-1966
(In dollars per pupil)

SECONDARY SCHOOL DISTRICTS

	Total			Elementary Division			Secondary Division		
	1963-64	1964-65	1965-66	1963-64	1964-65	1965-66	1963-64	1964-65	1965-66
Professional Salaries									
Principals	10.99	11.52	11.69	8.96	9.39	9.65	25.25	16.21	16.55
Supervisors	1.36	4.50	1.85	1.31	3.92	1.73	1.48	5.79	2.13
Teachers	225.78	234.13	249.79	192.97	198.42	210.90	298.01	312.33	337.76
Other	3.77	4.22	4.46	2.68	2.46	3.13	8.62	8.08	7.47
TOTAL	241.90	254.37	267.79	205.92	214.19	225.41	333.36	342.41	363.91
Non-Professional Salaries									
Secretarial	2.13	2.38	2.93	1.82	2.13	2.48	2.82	2.92	3.90
Other	1.11	.88	2.01	.91	.75	1.89	1.53	1.16	2.39
TOTAL	3.24	3.26	4.93	2.73	2.88	4.37	4.35	4.08	6.29
Non-Salary									
Textbooks	4.82	4.53	5.70	4.85	4.42	5.66	4.76	4.77	5.78
Library—Audio-Visual	2.93	3.07	4.08	2.39	2.54	3.41	4.12	4.24	5.00
Supplies	7.50	8.11	13.67	6.50	7.37	11.90	9.69	9.73	17.67
Other	2.26	2.49	2.66	1.77	2.08	2.23	3.32	3.38	3.62
TOTAL	17.51	18.20	26.11	15.51	16.41	23.20	21.89	22.12	32.67
GRAND TOTAL	262.65	275.83	298.83	224.16	233.48	252.98	359.60	368.61	402.87

TABLE C-3

PATTERN OF GENERAL FUND EXPENDITURE FOR EDUCATION: 1963-1966

(In dollars per pupil)

	All School Districts			Elementary School Districts			Secondary School Districts		
	1963-64	1964-65	1965-66	1963-64	1964-65	1965-66	1963-64	1964-65	1965-66
Administration	14.68	15.24	16.63	14.90	14.42	16.76	14.67	15.26	16.63
Instruction	262.97	275.63	298.69	267.41	269.80	295.55	262.70	275.89	298.87
Attendance	.12	.16	.18	.29	.12	.32	.11	.16	.17
Operation	39.73	42.88	43.69	40.66	43.14	45.77	39.68	42.87	43.56
Maintenance	10.19	10.88	10.72	13.30	13.49	14.48	10.00	9.88	10.50
Fixed Charges	20.60	16.03	20.46	27.57	22.92	29.47	20.18	15.62	19.95
Health	.40	.43	.44	.10	.15	.45	.42	.44	.26
SUB TOTAL	348.69	361.25	390.81	364.23	364.04	402.80	347.76	360.12	389.94
Food	2.30	2.32	2.49	5.72	5.29	6.51	2.10	2.14	2.27
Student Body	.64	.73	1.01	.14	.16	.18	.68	.76	1.06
Community Services	.11	.13	.12	.09	.05	.10	.11	.13	.12
Trans. (Operating)	34.47	36.47	36.72	62.34	61.94	64.27	32.79	34.95	35.16
Trans. (Capital Outlay)	2.82	3.40	3.72	2.18	2.97	3.06	2.86	3.42	3.76
Capital Costs	16.56	16.69	21.09	16.09	9.69	15.24	16.58	17.11	21.42
Debt Service	.82	1.12	.93	1.35	1.38	1.24	.79	1.10	.91
TOTAL	406.41	422.11	456.89	452.14	445.52	493.40	403.67	419.73	454.64

THE STATEWIDE STUDY OF EDUCATION

The published materials of the Statewide Study of Education are reproduced in six volumes. These are:

- PERSONNEL NEEDS IN NORTH DAKOTA PUBLIC SCHOOLS
- PUBLIC EXPENDITURE FOR EDUCATION IN NORTH DAKOTA
- EDUCATIONAL DEVELOPMENT FOR NORTH DAKOTA 1967-1975: OVERVIEW
- DEVELOPING AND PLACING EDUCATIONAL PERSONNEL IN NORTH DAKOTA
- A PLAN OF PUBLIC EXPENDITURE FOR EDUCATION IN NORTH DAKOTA
- DEVELOPING STATE LEADERSHIP FOR EDUCATION IN NORTH DAKOTA

Copies of these documents are available through the Office of the State Superintendent of Public Instruction, State Capital, Bismarck, North Dakota.