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ABSTRACT

Results of this survey indicate that three important ways to improve high school student achievement are to increase daily attendance, improve study skills, and increase required courses. Two-thirds of the school district administrators responding rated increasing attendance as highly important. Almost half strongly favored increasing required core subject and study skill courses. Other highly rated alternatives among the eight listed were raising graduation requirements and expanding inservice teacher training. During the past 3 years (1979-82), nine out of ten districts reported implementing one or more activities to bolster achievement. Although urban, suburban, and rural districts are similar in their graduation requirements, urban districts tend to emphasize minimum competency tests and homework assignments more than rural districts. Minimum competency tests and scores from the Scholastic Aptitude Test (SAT) and American College Testing (ACT) Program revealed no consistent pattern of positive relationships between requirements and achievement. Questionnaires mailed to a national probability sample of 571 school districts representing 11,370 school districts with high schools yielded a 93 percent response rate. Six tables of statistical findings and a reproduction of the survey questionnaire are included. (JBM)

fast response survey system

early release

National Center for Education Statistics

U.S. Department of Education

Office of the Assistant Secretary for Educational Research and Improvement

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SCHOOL DISTRICT SURVEY OF ACADEMIC REQUIREMENTS AND ACHIEVEMENT

Three important ways to improve high school student achievement are to increase daily attendance, improve study skills, and increase the number of required core courses, according to the National Center for Education Statistics (NCES). This finding is from a recent NCES survey of a representative national sample of school district administrators. The survey was requested through the U.S. Department of Education by the National Commission on Excellence in Education to provide information on high school academic requirements and school districts' efforts to improve achievement.

School district administrators were asked, among other things, to rate the relative importance (high, medium, or low) of the following activities to improve academic achievement in high schools:

- Increase daily attendance
- Increase units of credit required in core subjects
- Establish/increase courses to improve students' study skills/habits
- Establish/increase minimum competency requirements for graduation
- Establish/increase requirements for in-service teacher training for subject matter competence
- Increase amount of homework
- Extend the school day or the school year
- Establish/increase minimum competency tests for teachers

Two-thirds of the school district administrators rated "increasing attendance" as highly important for improving student achievement (table 1). Almost half (47 percent) strongly favored increasing the number of required core subject credits and the number of student study skill courses. Further, more than one-quarter of the districts rated minimum competency requirements for graduation and expanded in-service training for teachers as highly important.

Few districts (less than 10 percent) rated the remaining alternatives as highly important. However, nearly 50 percent felt that increasing homework was at least moderately important.

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Nine out of ten districts (91 percent) reported implementing one or more of the eight listed activities to bolster achievement during the past 3 years. About 69 percent of the districts had implemented programs to increase daily student attendance, and 51 percent reported plans for new or additional activity in this area.

Relatively more urban school districts reported implementing these activities and considered them to be highly important than did rural districts (table 2). Differences between urban and rural districts were most striking for increasing attendance and increasing minimum competency requirements for graduation.

Requirements [1]

High school students nationally average about 5 hours of credit classes each school day (table 3).[2] The amount of time spent in these classes varies widely across districts, from a high of 350 minutes or more for 10 percent of the districts, to a low of 240 minutes or less for another 10 percent.

On the average, districts require a total of 19.8 credits for graduation, or about 5 credits per year for the typical 4-year program.[3] However, some districts (5 percent) require as many as 24 credits, while others (also about 5 percent) require as few as 16.5 credits - a difference equivalent to 1-1/2 years of required credit.

As part of the total required credits for graduation, districts designate an average of 3.6 credits in English/language arts, 2.6 in social studies/history, 1.7 in mathematics, 1.6 in science, less than .1 in foreign languages, and 1.7 in physical education/health. Many students graduate with more than the minimum number of credits. Nationally, the average number of credits earned at graduation is 21.7.

Minimum competency tests for graduating seniors are required by about one-fourth of the districts. Of these, 90 percent administer tests in mathematics, 80 percent in English/language arts, and 47 percent in other fields. Slightly less than one-fourth (23 percent) of the districts have formal policies requiring the regular assignment of homework at the senior high level.

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[1] In this report, estimates of averages are means per district, not means per student.

[2] Calculated from the number of periods a typical student takes for credit and the number of minutes per period.

[3] In this survey, a unit of credit was defined as a class scheduled for a minimum of 200 minutes per week (275 minutes for a laboratory class) for 36 weeks. All credits have been converted to a 4-year base.

Urban, suburban, and rural districts are similar in the length of school days and the number of credits required for graduation. However, proportionately, twice as many urban districts (two-fifths) as rural districts (one-fifth) require minimum competency tests for graduation and regular homework assignments in senior high school.

Achievement

The administrators reported that half of the their high school graduates intend to go to 2- or 4-year colleges. The American College Testing (ACT) Program or the Scholastic Aptitude Test (SAT) is required by many colleges as a criterion for admission.[4] Almost half of the seniors in all districts take either the ACT or the SAT, although this proportion varies greatly among districts (from 1 to 100 percent).

Districts reported average scores for their students on either the ACT or SAT, whichever test was taken by more of their students. The ACT scores were reported by 61 percent of the districts; the SAT scores, by the remaining 39 percent.

Urban districts reported lower average SAT scores than did suburban districts, but average ACT scores were about equal for both.

The average district student score was 461 on the mathematics portion and 433 on the verbal portion of the SAT, and 19.0 on the composite ACT (table 4). Individual district scores varied greatly. For example, of the districts reporting SAT scores, 10 percent reported average mathematics scores of 400 or lower, while another 10 percent reported scores of 520 or higher.

Requirements and Achievement

Preliminary analyses (see Survey Background) at the national level reveal some positive relationships between requirements and student achievement, but the pattern was not consistent across the three achievement measures (the ACT score, combined SAT score, and the percent of high school graduates intending to go to college).

For example, school districts whose students spend more time in credit courses (reporting high numbers of minutes) appear to have significantly higher achievement as measured by the mathematics SAT and combined mathematics and verbal SAT than those reporting low minutes (table 5). However, for districts indicating that the ACT is their more widely administered test, no positive relationship exists between time spent in credit classes and achievement.

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[4] Possible student scores on the ACT range from 1 to 36. The ACT Program reported an average composite score for students tested during the 1981-82 school year of 18.4. Student scores on the SAT mathematics or verbal tests may range from 200 to 800. The College Entrance Examination Board reported an average mathematics SAT score of 467 and a verbal SAT score of 426 for college bound seniors of the class of 1982.

Moreover, there are a number of apparent inconsistencies between student achievement and other requirements. For example, school districts report similar achievement scores and percents of students intending to go to college regardless of whether the district requires high or low numbers of credits (excluding physical education/health) for graduation. In addition, student achievement in districts requiring competency tests for graduation or regular homework at the senior high level does not differ significantly from that in districts without these requirements.

The failure to find a consistent pattern of positive relationships between requirements and achievement may arise from a number of factors. First, there is a tendency for school districts with lower student achievement to raise formal requirements as a strategy for improving achievement, while higher achieving districts see less need for this type of action. The survey findings support this, in that districts with the lowest percents of students eligible for ESEA Title I assistance (currently Chapter 1 of the Education Consolidation and Improvement Act) have the highest achievement even though their requirements are the same or lower than other districts. Second, in some districts, higher requirements are the result of recent policy changes to counteract low achievement. These policies may not have been in effect long enough to result in measurable differences in achievement. For example, policies enacted in the 1981-82 school year would have minimal effect on the achievement of students in 1981-82, but may influence the achievement test performance of students in later years. Third, since these data reflect aggregate district averages, significant effects are more difficult to isolate than if students were the unit of analysis. Fourth, the average achievement scores of small districts are subject to significant variability because they are based on relatively few students.

Moreover, some variables that have been linked to achievement in other studies could not be measured in this survey. Among these variables are the quality of education, level of student preparation on entering high school, student motivation, teacher expectations, and per pupil expenditure. Control of these variables would permit a more powerful test of the existence or nonexistence of a relationship between requirements and achievement at the district level.

Survey Background

This survey was requested by the National Commission on Excellence in Education through the Office of Educational Research and Improvement, U.S. Department of Education. The survey was performed under contract with Westat, Inc., a research firm in Rockville, Maryland, using the Fast Response Survey System (FRSS). In August 1982, questionnaires were mailed to a national probability sample of 571 school districts representing an estimated national total of 11,370 school districts with high schools. The response rate was 93 percent. The standard errors for selected characteristics are presented in table 6.

Preliminary analyses consisted of plots of the data, cross-tabulations, and weighted linear regressions. The regression analyses employed the following as independent variables: number of minutes spent in credit classes, number of credits required for graduation (excluding physical education/health), number of credits required in core subjects, whether or not the district required competency

tests for graduation, whether or not the district had a formal policy requiring the regular assignment of homework at the senior high school level, percent of seniors taking the ACT or SAT test, and percent of students eligible for Title I assistance. Dependent variables were district average composite ACT scores, combined mathematics and verbal SAT scores, and percent of graduates planning to attend 2- or 4-year colleges. Only the percentage of students eligible for Title I showed a consistent, significant relationship with the achievement measures, and the relationship was negative.

For information about this survey or the Fast Response Survey System, contact Douglas Wright, National Center for Education Statistics, 400 Maryland Avenue SW. (Mail Stop 205), Washington, D.C. 20202, telephone (301) 436-6684. For single copies of this early release, or for more information about the Center's statistical program contact the Statistical Information Office, at the same address, or telephone (301) 436-7900.

Table 1.--School district ratings of the importance of activities to improve academic achievement in high schools, implementation of these activities between 1979-80 and 1981-82, and plans for implementation by 1984-85: United States, fall 1982

(Table entries are percents of an estimated 11,370 districts with high schools.)

Activity	Relative importance			Implemented between 1979-80 and 1981-82	Plan to implement by 1984-85
	High	Medium	Low		
Increase daily attendance	66	23	11	69	51
Increase units of credit required in core subjects	47	30	23	53	38
Establish/increase courses to improve students' study skills/habits	47	41	12	48	52
Establish/increase minimum competency requirements for graduation	29	37	34	27	34
Establish/increase requirements for in-service teacher training for subject matter competence	28	47	25	36	43
Establish/increase minimum competency tests for teachers	9	21	70	9	12
Increase amount of homework	7	47	46	19	19
Extend the school day or the school year ..	5	15	80	7	8

Table 2.--School district ratings of the importance of activities to improve academic achievement in high schools and implementation of these activities between 1979-80 and 1981-82, by metro status: United States, fall 1982

(Table entries are percents of urban, suburban, and rural school districts with high schools. 1/)

Activity	High importance			Implemented between 1979-80 and 1981-82		
	Metro status			Metro status		
	Urban	Sub-urban	Rural	Urban	Sub-urban	Rural
Increase daily attendance	90	69	63	88	76	64
Increase units of credit required in core subjects	59	54	43	65	57	51
Establish/increase courses to improve students' study skills/habits	51	43	49	52	47	48
Establish/increase minimum competency requirements for graduation	47	35	25	49	32	24
Establish/increase requirements for in-service teacher training for subject matter competence	45	26	28	49	39	34
Establish/increase minimum competency tests for teachers	5	11	8	<1	9	9
Increase amount of homework	12	8	6	37	27	14
Extend the school day or the school year	14	8	3	6	7	6

1/ Total numbers of districts are: urban--366, suburban--3,725, and rural--7,280. Urban districts are those within city limits. Suburban districts are those within the Standard Metropolitan Statistical Area (SMSA), but outside the city. Rural districts are those outside the SMSA.

Table 3.--Academic requirements, by metro status: United States, fall 1982

Requirements	All districts with high schools	Metro status		
		Urban	Suburban	Rural
Total school districts	11,370	366	3,725	7,280
Average minutes per day of credit classes	298.4	294.4	290.7	302.6
Average number of credits 1/	19.8	19.9	19.9	19.8
Average number of credits in core subjects 2/	9.5	10.0	9.3	9.6
Average number of credits in math	1.7	1.9	1.6	1.7
Average number of credits in science .	1.6	1.6	1.4	1.6
Average number of credits in English/ language arts	3.6	3.8	3.7	3.6
Average number of credits in history/ social studies	2.6	2.6	2.6	2.6
Average number of credits in foreign languages	<.1	.1	<.1	<.1
Average number of credits in physical education/health	1.7	1.9	1.9	1.6
Percent of districts requiring minimum competency tests for graduation	25	42	37	19
In math	23	41	33	17
In English/language arts	20	38	29	15
In other subject	12	23	19	7
Percent of districts with formal policy requiring regular assignment of homework at senior high school level	23	40	29	19

1/ In the survey, a unit of credit was defined as a class scheduled for a minimum of 200 minutes per week (275 minutes for a lab class) for 36 weeks. All credits have been converted to a 4 year base.

2/ Math, science, English/language arts, social studies/history, and foreign languages.

Table 4.--Academic achievement, by metro status: United States, fall 1982

Achievement 1/	All districts with high schools	Metro status		
		Urban	Suburban	Rural
Total school districts.....	11,370	366	3,725	7,280
Average math SAT score	461	450	468	455
Average verbal SAT score	433	413	442	425
Average composite ACT score	19.0	18.4	18.6	19.2
Average percent of high school graduates that intend to go to a 2- or 4-year college	48.8	54.3	50.4	47.7

1/ School districts reporting the SAT as their more widely administered achievement test comprised approximately 63 percent of all urban districts, 57 percent of suburban districts, and 28 percent of rural districts. In the remaining districts, the ACT was the more widely administered of the two achievement tests. By region, SAT school districts comprised 94 percent of the North Atlantic districts, 12 percent of the Great Lakes and Plains, 34 percent of the Southeast, and 45 percent of the West and Southwest.

Table 5.--Academic achievement, by requirements: United States, fall 1982

Requirements	Achievement				
	Average math SAT score	Average verbal SAT score	Average combined SAT score	Average ACT score	Average % going to college
Total	461	433	894	19.0	48.8
Minutes of credit classes: 1/					
Low	454	430	884	19.8	48.9
Medium	459	433	892	19.2	47.7
High	472	437	907	18.4	49.8
Required credits excluding physical education/health: 2/					
Low	461	435	896	19.1	48.2
Medium	455	424	879	19.2	47.4
High	467	439	904	18.8	50.3
Policy requiring regular homework at senior high school level:					
No	458	431	889	19.0	48.3
Yes	467	437	902	18.8	50.3
Minimum competency tests required for graduation:					
No	460	433	893	19.0	48.1
Yes	462	433	894	18.7	50.7

1/ Low = 200-270
Medium = 271-329
High = 330-385

2/ Low = 11.5-16.99
Medium = 17-18.99
High = 19-26

Table 6.--Standard errors of selected items

Item	Estimate	Standard error
National averages:		
Minutes that a typical student spends in credit classes each day	298.4	2.0
Units of credit required for graduation	19.8	.1
Composite ACT score	19.0	.1
Math SAT score	461.1	4.0
Verbal SAT score	432.8	3.4
Percent of graduates planning to attend two- or four-year colleges	48.8	.8
Percent of students eligible for Title I assistance	21.2	.7
Percent of all districts:		
Requiring minimum competency tests for graduation	25.4	1.7
With formal policy requiring regular assignment of homework at the senior high school level	22.9	2.2
Indicating that increasing daily attendance is highly important for improving academic achievement	66.0	2.6
Indicating that establishing/increasing courses to improve students' study skills is highly important for improving academic achievement	46.8	3.2
Indicating that increasing the school day or year is highly important for improving academic achievement	4.7	1.0
That implemented programs to increase daily attendance between the 1979-80 and 1981-82 school years	68.7	2.5
Averages and percents for urban, suburban, and rural districts:		
Average verbal SAT score for urban districts	413.3	9.0
Average verbal SAT score for suburban districts	442.0	4.3
Percent of urban districts requiring minimum competency tests for graduation	42.5	7.7
Percent of rural districts requiring minimum competency tests for graduation	18.7	2.2
Percent of urban districts indicating that increasing daily attendance is highly important for improving academic achievement	89.6	4.6
Percent of suburban districts indicating that increasing daily attendance is highly important for improving academic achievement	68.6	5.2
Percent of rural districts indicating that increasing daily attendance is highly important for improving academic achievement	63.4	3.7

Note.--Statistics used in this report are subject to sampling variability. The estimated standard error of a statistic (a measure of the variation due to sampling) can be used to examine the precision obtained in a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.645 standard errors below to 1.645 standard errors above a particular statistic would include the average result of these samples in approximately 90 percent of the cases. For example, for the first item in the table (average number of minutes that a typical student spends in credit classes each day), a 90 percent confidence interval is from 295.1 to 301.7 minutes (298.4 $\pm$ 1.645 times 2.0). If this procedure were followed for every possible sample, about 90 percent of the intervals would include the average number from all possible samples.

FAST RESPONSE SURVEY SYSTEM

U. S. DEPARTMENT OF EDUCATION
NATIONAL CENTER FOR EDUCATION STATISTICS
WASHINGTON, D.C. 20202

Form approved
OMB No. 1850-0503
App. Exp. 11/82

SURVEY OF SCHOOL DISTRICTS ON ACADEMIC REQUIREMENTS AND ACHIEVEMENT

This report is authorized by law (20 U.S.C. 1221a-1). While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

Definition for the purpose of this survey:

Unit of credit: A class scheduled for a minimum of 200 min. per week (275 min. for a lab. class) for 36 weeks.

I. Please complete the following items for the 1981-82 school year as they apply to only the high schools in your district, showing the combined effect of State and district requirements/practice.

A. Number of class periods in a day that a typical student takes for credit _____.

Example: Students are generally required to take 5 class periods for credit in a day. More than 50% of the students take a 6th period for credit; the other students are in a study hall or some non-credit activity. Therefore, a typical student takes 6 periods for credit.

Average number of minutes per period (excluding time between classes) _____.

B. Total number of units of credit required for graduation in your district _____.

C. Number of units of credit required in Math _____; Science _____; English/language arts _____;

Social studies/history _____; Foreign languages _____; PE/health _____.

D. Circle the grade span during which most students accrue the required units of credit: 9-12 10-12

E. Maximum number of units of credit a student can earn during the above grade span (excluding night/summer school and credit by examination) _____. Number of units of credit, if any, earned below this grade span _____.

F. How many units of credit do students usually have when they graduate? _____.

G. How many units of credit in core subject areas (English/language arts, math, science, social studies/history, and foreign languages) do students usually complete in their senior year? _____.

II. Check yes or no for each area in which your district and/or State had formal written policies or requirements for the 1981-82 school year applicable at least to your high schools.

Yes	No	
☐	☐	A. Minimum competency tests for high school graduation. In which areas are tests required: Math ☐; English/language arts ☐; Other ☐ (Specify other _____)?
☐	☐	B. Required in-service teacher training for subject matter competence, e.g., in math for math teachers, in science for science teachers. In which areas: Math ☐; Science ☐; English/language arts ☐?
☐	☐	C. Required minimum competency tests for new or already-employed teachers. (May be State requirement.) In which areas: Math ☐; Science ☐; English/language arts ☐; General knowledge ☐?

III. A. At what level(s) does your district have formal policies requiring regular assignment of homework?

Elem. ☐; Jr. High/Middle ☐; Sr. High ☐; Does not require ☐.

B. Is assigned homework required to be reviewed or graded by a teacher/teaching assistant? Yes ☐; No ☐.

C. Is it required that the results of homework assignments be discussed with students? Yes ☐; No ☐.

IV. A. Check high, medium, or low to indicate the current importance to district policy of each of the following activities (relative to each other) for improving academic achievement in high schools in your district.

B. Check yes or no for each of the activities your district has implemented in high schools between the 1979-80 and 1981-82 school years.

C. Check yes or no for each of the activities your district is planning to implement in high schools by the 1984-85 school year.

A. Importance			Activities to improve academic achievement	B. Implemented		C. Planning	
High	Medium	Low		Yes	No	Yes	No
			1. Increase units of credit required in core subject areas				
			2. Establish/increase minimum competency requirements for graduation				
			3. Increase amount of homework				
			4. Extend the school day or the school year				
			5. Increase daily attendance				
			6. Establish/increase courses to improve students' study skills/habits				
			7. Establish/increase requirements for in-service teacher training for subject matter competence				
			8. Establish/increase minimum competency tests for teachers				

V. Please complete the following items for the 1981-82 school year.

A. Percent of all district students that are eligible for Title I assistance _____.

B. Percent of daily absenteeism in your high schools _____.

C. Average SAT score Math _____ Verbal _____ OR Composite ACT score _____ (Answer for one test only, whichever is more widely administered to students in your district. If 1981-82 scores are not available, give scores for 1980-81.) Estimated percent of district seniors that took this test _____.

D. Estimated percent of high school graduates that intend to go to a 2 or 4 year college _____.

Person completing form _____ Title _____

School district _____ State _____ Phone ( ) _____

ED (NCES) 2379-15, 8/82