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ABSTRACT

To determine the core curriculum and the specific curriculum needs of small high schools today, questionnaires were mailed to a sample of 475 public high schools with enrollments of less than 500 students. Principals were asked to indicate which of 105 courses listed on the questionnaire were in their school's curriculum and to rate the need for courses not offered. Responses were received from 319 principals in 46 states for a return rate of 67.2 percent. Findings suggest that the core curriculum in most small high schools would allow for the 4 years of English, 3 years each of mathematics and science, and one-half year of computer literacy recommended by the National Commission on Excellence in Education. The recommended 3 years of social studies might be difficult to obtain, and the 2 years of foreign language recommended for college bound students would definitely be difficult to obtain in small high schools. Principals indicated a need for courses in word processing, data processing, computer programming, remedial reading, speech, computer literacy, computer mathematics, first aid and safety, geography, creative writing, and consumer economics. Of special interest, foreign language, advanced placement, and agriculture courses were not ranked among the most needed courses. (JHZ)

ATTITUDES OF PRINCIPALS CONCERNING CURRICULUM NEEDS

In

SMALL HIGH SCHOOLS

By

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IN SMALL HIGH SCHOOLS

In 1959, James Conant reported in The American High School Today that public education's "...number one problem is the elimination of the small high school...(p. 38)." Conant and his research staff reached this conclusion inspite of the fact that very few of the 103 high schools visited in their 26-state study had graduating classes of less than 100 students. Conant contended that small high schools--those with fewer than 100 seniors--by their very nature could not offer a broad or comprehensive curriculum. He called for the elimination of the small high schools on a national basis. A drastic reduction in the number of public school districts followed. In 1960, immediately after release of the Conant report, there were 36,402 public school districts in America (Grant and Eiden, 1980). Twenty years later that number had been reduced to 15,601 (NCES, 1981).

Although many small high schools have consolidated into larger units, recent research suggests that small schools, provided they offer curriculum diversity, may be one of the most important strategies for educational improvement in the 1980's and beyond (Dollar, 1984). Although the negative attitude associated with small school effectiveness has changed somewhat, the challenge of offering a broad and varied curriculum remains one of the most frequent concerns associated with the small high school (Barker and Muse, 1983; O'Neil and Beckner, 1981-82; Edington, 1979). The challenge is a significant one.

Latest figures at the time of this writing (U.S. Bureau of the Census, 1983), indicated a total of 15,144 operating public senior high schools in the United States. Of these, 7329, or 48.4 percent enrolled fewer than 500 students each. What is the core curriculum of the small high school today and what are the specific curriculum needs? The purpose of this study was to answer these questions.

Methodology and Treatment

The sample used for this study consisted of 475 operating public high schools with enrollments of less than 500 students each. A mailing list purchased from Market Data Retrieval Incorporated (1984) included a total of 5060 operating public senior high schools in the United States with enrollments of fewer than 500 students each. The list did not include almost 2300 continuation, alternative, speciality, or K-12 single district high schools--almost all of which enroll fewer than 500 students. A self-administered questionnaire was mailed during the 1983-84 school year to high school principals in the sample. Responses were returned from 319 principals across 46 different states, for a return of 67.2 percent.

The questionnaire included a listing of 105 courses which were arranged in 13 subject areas. The list of course offerings was compiled from a review of the course catalogs of a geographical cross-section of school districts in the United States. Due to variations in course titles, the titles chosen were those most common to the content (Newschool, 1982). Principals were asked to indicate which of the listed courses were included in their school's curriculum. For each course

which they did not offer, principals were asked to gage the relative degree which they felt the course should be added to their school's curriculum. Principals responded on a Likert type scale of "1" to "5" where "1" represented "no need to offer the subject" and "5" represented a "great need to offer the subject."

The Statistical Analysis System (SAS) computer program was used to list the frequencies of those courses which were offered in the sample and to calculate the mean value of the relative need to include in the curriculum those courses not offered by the schools in the sample.

Findings

The average student enrollment in the study sample was 296.8 students. The range ran from 13 students to 499, with a standard deviation of 123.

Table 1 lists the 105 courses in alphabetical order, by discipline; the percentage of each course offered in the study population; the percentage of courses not offered; and the means, listed on a scale of "1" to "5," of the relative need to add courses not offered. A mean value of 3.0 or higher suggests a considerable need to add respective courses, based on the perception of school principals.

For the purposes of this study, courses which were offered by 70 percent or more of the sample were considered to be the "core curriculum" of the small high school. Of the 105 courses listed, 46 qualifed (See Table 2). Each of the agriculture listings as well as all of the foreign languages and advanced placement courses were noticeably absent.

TABLE 1

CURRICULAR OFFERINGS IN HIGH SCHOOLS ENROLLING LESS THAN 500 STUDENTS, AND DEGREE OF INTEREST IN ADDING COURSES TO THE CURRICULUM ON A SCALE OF "1" TO "5" WHERE "1" REPRESENTS "NO NEED" AND "5" REPRESENTS "GREAT NEED." REPORTED BY PRINCIPALS, 1984.

Course	Percent Offered	Percent Not Offered	Mean of Relative Need
Agriculture			
Animal Husbandry	39.4	60.6	1.7
Forestry	15.3	84.7	1.5
Horticulture	38.6	61.4	1.8
Vocational Agriculture	64.0	36.0	1.9
Wildlife	12.5	85.5	1.7
Art			
Advanced Art	67.3	32.7	1.3
Art Appreciation	53.2	46.8	2.5
Art History	37.0	63.0	2.1
Crafts	70.9	29.1	2.3
Drawing and Painting	81.4	18.6	3.2
Printing and Graphics	51.7	48.3	2.4
Sculpture	47.9	52.1	2.0
Business Education			
Accounting	94.9	5.1	3.1
Advertising	10.8	89.2	1.7
Bookkeeping	86.8	13.2	2.0
Business Communications	42.8	57.2	2.3
Business Law	49.7	50.3	2.3
Business Machines	78.8	21.2	2.9
Business Math	72.5	27.5	2.4
Data Processing	41.7	58.3	3.2
General Business	74.4	25.6	2.6
Typing	99.7	0.3	1.0
Word Processing	57.2	42.8	3.6
Computer Science			
Computer Literacy	80.3	19.7	4.2
Computer Programming	75.2	24.8	3.6
Foreign Language			
English - second language	12.2	87.8	1.4
French	32.2	67.8	2.1
German	17.0	83.0	1.9
Latin	4.8	95.2	1.8
Russian	0.3	99.7	1.7
Spanish	64.1	35.9	2.8

TABLE 1 (continued)

Course	Percent Offered	Percent Not Offered	Mean of Relative Need
Home Economics			
Child Development	92.7	7.3	3.0
Clothing Construction	96.2	3.8	2.3
Consumer Education	85.6	14.2	2.5
Family Relations	93.9	6.1	2.3
Food and Nutrition	97.8	2.2	2.3
Home Nursing	24.2	75.8	2.2
Interior Design	65.3	34.7	2.0
Industrial Education			
Autobody Repair	23.8	76.2	2.3
Automotive Mechanics	57.7	42.3	2.7
Drafting	76.9	23.1	3.0
General Shop	83.5	16.5	2.7
Home Construction	50.7	49.3	2.3
Metalworking	66.4	33.6	2.6
Small Engine Repair	67.9	32.1	2.8
Welding	80.6	19.4	2.8
Language			
American Literature	98.1	1.9	2.2
Basic English	97.8	2.2	2.6
Composition	99.1	0.9	2.7
Creative Writing	81.8	18.2	3.4
Drama (Theatre Arts)	57.2	42.8	2.9
English Grammar	99.7	0.3	1.0
Journalism	67.0	33.0	3.0
Remedial Reading	75.5	24.5	3.6
Speech	76.5	23.5	3.8
World Literature	72.1	27.9	2.6
Mathematics			
Advanced Algebra	95.6	4.4	2.4
Advanced Geometry	37.2	62.8	2.4
Algebra	99.7	0.3	1.0
Calculus	55.6	44.4	2.8
Computer Mathematics	42.3	57.7	3.1
Consumer Math	80.7	19.3	2.7
General Math	96.8	3.2	2.6
Geography	98.1	1.9	2.2
Probability/Statistics	21.6	78.4	2.4
Trigonometry	88.2	11.8	2.8

TABLE 1 (continued)

Course	Percent Offered	Percent Not Offered	Mean of Relative Need
Personal Development			
Aerobics	30.2	69.8	2.1
Body Cond./Weight Lift.	64.2	35.8	2.3
Dating and Courtship	38.8	61.2	2.5
Driver Education	92.7	7.3	2.4
First-aid and Safety	74.3	25.6	3.3
Health	93.3	6.7	3.1
Health Occupations	35.2	64.8	2.4
Sex Education	59.8	40.2	2.9
Science			
Astronomy	16.8	83.2	2.1
Biology	99.7	0.3	1.0
Chemistry	96.8	3.2	2.6
Earth Science	69.4	30.6	2.6
General Science	87.1	12.9	2.1
Genetics	38.8	61.3	2.1
Geology	16.6	83.4	2.3
Life Science	75.9	24.1	2.1
Physical Science	89.0	11.0	2.2
Physics	89.7	10.3	3.2
Social Studies			
Anthropology	5.4	94.6	2.0
Consumer Economics	60.1	39.9	3.0
Current Events	68.5	31.5	3.0
Ethnic History	11.1	88.9	1.9
General Economics	52.8	47.2	2.8
Geography	76.1	23.9	3.4
Philosophy	5.4	94.6	2.1
Psychology	56.3	43.7	2.7
Sociology	52.6	47.4	2.6
State History and Government	82.5	17.5	3.1
U.S. Government	95.5	4.5	3.1
U.S. History	99.4	0.6	1.0
World Cultures	43.0	57.0	2.5
World Government	46.7	53.3	2.6
Special Programs			
Adv. Placement Biology	24.5	75.5	2.3
Adv. Placement Chemistry	13.7	86.3	2.3
Adv. Placement English	29.4	70.6	2.5
Adv. Placement History	8.6	91.4	2.3
Adv. Placement Math	23.5	76.5	2.4
Adv. Placement Physics	3.5	96.5	2.2
ROTC	1.7	98.3	1.4

TABLE 2

RANK ORDER OF MOST REQUENTLY OFFERED COURSES IN CURRICULA OF PUBLIC HIGH SCHOOLS ENROLLING LESS THAN 500 STUDENTS. REPORTED BY PRINCIPALS, 1984.

Course	Ranking	Percent
Type	1	99.7
English Grammar	1	99.7
Algebra	1	99.7
Biology	1	99.7
U.S. History	5	99.4
English Composition	6	99.1
American Literature	7	98.1
Geometry	7	98.1
Food and Nutrition	9	97.8
Basic English	9	97.8
Chemistry	11	96.8
General Math	11	96.8
Clothing Construction	13	96.2
Advanced Algebra	14	95.6
U.S. Government	15	95.5
Accounting	16	94.9
Family Relations	17	93.9
Health	18	93.3
Driver Education	19	92.7
Child Development	19	92.7
Physics	21	98.7
Physical Science	22	89.0
Trigonometry	23	88.2
General Science	24	87.1
Bookkeeping	25	86.8
Consumer Education	26	85.6
General Shop	27	83.5
State History and Government	28	82.5
Creative Writing	29	81.8
Art - Drawing and Painting	30	81.4
Consumer Math	31	80.7
Welding	32	80.6
Computer Literacy	33	80.3
Business Machines	34	78.8
Drafting	35	76.9
Speech	36	76.5
Geography	37	76.1
Remedial Reading	38	75.5
Life Science	39	75.9
Computer Programming	40	75.2
General Business	41	74.4
First Aid and Safety	42	74.3
Short Stories (literature)	43	73.6
Business Math	44	72.5
World Literature	45	72.1
Crafts	46	70.9

The most frequently offered courses at levels of 70 percent or higher were in the language arts area.

For courses not offered, those deemed as most needed in the curriculum had a mean relative need value of 3.0 or higher. This was based on a scale of "1" to "5" where "1" indicated "no need" to add the course and "5" indicated "a great need" to add the course. Twenty-one courses fell into this category. Ranking of the most needed courses from among these 21 was determined by comparing (1) the mean value of relative need and (2) the percent of schools in the sample which did not offer the course. Each course was ranked by these two variables. The two ranked scores were added together. The course with the lowest value was identified as the "most needed course," the next lowest value as the "second most needed course," and so on. The top eleven most needed courses, in rank order, were word processing, data processing, computer programming, remedial reading, speech, computer literacy, computer mathematics, first-aid and safety, geography, creative writing, and consumer economics. (See Table 3).

Conclusion

The National Commission on Excellence in Education (1983) recommended that state and local high school graduation requirements include (a) four years of English; (b) three years of mathematics; (c) three years of science; (d) three years of social studies; and (e) one-half year of computer science. In addition, two years of foreign language study were recommended for college bound students. How well

TABLE 3

RANK ORDER OF COURSE NEEDS IN PUBLIC HIGH SCHOOLS ENROLLING LESS THAN 500 STUDENTS. REPORTED BY PRINCIPALS, 1984.

Course	Rank	Mean Value of Need	Percent Not Offered
Word Processing	1	3.6	42.8
Data Processing	2	3.2	58.3
Computer Programming	3	3.6	24.8
Remedial Reading	4	3.6	24.5
Speech	5	3.8	23.5
Computer Literacy	6	4.2	19.7
Computer Mathematics	6	3.1	57.7
First Aid and Safety	8	3.3	25.6
Geography	9	3.4	23.9
Creative Writing	10	3.4	18.2
Consumer Economics	10	3.0	39.9
Journalism	12	3.0	33.0
Current Events	13	3.0	31.5
Drawing and Printing (Art)	13	3.2	18.6
Physics	15	3.2	10.3
State History and Govt.	16	3.1	17.5
Drafting	17	3.0	23.1
Health	18	3.1	6.7
Accounting	19	3.1	5.1
U.S. Government	20	3.1	4.5
Child Development	21	3.0	7.3

does the small, rural high school measure up to these recommendations? This study did not specify whether courses offered were on a one-half Carnegie Unit (one semester) or one Carnegie Unit (full-year) basis. Nevertheless, findings suggest that the "core curriculum" in most small high schools would allow for the recommended four years of English, three years of mathematics, three years of science, and one-half year of computer literacy. It appears that there may be difficulty in obtaining the recommended three years of social studies and there would definitely be problems in completing the foreign language requirement. Furthermore, it must be recognized that even in those subject areas in which students could complete the recommended requirements, their selection of courses would be limited. Larger schools with greater numbers of students, teachers, and resources can and do offer more program breadth than their small school counterparts.

Evidence from this study also suggests that school principals realize that additional courses are needed in the small high school curriculum. This is especially true in relation to word processing, data processing, computer programming, remedial reading, speech, computer literacy, computer mathematics, first-aid and safety, geography, creative-writing and consumer economics. Of special interest, foreign language, advanced placement and agriculture courses were not ranked among the most needed courses.

A strong commitment must be made to assure that students attending small high schools are not unnecessarily disadvantaged in their opportunity to receive a quality education. Administrators of small high

schools should continually strive to enrich the school curriculum and seek either through new technologies or innovative programming to offer both a diverse and broad array of course offerings.

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