

# Curricular Offerings in Small and Large High Schools: How Broad is the Disparity

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Larger high schools can and do offer greater variety in their curricular offerings than do their small school counterparts. The purpose of this study was to measure the extent of that disparity. A survey of 105 different course offerings revealed that 36 percent were provided at significantly higher frequencies in large high schools whereas only two percent were offered at significantly higher frequencies in small schools. Significant differences were noted in all of the foreign language and advanced placement courses surveyed, and in almost one-half of art, business, mathematics, and social studies courses. School administrators should investigate alternative delivery systems and innovative practices which will expand program breadth in small high schools.

Literature on the relationship between the size of school and extent of curricular offerings is almost unequivocal [8]. Larger schools with greater numbers of students can and do offer more program breadth than their small school counterparts. Not only do larger schools tend to offer more courses in each subject area than do small schools, studies have found they also tend to provide courses in a greater variety of subject areas [5]. Exceptions seem to be few and are largely restricted to isolated instances where an unusual amount of local wealth supports a low pupil enrollment.

On the whole, administrators in small high schools lack needed resources that would enable them to provide the same variety of classes available to students attending larger schools. In a 1983 study [1], public school superintendents in over 640 small school districts across the United States ranked the need to improve the high school curriculum as second only to school finances as their most prominent concern. The problem is a significant one. Latest figures available at the time of this writing indicated a total of 15,144 operating public senior high schools in the United States [7]. Of these, 7329, or 48.4% enrolled fewer than 500 students.

The purpose of this article is to report research findings from a national survey which collected data regarding the extent of specific curricular offerings in both small and large high schools, then determined whether the differences were statistically significant.

## METHOD

Two random samples of operating public high schools in the United States were used in this study. The first consisted of 475 schools with enrollments of less than 500 students each. The second was composed of 900 schools with enrollments in excess of 1000 students each. Mail-

ing lists purchased from Market Data Retrieval Incorporated [3], indicated a total of 5060 qualifying schools in the first sample (this did not include some 2300 continuation, alternative, speciality, or K-12 single district high schools, almost all of which enroll fewer than 500 students) and 4799 qualifying schools in the second sample. A self-administered questionnaire was mailed during the 1983-84 school year to school principals in each of the two samples. Responses were returned from 319 of the small schools for a return of 67.2 percent and from 350 of the large schools for a return of 38.9 percent. Returns were received across 46 different states for the small schools and 45 different states for the large schools.

The questionnaire included a listing of 105 different courses, arranged in 13 separate 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. Although course titles vary, the most common titles with regard to the content were chosen [4]. Principals were asked to indicate which of these courses were offered as a part of the curriculum in their school for the current year.

The Statistical Analysis System (SAS) computer program was used to list the frequencies of those courses which are offered in each sample. Chi-square was applied to determine the significance of difference reported between the frequencies for each course offered in the two samples. The level of significance was set at the .05 level of confidence.

## RESULTS

The mean student enrollment in the small schools was 296.8 students and in the large schools was 1598.4 students.

Table 1 presents a frequency listing, which compares

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TABLE 1

Comparison of Curricular Offerings in Public High Schools With a Mean Enrollment of 297 Students and Those With a Mean Enrollment of 1598 Students. Courses Which Tested Significant at the .05 Level or Less are Identified With an Asterisk (\*)

Course	Percent Offered	
	Small Schools	Large Schools
<b>Agriculture</b>		
*Animal Husbandry	39.4	14.2
Forestry	15.3	10.6
Horticulture	38.6	38.8
*Vocational Agriculture	64.0	34.0
Wildlife	12.5	6.8
<b>Art</b>		
*Advanced Art	67.3	92.3
Art Appreciation	53.2	56.2
Art History	37.0	46.5
Crafts	70.9	79.5
Drawing and Painting	81.4	95.6
*Printing and Graphics	51.7	78.0
*Sculpture	47.9	69.5
<b>Business Education</b>		
Accounting	94.9	96.8
*Advertising	10.8	33.3
Bookkeeping	86.8	88.0
Business Communications	42.8	57.1
*Business Law	49.7	75.5
Business Machines	78.8	84.5
Business Math	72.5	77.7
*Data Processing	41.7	78.1
General Business	74.4	82.8
Typing	99.7	98.5
*Word Processing	57.2	81.0
<b>Computer Science</b>		
Computer Literacy	80.3	82.8
Computer Programming	75.2	91.2
<b>Foreign Language</b>		
*English-Second Language	12.2	55.5
*French	32.2	94.4
*German	17.0	69.2
*Latin	4.3	49.5
*Russian	0.3	7.6
*Spanish	64.1	97.6
<b>Home Economics</b>		
Child Development	92.7	89.2
Clothing Construction	96.2	92.9
Consumer Education	85.6	77.4
Family Relations	93.9	86.5
Food and Nutrition	97.8	95.3
Home Nursing	24.2	26.5
Interior Design	65.3	61.3

TABLE 1 CONT'D

Course	Percent Offered	
	Small Schools	Large Schools
<b>Industrial Education</b>		
*Autobody Repair	23.8	48.6
*Automotive Mechanics	57.7	80.4
Drafting	76.9	92.2
General Shop	83.5	70.0
Home Construction	50.7	51.9
Metal Working	66.4	78.8
Small Engine Repair	67.9	65.5
Welding	80.6	73.6
<b>Language Arts</b>		
American Literature	98.1	97.9
Basic English	97.8	97.0
Composition	99.1	98.2
Creative Writing	81.8	92.3
*Drama (Theatre Arts)	57.2	90.0
English Grammar	99.7	97.9
Journalism	67.0	89.6
Remedial Reading	75.5	93.8
Speech	76.5	88.2
World Literature	72.1	86.4
<b>Mathematics</b>		
Advanced Algebra	95.6	98.8
*Advanced Geometry	37.2	79.0
Algebra	99.7	99.7
*Calculus	55.6	90.2
*Computer Math	42.3	76.8
Consumer Math	80.7	84.8
General Math	96.8	97.0
Geometry	98.1	99.5
*Probability/Statistics	21.6	44.3
Trigonometry	88.2	96.7
<b>Personal Development</b>		
*Aerobics	30.2	55.1
Body Conditioning/Weight Lifting	64.2	82.6
Dating and Courtship	38.8	42.5
Driver Education	92.7	89.5
First-Aid and Safety	74.3	81.6
Health	93.3	91.9
*Health Occupations	35.2	54.6
Sex Education	59.6	70.5
<b>Science</b>		
Astronomy	16.8	29.4
Biology	99.7	98.8
Chemistry	96.8	98.8
Earth Science	69.4	74.1
General Science	87.1	81.7
Genetics	38.8	48.0
*Geology	16.6	32.3
Life Science	75.9	76.8
Physical Science	89.0	89.9
Physics	89.7	98.2

TABLE 1 CONT'D

Course	Percent Offered	
	Small Schools	Large Schools
Social Sciences		
*Anthropology	5.4	28.5
Consumer Economics	60.1	71.7
Current Events	68.5	57.8
*Ethnic History	11.1	27.9
Geography	76.1	72.1
*General Economics	52.8	81.9
*Philosophy	5.4	19.8
*Psychology	56.3	83.0
*Sociology	52.6	80.7
State History and Government	82.5	82.3
U.S. Government	95.5	95.8
U.S. History	99.4	99.1
*World Cultures	43.0	67.5
World Government	46.7	58.7
Special Programs		
*Advanced Placement Biology	24.5	52.2
*Advanced Placement Chemistry	13.7	48.6
*Advanced Placement English	29.4	69.4
*Advanced Placement History	8.6	55.9
*Advanced Placement Math	23.5	62.5
*Advanced Placement Physics	3.5	31.9
*Military ROTC	1.7	28.7

by percent the offering of courses in each of the two samples. Courses identified by an asterisk (\*) are those for which statistically significant differences ( $p < .05$ ) were determined.

The extent of curricular offerings in the large school sample was clearly more frequent than for the small schools. Of the 105 courses surveyed, 78 (74.3 percent) were available to students more frequently. In addition, 37 of these courses (35.2 percent of total) showed a significant difference. By contrast, only 26 courses were offered at higher frequencies in the small schools; just two (vocational agriculture and animal husbandry) were significant.

The mean percent increase of course offerings in the large schools over the small schools was 18.3 percent. For the 26 courses offered more frequently in the small schools, the mean percentage increase over the large school sample was only 5.7 percent.

Courses reported at higher frequencies in the large schools for which significant differences occurred included three courses in the Art area (sculpture, printing and graphics, and advanced art); four courses in Business Education (word processing, business law, data processing, and advertising); all of the Foreign Languages (Spanish, French, German, Russian, Latin and English as a second language); two Industrial Education courses (automotive mechanics and autobody repair); only one course in Language Arts (drama); four courses in

Mathematics (advanced geometry, calculus, probability and statistics, and computer math); two Personal Development courses (aerobics, and health occupations); only one Science course (geology); six courses in the Social Sciences (economics, sociology, philosophy, world cultures, psychology, anthropology, and ethnic history); and all advanced placement courses, as well as military ROTC.

## CONCLUSION

The basic philosophy of the American comprehensive high school has been to provide a wide variety of class offerings which cover a broad spectrum of subject matter. Findings from this study confirm that most students who attend small high schools face curriculum disadvantages uncommon to students who attend large high schools. How broad is the disparity in course offerings between small and large high schools? In this study, of 105 courses surveyed, 37 (35.2 percent) were offered at significantly higher frequencies in large schools whereas, only two courses (1.9 percent) were offered at significantly higher frequencies in small schools.

Small high schools share many of the problems that beset education in general; inadequate finances, shortage of teachers, changing social values, pressure from special interest groups, etc. The fact is, however, that many of these problems are magnified in the small secondary school. This is particularly true in terms of providing the many and varied educational needs as determined by students, parents, community, and the state. Low student enrollments increase per pupil cost of professional staff, facilities and programs. Small numbers of students limit critically the number of classes that can be provided. In turn, small numbers of certified staff limit the number of classes in which the teacher can supply subject matter expertise.

Despite these concerns, recent research suggests that smaller schools—provided they offer diversity in their curricula—may be one of the most important strategies for education improvement in the 1980's and beyond [2]. Due to their smaller size, such schools offer the best opportunity to create a school climate conducive to teaching and learning. The challenge of maintaining the benefits of smallness, while at the same time providing diversity and breadth in program offering is one that needs more attention.

The implementation of technology as an alternative delivery system to expand curricular offerings in small high schools has great potential. If a small high school does not have sufficient enrollment or resources to offer a particular course, educational television holds promise as a medium to deliver the course to the school. A television class can be transmitted live by cable, microwave, satellite, or over ordinary telephone lines via slow scan TV or the GEMINI electronic chalkboard. One benefit of educational television is that it perpetuates the existing—and familiar—model of teacher-present/student-recite pattern of traditional classroom instruction. It also allows for interaction when teacher and students

are connected by way of telephone lines for two-way audio communication.

Other advancing technologies also hold promise to small schools, microcomputers linked with videodiscs present a model which allows students to study at their own pace without the time constraints associated with broadcast television. Furthermore, software programs permit replication of curriculum content that is interactive and can be cost effective when only a very few students show interest in a particular course.

Organizational strategies might also be considered as a means to provide greater program breadth in small high schools. Sederburg [6], describes the use of "learning centers" as one way to significantly expand program offerings without an increase in size of the teaching staff. Other more traditional approaches, often used in small schools, such as cooperative sharing of program materials with a neighboring school or education service center, traveling teachers between schools, and the use of supervised correspondence study courses might also be considered.

Whether effort is made through the application of new technologies or innovative practices and strategies, the challenge facing administrators, teachers, parents, and community members in rural areas is to investigate and then apply alternative approaches which will enhance learning opportunities for students in small high schools thereby assuring delivery of a broad array of meaningful course offerings.

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