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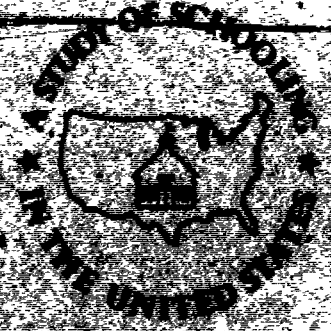
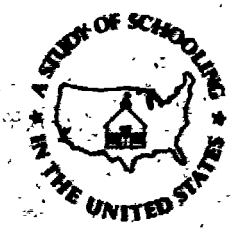
ABSTRACT

The relationship between secondary school students' socioeconomic status and ethnicity and their participation in vocational education programs was examined. Analysis of data from 25 secondary schools focused on three questions concerning: (1) the emphasis on vocational programs in non-white, ethnically or racially mixed, and white secondary schools; (2) percentage of non-white students in vocational education courses; and (3) the substance of vocational programs at non-white, mixed, and white schools. Each school's vocational program was described in terms of the teacher resources allocated to it, the content and format of courses, and the race/ethnicity of students taking the courses. Data analysis indicated that white and non-white students participated in fairly equivalent ways in vocational education. Non-white schools and mixed schools were not more vocational in nature than were white schools. Non-white students in mixed schools did not appear to be consistently enrolled in disproportionate numbers in vocational programs. However, a substantive difference emerged in the content of vocational courses offered to white and non-white students. It appeared that socioeconomic status was associated with differences in the types of programs offered. Non-whites and poor whites were being directed in their vocational training toward futures in lower-class social and economic positions. Vocational skills taught to middle and upper class white students were regarded as useful regardless of occupational status. Business courses offered to whites emphasized managerial and financial skills. Those offered to non-white and poor students taught clerical or retail skills. It is hypothesized that vocational education plays a role in reinforcing the low economic and social position of non-whites in American society. (JD)





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LIMITING OPPORTUNITY: STUDENT RACE AND CURRICULAR DIFFERENCES IN SECONDARY VOCATIONAL EDUCATION

Jeannie Oakes

Technical Report No. 28

1981

A Study of Schooling is based upon the assumption that improving schools requires knowing what is happening in and around them. A comprehensive data-base of contextual information was obtained from students, teachers, administrators, parents and observers at all grade levels in thirty-eight elementary and secondary purposively sampled schools. *It is strongly recommended that readers of any technical report in this series first read Technical Report No. 1 which outlines the details, scope and limitations of the Study as a whole.*

It must be understood that this series of technical reports does not constitute the Study. Some reports are highly specific "molecular" inquiries while others take a more "molar" view across data sources, schooling levels, etc. Some reports are more methodological in nature arising out of issues in data analysis. Many of the reports quite naturally overlap in data analysed and interpretations rendered. Some authors have approached their task as consisting mostly of data description with little discussion beyond the presentation of the data. Others have ventured further into the realm of interpretation and speculation. *It must be further understood that data-based inferences can and do differ among researchers who come at the data from differing points-of-view.* Authors, therefore, are duly acknowledged for each report and are responsible for the material presented therein.

LIMITING OPPORTUNITY:
STUDENT RACE AND CURRICULAR DIFFERENCES
IN SECONDARY VOCATIONAL EDUCATION

One of the most frequently articulated goals of vocational education has been to increase the economic opportunities of poor and minority youth by providing them with specific occupational skills. At the same time, these programs have been criticized as a means for sorting these students into programs that limit their future opportunities and, in fact, relegate them to low-level occupations and social status.

This study was intended to explore the relationship of vocational education in public secondary schooling to social stratification. Given the considerable federal support of vocational programs and the substantial public enthusiasm for them, it seems essential to understand not only the direct outcomes of such programs, but the more hidden effects as well. If, in fact, vocational programs serve to stratify students along race and class lines and then to limit some students' opportunities for economic and social mobility, these effects need to be clearly understood both by policy makers and school people. Thus, this study sought to uncover any differences in the scope and substance of vocational programs provided to different groups of students in schools and to assess the implications of these differences for students' future opportunities.

The Context

The earliest advocates of vocational education viewed manual training as complementary to academic studies in the provision of a balanced education for all students. The arguments for this training emphasized the need for general education in mechanical processes, rather than preparation for specific

trades, and the learning of principles rather than the acquisition of specific skills. This concept of manual education, however, and the view of its relevance to the liberal education of all students were soon lost in the rush of more political forces at the end of the nineteenth century.

Businessmen, eager to free practical trade training from the union-controlled apprenticeship system, strongly advocated the use of public schools for training future industrial workers with needed technical skills. Leaders of the changing agricultural industry, as well, supported the inclusion of agricultural education in rural schools. They hoped that agricultural training would both help establish a new "scientific" approach to farming, viewed as necessary in an industrialized nation, and encourage young people to remain on the farm in an era of urbanization (Cremin, 1964).

Some educators, too, in both urban and rural areas had less than purely educational goals in mind in their advocacy of vocational education. The new breed of efficiency-minded urban school administrators saw vocational programs as a productive mechanism for differentiating the curriculum and sorting students according to what they perceived to be the diverse needs and proclivities of the expanding high school population. City school administrators saw the needs and educational potential of poor and immigrant children as quite different from those of middle and upper class students (Katz, 1971). Rural educators, too, saw the infusion of an agricultural focus into the high school curriculum as a means of capturing both student and parent interest in education. The traditional curriculum was seen as overly "bookish" and irrelevant to rural life (Cremin, 1964).

Progressive reformers, as well, encouraged the move toward vocational training programs in their attempts to democratize high school education. It was hoped that the differentiated curriculum would support a new concept of

equal educational opportunity--one that took into account differences in students' interests and abilities. By providing different high school curricula, opportunities for success could be equalized in that different groups of students could be provided with programs suited to their backgrounds and probable futures. In 1908, the superintendent of Boston schools wrote, "Until very recently (the schools) have offered equal opportunity for all to receive one kind of education, but what will make them democratic is to provide opportunity for all to receive such education as will fit them equally well for their particular life work" (as quoted in Carnoy, 1974).

With these forces pushing for specific skill-training and occupational preparation, the notion of a balanced manual and academic liberal education for all became largely empty rhetoric. Instead, the inclusion of specific vocational training programs was widely heralded as a way of achieving a variety of goals. Among them were a) supplying the nation with the needed corps of skilled industrial workers, b) providing students with marketable skills and thereby enhancing their employment opportunities, c) making the school experience more relevant to students' life experiences, and d) equalizing educational opportunity by meeting the needs and interests of those students for whom the more academic high school curriculum was seen as inappropriate.

The limited amount of research on the returns of vocational education programs both to the nation and to individual participants, however, has not established that any or all of these goals have been attained. Ivar Berg's (1970) work on the effects of education on performance in the workplace indicates that higher levels of educational attainment are not associated with worker productivity. In fact, among the factory workers Berg studied, those who had completed high school programs were no more productive than those who had dropped out. Additionally, Clark and Sloan (1966) found that most skilled

workers do not acquire their training in vocational programs; most needed skills were learned by the workers in their study either informally or on the job. These and other studies indicate that industry has not gained measurably from vocational training programs. Other work has shown that those students who complete vocational programs have not been able to use their training to enhance their access to employment. Two studies from the 1960's showed that graduates from these programs were no more likely to be employed than were high school drop-outs (Plunkett, 1960; Duncan, 1964). Further, on-the-job training has been judged by workers themselves to be more useful than formal vocational training (Young and others, 1972). And Garbin's (1970) investigation found no differences in the extent to which vocational and non-vocational (general curriculum) graduates reported being hired at the levels and at the salaries that they had hoped, or in their ability to cope with their jobs. Finally, graduates of vocational programs have not been found to hold more favorable career positions than graduates of general high school curricula (Grasso, 1972). Grubb and Lazerson (1974) summarizing much of this work conclude that students in vocational programs rarely have found work appropriate to their specific training and that they have been only rarely more advantaged in terms of income, employment, job mobility, and status than graduates of academic programs. Thus, the evidence strongly suggests that participation in vocational programs has not enhanced the employment opportunities of participants.

Some recent analyses of the introduction of vocational programs have di[redacted] rationales of both businessmen and school people for these prog[redacted]her than a means of providing the increasingly technical training workers may need for employment in an industrial society or as a way of democratizing the high school curriculum, [redacted]atz (1971), Carnoy (1974), Cohen and Lazerson (1974), Bowles and Gintis (1[redacted]) and others see vocational

programs as serving a stratifying function in schools. They suggest that the introduction of vocational programs into public schooling was most likely a response to the influx of working class, poor, and immigrant children into the high school and the threat they posed to its formerly elite status. Rather than changing the character of the academic curriculum to meet the needs of a diverse student population (and thereby preserve the common school), the inclusion of vocational programs permitted offering differentiated curricula within the same school and stratifying students. As a result, according to this view, vocational programs provided a means whereby working class children would neither drop out of the school nor receive an academic education. In these programs, lower class students have learned attitudes and skills appropriate to manual labor positions. At the same time middle and upper-class children have retained almost exclusive access to the more prestiegous academic curriculum. Viewed in this way, the division of secondary schooling into vocational and academic programs has reinforced the social and economic stratification of American society.

Consistent with these analyses of the stratifying effects of vocational education programs, studies of the characteristics of vocational students have found them to come from lower socioeconomic groups than do students in academic programs. For example, Project Talent data indicated that vocational students differed from the general student population in that the heads of their households had lower-status occupations, lower incomes, or lower levels of education (Evans and Galloway, 1973). Whether or not students from non-white racial or ethnic groups are found in disproportionate percentages in vocational programs is a question that has not received adequate study.

The Problem

As we have seen, the research evidence has pointed to the apparent ineffectiveness of vocational programs in providing either a substantial proportion of the trained workers needed for American industry or increased occupational opportunities for students. Furthermore, educational scholars have suggested that an underlying function of vocational education has been to segregate poor and minority students into occupational training programs in order to preserve the academic curriculum for middle and upper-class students. In this way it has been suggested that the differentiated curriculum has served to reinforce the racial and socioeconomic stratification of society. If this view regarding the stratifying effects of a curriculum split into vocational and academic programs is correct, both the direction and the apparent ineffectiveness of vocational education can be better understood. If the purpose underlying the introduction of vocational programs was to provide a separate curriculum for poor and immigrants, newcomers to high school education, the shift from the concept of manual and intellectual training as complementary parts of a liberal education for all students to that of specific vocational training to meet the needs of non-academic students is more easily explained. Moreover, the ineffectiveness of vocational programs may partially rest in their inability to help poor and minority students overcome race and class obstacles to occupational opportunity and social mobility.

In view of these possibilities, this study sought to uncover the relationship between student race and ethnicity and vocational education programs in a sample of public secondary schools. Two questions guided this investigation. First, how do vocational programs differ in both scope and substance? And, second, do any differences found in vocational programs suggest that these programs function as mechanisms of social stratification, specifically that

minority students (who are usually poor as well) more than whites are directed toward lower-level occupations? Three specific aspects of these questions were the focus of the analysis of data about the programs studied:

1) Was there a greater overall emphasis on vocational programs in non-white and ethnically or racially mixed secondary schools than in white schools?

2) At racially and ethnically mixed schools were non-white students found in disproportionately large percentages in vocational education courses?

3) Was the substance of vocational programs markedly different at non-white and mixed schools from those at white schools? And, within mixed schools were there particular types of vocational programs in which disproportionate percentages of white and non-white students were enrolled?

Method

The Sample

Part of the data collected for A Study of Schooling is information from a variety of sources about 210 vocational education course offerings in 12 senior high schools, 12 junior high/middle schools and 1 school combining grades 7-12.[1] These 25 secondary schools represent a purposive sample of schools across the nation. They vary considerably in such characteristics as size of school population, economic status of the community, race/ethnicity of enrolled students, geographic location, and community type (rural/urban/suburban).

For the purposes of this study this sample of 25 schools was divided into the following subsamples. First, the 12 senior high schools and 1 seven-twelve school comprise the senior high sample. The 12 junior high/middle schools make up the junior high sample. Within each of these level samples, additional divisions of schools were made according to the race and ethnicity

of the students enrolled in them. Students from the following racial and ethnic groups were classified as non-white: Black, Asian, Mexican-American, and other non-white. At the senior high level, seven schools were categorized as "white" schools. Of these seven, one school enrolled 80% white students, the other six were 90% or more white. Four schools were categorized as "mixed." Each of these schools enrolled approximately 50% non-white students. The two remaining schools were classified as "non-white" as each enrolled more than 95% non-white students. The white schools represent an enrollment of 6,728 students, the non-white schools 5,708 students, and the mixed schools 5,318 students (2,623 white and 2,695 non-white). Among the junior high schools a similar division of schools was made. Six schools with an enrollment of 95% or more white students were categorized as "white" schools. Four schools with approximately 50% non-white enrollment were classified as "mixed." The remaining two schools enrolled 95% or more non-white students and were classified as "non-white" schools. The white junior high schools enrolled a total of 4,055 students, the non-white schools 2,540 students and the mixed schools 3,515 students (1,664 white and 1,851 non-white).

Procedure

Several types of data were included in the analysis of vocational programs at the 25 secondary schools. First, from master schedules provided by the schools, the total teacher resources allocated to vocational programs were computed by calculating for each school the number of teaching hours in each school day spent in vocational subjects. This total was divided by the number of teaching hours which were required of full-time teachers at the school. The resultant score was determined to be the number of full-time teaching positions or their equivalents (FTE's) allocated to vocational programs at the school. These FTE's were used as a measure of vocational teacher resources at

each of the schools which could be compared to teacher resources in other subjects at the same school or with those in vocational education programs at other schools in the sample.

Second, from the master schedules, published course outlines, student registration forms and other available school documents, the content and formats of vocational education courses were determined. Formats included the length of class time--regular class period or extended time period--and location--on or off-campus. From the curriculum materials packages submitted by teachers of vocational courses lists of the instructional topics and skills taught were used to further define the content of the courses offered. From these sources vocational education courses were categorized into seven basic content types: general industrial arts, homemaking, business, preparation for skilled trades, military preparation, agriculture, general career and/or consumer education or supervised work experience.

Third, the race/ethnicity data about students were used to identify the distribution of various ethnic and racial groups in vocational education programs. At schools categorized as either white or non-white, school level data was used. At mixed race schools, class level data was used to determine the racial composition of vocational education classes. At six of the eight multi-ethnic schools class level data were available about the sampled classes. And, while not every section of a course offered at a school was included in the sample, vocational education classes were widely sampled at the schools. Therefore, conclusions about the race/ethnicity of the students enrolled in programs were made from the sampled classes. If no section of a course was sampled, the race/ethnicity of the enrolled students was considered missing data. At two of the eight multi-ethnic schools (one each at the senior and junior high school levels) the collection of race or ethnicity data about individuals was

not permitted by the schools. However, this small amount of missing data should not interfere with the analysis of student race/ethnicity and vocational education across the sample.

Using the above data, each school's vocational program was described in terms of the teacher resources allocated to it, the content and format of courses, and the race/ethnicity of the students taking courses. (School by school descriptions are contained in Appendix A.) Schools were then compared on each of the dimensions in an attempt to answer the research questions. Each level of schooling--junior and senior high schools--was analyzed separately.

Results

Allocation of Teacher Resources to Vocational Education Programs

Vocational education programs ranked first among subjects across our sample of thirteen senior high schools in the percentage of total FTEs allocated to them. With 22% of the total, vocational education programs ranked slightly above English/reading/language arts programs, with 20% across schools, and substantially above all other subjects. Math and social studies shared the third ranking with 13% of total FTEs.

At the junior high/middle school level, vocational educational programs shared fourth ranking with science across the twelve schools at this level. English (22%), math (18%), and social studies (14%) programs occupied greater percentages of FTEs at the junior high/middle school level than did vocational education, with 12% of the total (Table 1).

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Insert Table 1 about here

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Considerable variation existed among the high schools, however, in the proportion of FTEs occupied by vocational education programs. At seven of the high schools these programs occupied the largest percentage of FTEs of any of

the subject areas. But, even among these seven, the percentages ranged from 21% at Atwater* to 42% at Fairfield. Among the six schools where vocational education programs did not rank first, the percentages of FTEs ranged from 13% at Newport and Palisades to 21% at Rosemont. At four of these schools, vocational education programs ranked second. Only at two of the schools--Palisades and Bradford--where the subject areas shared FTEs fairly equally (except for foreign language) did vocational education programs rank below second in percentage of total FTEs. Vocational programs were very extensive at the high school level as measured by this criteria. At four of the schools, more than one-quarter of the total instructional program was in this area.

Although the range was not as great as at the senior high school level, the percentage of FTEs in vocational education varied as well among the junior high/middle schools. Laurel Middle School falls at the bottom of the range with only 4%, with programs at Crestview Middle, Rosemont Middle, Woodlake Junior High, and Palisades Middle slightly larger with 7%. At the top of the range Manchester Middle stands out with 22%. Vocational education programs at the middle level of the Fairfield, Euclid, Dennison, and Woodlake triples did not seem to share the extensiveness of the programs seen at the high school level. (See Table 2.) Appendix B includes the distribution of FTEs among all subject areas at each of the schools at the two secondary levels.

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Insert Table 2 about here

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When the allocation of teacher resources is considered separately for schools differing in the racial and ethnic composition of their student populations, we do not find that the variance in resources at either level appears to have been associated with student race or ethnicity. As shown in Table 3,

* Names of schools and districts in this report are fictitious

on the average, quite similar percentages of the total teacher resources were allocated to white schools and to those with non-white or mixed populations.

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Insert Table 3 about here

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Thus we can conclude, in answer to the first research question, that there was no greater overall emphasis--in terms of the allocation of teaching resources--on vocational education programs in non-white or racially mixed schools than in white schools in the Study of Schooling sample. And, because teacher resources provide a good estimate of the proportion of the school's total instructional emphasis in a particular area, it seems clear that, on the average, white schools and those with a substantial non-white population gave about equal emphasis to vocational education.

Racial Composition of Vocational Education Programs at Multiracial and Multiethnic Schools

Among the sample of mixed junior high schools at which individual student race/ethnicity data was collected, disproportionate percentages of non-white students were not found in vocational classes at two of the schools. On the contrary, at Palisades 74% of the students enrolled in sampled classes were white. At Laurel 60% were white. Vocational education courses were required for all eighth graders at Laurel and for seventh and eighth graders not enrolled in music or foreign language classes at Palisades. Under these circumstances, it is not likely that a disproportionate enrollment of non-white students in vocational education would occur. At Fairfield 5 vocational classes were sampled with a total enrollment of 25 students. Of these, however, only 5 (20%) were white. Because of this small enrollment, it does not appear that vocational education was required at Fairfield. The lack of individual race/ethnicity data at Newport, prevented the analysis of the representation of groups in its vocational program.

Similarly, the three mixed senior high schools for which individual race/ethnicity data were collected did not follow a consistent pattern of class composition. At Fairfield 17 classes were sampled with a total student enrollment of 193. Of these, 52% were white, nearly the same as the 53% white at the school as a whole. At Palisades 5 classes were sampled with a total enrollment of 90 students. Whites made up 29% of the total, a considerably smaller percentage than the 50% at the school as a whole. Three classes were sampled at Laurel with a total enrollment of 63 students. Of these 29% were white in contrast to 52% white in the total school population. Again, the distribution of racial groups at Newport is unknown.

Generally, it seems that the sample of multiracial/ethnic vocational classes is too small and schools too diverse for much generalizing about the allocation of students from various racial and ethnic groups to vocational education programs in general. As a result, the second research question as to whether at racially mixed schools non-white students were found in disproportionately large percentages in vocational courses can not be answered definitively from the data about our sampled schools.

Vocational Education Content and Format and Student Race/Ethnicity

The content of vocational education programs at the two groups of schools--a) white and b) mixed or non-white--differed markedly at the senior high schools and somewhat at the junior high/middle school level. Both in the content of available courses and the format of courses distinct differences were found. Additionally, at the high school level, considering all schools together, the enrollment of various racial and ethnic groups in different types of vocational education programs followed distinctive patterns.

Within the vocational educational programs, courses of seven distinct types were offered: business, skill or trade preparation, military

preparation, agricultural, general home economics, general industrial arts, and general career or consumer education. In addition, the formats of various vocational educational courses were not identical. Some courses were contained within the regular school schedule and occupied only one class period. Other courses extended over a longer period of time and existed as either on-campus laboratory or shop classes or were conducted either partially or entirely off-campus. Interestingly, neither the content of vocational education courses nor the format was consistent among schools. Some of the variations appear to be associated with the geographical location of schools--agriculture at rural schools, for example. Most differences, however, seem to be related to the racial/ethnic makeup of a school's student population.

In Tables 4 and 6 characteristics of the vocational education courses offered at schools at the two levels (junior and senior high school) are displayed. Several types of information are included in the tables: a) the number of distinct courses offered by schools in each vocational education content category b) the format of available courses c) the racial/ethnic category of schools and d) the racial composition of courses of various contents and formats within the schools.[2]

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Insert Table 4 about here

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From the information included in Table 4, it appears clear that junior high vocational education programs were more similar than different, with courses of similar content and format offered at the schools. Eleven of the 12 junior high/middle schools offered courses in the home economics area to their students and 10 schools offered classes in general industrial arts. White and non-white students across the sample appear to have had fairly equal access to these courses.

Three types of courses were not consistently offered at this level. Business courses (typing) were offered at 5 schools, consumer or general vocational education at 3, and trade preparation at only 1. Despite the overall similarity in offerings, the differences in junior high school programs seem to be associated with the composition of the student body. From the percentages shown in Table 5 it is clear that while home economic and general industrial arts courses dominated the curriculum at the white schools, courses preparing students with specific occupational skills--both business and manual skills--constituted a substantial portion of the course offereings at non-white and mixed schools.

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Insert Table 5 about here

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The program at Fairfield is illustrative of these differences. A mixed school with 50% of its student population Mexican-American, Fairfield was the only school to offer courses preparing for specific trades. These courses were two hours in length and took students off compus. The specific content of these classes included home and community services, duplicating skills, horticulture, general mechanical repair, building maintenance, and general construction trades. Non-white students made up the bulk of the student enrollment. (See Appendix A for a more detailed description of this program.)

In sum, while similar vocational programs were available to white and non-white junior high school students, what program differences existed appear to be related to the race/ethnicity of students with courses offering specific skill training most available at schools with a substantial non-white population.

Greater program differences were found at the senior high school level. Characteristics of the high school programs are shown in Table 6.

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Insert Table 6 about here

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Not only were high school vocational programs quite varied, but the variance seems to have been associated with the racial and ethnic make-up of the schools' student populations. Further, within schools of mixed racial or ethnic composition, the enrollment of white and non-white students in various types of vocational education courses followed distinct patterns. The following findings are illustrative of these differences.

1. Students at white and non-white or mixed schools had the same number of different vocational course offerings available to them--an average of 13 different course titles at white schools and 13.5 at non-white and mixed schools. Nevertheless, at the two sets of schools the substance of these courses differed considerably. Included in Table 7 are the percentages of various content types of vocational courses at the two sets of schools. The most obvious differences are in the percentages devoted to business, trade preparation, and general industrial arts courses. Students at white schools had considerably more extensive business and industrial arts programs available to them and considerably more restricted programs in trade preparation than did students attending non-white or mixed schools. Additionally, students at the latter group of schools had greater access to programs in military training and home economics than did students at the white schools.

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Insert Table 7 about here

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The formats of courses differed at the two groups of schools as well. At the white schools in the sample 10% of the courses were scheduled for extended time periods and/or were conducted all or in part off campus. At the non-white and mixed schools 37% of the courses were of this type.

2. Not only did the white schools have considerably more business courses available than did non-white and mixed schools, but within the mixed schools greater percentages of white than non-white students tended to be enrolled in the business courses offered. Of the 13 business courses sampled at mixed schools, 8 (62%) had a disproportionately high white enrollment, 3 (23%) had a disproportionately high non-white enrollment and in 2 (15%) the race/ethnicity of the students enrolled was not available.

3. Within the business category there also appears to have been a difference in the type of courses made available to white and non-white students. Courses oriented toward management and finance were offered predominately at white schools. Across the sample both white and non-white students had access to courses in clerical skills such as typing, shorthand, bookkeeping, and office procedures. Courses in retailing were also available at both types of schools as well. However, only students attending white schools were offered the following kinds of courses: the role of business, banking, taxation, business careers, the stock market, business machines, data processing, and business law (See Appendix A).

4. Five all-white schools and 5 mixed or non-white schools offered courses preparing students for specific trades or with employable manual skills. Nevertheless, both the number and content of these courses varied considerably at the two types of schools. Eleven such courses were available at white schools, 26 at mixed or non-white schools. Both types of schools offered specific drafting courses, machine shop, auto repair, and hospital or health occupations. Students at white schools had the following courses available as well: marine technology, aviation, and power mechanics. Students at non-white or mixed schools were offered the following: cosmetology, building construction, home and community services (institutional cooking and sewing),

vocational child care, mill and cabinet shop, needle trades, upholstery, printing, commercial art, commercial photography, and housekeeping and food services. None of the white schools offered these courses to students.

The format of the trade preparation courses differed as well. Of the 37 different courses offered, 24 extended beyond the regular class time period and/or were conducted off-campus. Of these 24 extended programs, 21 (88%) were at mixed or non-white schools. Of the 24, 20 (83%) were attended all or mostly by non-white students, 3 (13%) were attended by whites, and in 1 (4%) the racial and ethnic composition of the class was unavailable. The 3 classes of this type attended by whites were also unique as they were the only ones in the sample conducted at the local community college.

Trade preparation courses differed, then, in the number, content, and formats of programs available to and attended by white and non-white students. Non-white students were more likely to be enrolled in courses teaching low-level skills which were extended in length and often conducted in an off-campus setting than were white students.

5. Differences can also be seen in the opportunities students from different racial or ethnic groups had for preparation for military careers. Of the five courses offered, four (80%) were at non-white or mixed schools and one was at a white school. The course at the white school was distinct from the others (standard ROTC programs) in that it was classified as a science rather than a vocational education course and included science topics as the focus of instruction as well as military preparation.

6. Three schools, all in rural locations, had agriculture classes available to students. Two of the schools were white, one mixed. At the white schools, agriculture classes were held on campus and fit the regular class format. At the mixed school one was of this type and enrolled mostly white

students; the other was an extended off-campus program and enrolled mostly Mexican-American students.

7. General industrial arts courses were available at 6 of the 7 all-white schools and at 5 of the 6 non-white or mixed schools. These courses were of a general education type, providing instruction in working with various kinds of materials rather than in occupational preparation. They all fit into the regular class period format. However, a discrepancy between the two types of schools existed in that while 22 course offerings of this type were available across the sample of white schools, a total of only 9 of these courses were offered at the non-white or mixed schools.

8. Including vocational education courses of all content types at the high schools, 39 were of the extended time or off-campus format. Of these, only 9 were offered in the white schools: 4 (44%) were in the business area, 3 (33%) in trades (community college courses), and 2 (22%) in supervised work experience. In contrast, at the non-white or mixed schools, 30 courses of this format were offered: 7 (23%) in business; 21 (70%) in trades, 1 (less than 1%) in agriculture and 1 (less than 1%) in supervised work experience. Of the 39 programs across the schools, 26 (67%) were attended either all or predominately by non-white students and 11 (28%) entirely by white students. The racial/ethnic make-up of the remaining 2 classes was unavailable.

Based on these observations of program differences, it seems very clear that white and non-white high school students had very different vocational education opportunities available to them. Additionally, at schools of mixed racial or ethnic composition at this level whites and non-whites tend to have been enrolled in different types of courses.

Discussion

This study yeilded three major findings regarding the relationship of social stratification and vocational education programs. First, no evidence was found that, in the 25 schools studied, those with substantial non-white populations emphasized vocational education as a subject area more than did schools with all white populations. While there was variation in emphasis among the schools studied, especially at the senior high level, differences did not appear to be related to the race or ethnicity of the students enrolled at the schools. Second, no conclusive evidence emerged that would indicate that, at the schools with mixed populations, disproportionate percentages of non-white students were enrolled in vocational education classes per se. While it was the case that at 1 junior high and 2 senior highs more than two-thirds of the students enrolled in sampled vocational education classes were non-white, at the 3 other schools this disproportionate enrollment of non-whites was not found.

From these two analysis it appears that white and non-white students participated in fairly equivalent ways in vocational education. Non-white and mixed schools were not more vocational in nature than were white schools. Non-white students in mixed schools did not appear to be consistently enrolled in disproportionate numbers in vocational programs. But it is clear from the further results of this study that merely considering the overall vocational emphasis in a school's instructional program or the percentage of white and non-white students enrolled in vocational courses is not enough. For, the third major finding obtained in this investigation was that substantive differences both between and within school vocational programs resulted in marked differences in the vocational educational experiences of white and non-white secondary students.

While the sampling procedure used in the Study of Schooling limits the generalization of these findings, there is no reason to suspect that the schools studied are not representative of American schools in general. Thus, it is likely that the findings reported here describe phenomena common to secondary schooling. Certainly, the findings reported here can be used as strong hypothesis for the further exploration of the part vocational education plays in reinforcing the low economic and social position of most non-whites in American society.

Further, it is important to note here that because socioeconomic status data on individual students was not collected as a part of the Study of Schooling, the relationship between student socioeconomic status and vocational education was not considered in this inquiry. Clearly, the inclusion of such data would have provided valuable insight into the problem addressed in the study. It may be that in vocational education socioeconomic status is more highly associated with differences in the types of programs offered and attended than are race and ethnicity as has been the case in the study of other educational factors (see Jane Mercer's work among others). And, it may be, as the Evans and Galloway study found, that the students in vocational programs generally were of lower socioeconomic status than those students not taking vocational courses. In that case, the differences found would be those between the experiences of poorer white and poorer non-white students. Nevertheless, while the question of whether it was their race/ethnicity or their socioeconomic status that accounted for the differences in the vocational education of students is important, it should not be permitted to obscure the clear finding that distinct differences existed the experiences and opportunities of white and non-white students in the Study of Schooling sample.

Two major implications can be derived from this study, one procedural, the other substantive. First, the results of this study point to the importance of looking beyond simple measures of school resources or student enrollment in programs when considering questions of educational equity. For, as the findings here indicate, it is likely that the differential socialization of children from various racial and economic backgrounds results from the programmatic differences they experience. Within subject areas, if the access to certain kinds of knowledge or organizational arrangements is restricted for some students and enhanced for others, schools cannot be said to be providing equal educational opportunity. Such was the case with the vocational programs considered in this study. Differences in the experiences of white and non-whites, likely to have important consequences for their social and economic futures were only found in the analysis of the actual substance of programs--their curricular content and organizational arrangements. The more straightforward and quantifiable analyses of the proportion of teaching resources allocated to vocational programs at schools or the proportion of students from different groups enrolled in vocational subjects at mixed schools masked these substantive differences. Had these been the only analyses conducted in this study, very different and misleading conclusions would have been reached.

The second implication of the findings of this study flows from the direction of the substantive differences found in the vocational education experiences of whites and non-whites.

The kinds of differences that emerged indicate that non-whites more than whites were being directed in their vocational training toward futures in lower-class social and economic positions. Programs enrolling predominately or all non-white students were more likely to center around specific training for low-level occupations than were courses enrolling mostly whites. These

differences were found as early as junior high with courses in clerical skills and manual labor offered almost exclusively in non-white and mixed schools. Junior high vocational courses in white schools were nearly all of a more general education type--homemaking and general industrial arts. Skills taught in these courses are those regarded as useful to all, regardless of occupational status. Knowledge of foods and their preparation and general woodworking skills, for example, have no social-class divisions and are considered as appropriate for the future attorney or teacher as for the future mechanic or domestic worker. Not so with such skills as building maintenance or commercial sewing. These latter are tied to specific low-level occupations and were among those taught in classes attended by non-whites in the junior high school sample.

This content distinction was even more clear at the senior high school level. Business courses available to non-whites were those that taught clerical skills or retail sales. White students, on the other hand, were offered business programs emphasizing the managerial and financial aspects of the business world as well--courses in taxation and the stock market, for example. Rather than consisting only of classes teaching specific occupational skills, business programs at the white schools appear to have focused also on business concepts as instructional topics.

Even more blatant than the differences in vocational business courses were the content differences in programs dealing with manual skills. Programs in this area at schools with white populations were comprised largely of general industrial arts classes. Programs offered at these schools in preparation for specific manual occupations were fairly limited. Courses teaching manual skills at the non-white and mixed schools were typically different from those at white schools. Few courses of the general industrial arts type had a predominately non-white enrollment at mixed schools; very few such courses were offered at non-white schools.

Courses serving non-white student groups were more likely to consist of training for specific low-level occupations--cosmetology, the needle trades, mill and cabinet shop, building maintenance, t.v. repair, and vocational child care, for example--than were courses at white schools.

Two occupational training programs offered to whites, but not to non-whites in the sample were marine technology and aviation, vocations of considerably higher status than those listed above. Thus, the content of vocational courses offered to non-whites consisted largely of specific preparation for low-level occupations.

Furthermore, the differences found in the format of vocational courses most likely to be attended by whites and non-whites were such that they would be likely to augment the effects of the content differences. Programs at white schools tended to be held on-campus (or on a college campus) and fit into the regular school schedule. It seems likely that students taking courses of this type would perceive their classes to be "regular" classes and themselves to be part of the regular school program. In contrast, courses taken by non-whites were often in a format quite different from other classes at their schools. Many courses tended not to be as closely linked to the regular school program as were those attended by whites. Many extended beyond the regular class period and were held at off-campus locations. This format was found as early as junior high in one of the mixed schools studied. It seems very likely that students spending extended periods of time in vocational training courses and leaving the campus for on-the-job experience would feel considerably distanced from the non-vocational school program at their schools. In these ways, it may be that non-whites were led to believe that schools and the more "regular" program of courses offered were not appropriate for them. With courses of this format offered as early as junior high school, perhaps to students as young as 12 years,

very early decisions about the relevance of academics and schooling to future opportunities may be taking place for some. These decisions may greatly affect the social and economic positions these students eventually attain.

Clearly, then, programmatic differences in the vocational education experiences of the white and non-whites in the Study of Schooling sample point to a stratification of students and a differentiation of programs with serious social and economic consequences. Non-white students were enrolled earlier and more extensively in programs training specifically for low-status occupations than were whites. Moreover, these programs more often took non-whites off of the school campus for extended periods of time, a format likely to distance them from academics and the regular context of schooling.

These differences, in themselves, imply that inequities exist in the educational experiences of many of the non-whites taking vocational education. And, if the questionable returns to individual participants in such programs found in the research on vocational training are considered, these inequities are greatly compounded. The end result of many vocational programs in public schools may be that large numbers of predominately non-white students are channelled early into training for specific low-level occupations, rather than encouraged to continue in more academic programs. These students may be eased out of the school setting through on-the-job training during the school day. They may be likely to leave school early believing they have been trained in a marketable skill, only to find that they cannot translate these skills into occupational advantage.

For, it is unlikely, that vocational training programs provide either the type or scope of education necessary to overcome race and class obstacles to employment. It has been suggested by Collins (1971), Gintis (1971), Thurow (1977), and others that while schooling is related to employment opportunity,

specific skills learned are not the critical elements. Thurow indicates that for employers, the function of education is not to impart skills but to "certify" that an individual is trainable. Trainable individuals are those who have been successful at school and, thereby, display motivation, general literacy, and an indistrial type of discipline. Collins posits that since the same characteristics--those largely related to inherited social status--are required for occupational success and school attainment, educational success can substitute for occupational screening by employers. Gintis theorizes that educational qualifications are, for the most part, a reflection of the personality characteristics that employers look for when hiring. This body of work relates to the opportunities of non-white vocational students in the following way. It is unlikely that employers view graduates of vocational programs, and certainly not early leavers, as successful at school. Students from vocational programs, in fact, may be seen as school failures, unable to succeed in the more academic programs (Collins, 1979). As a result, employers are likely to prefer non-vocational students who appear to be more certified as trainable. For non-white vocational students, these difficulties may be even more pronounced. For in obtaining any but the lowest-level positions it may be more essential for non-whites to have the appropriate school certification. Because of the historic barriers faced by non-whites in employment, employers may require greater assurance of the possession of the desired cultural and personality characteristics in non-white employees. Vocational education program attendance does not appear to supply this assurance.

In view of these findings, school people and policy makers should seriously reconsider the appropriateness of specific occupational training in secondary schools. It is likely that these programs do not serve the democratic ends most Americans wish their schools to achieve.

FOOTNOTES

1. More detailed information on A Study of Schooling can be found in the series of four sequential articles published in the Phi Delta Kappan. The first in this series, Goodlad, Sirotnik and Overman, includes a conceptual overview, the sample design, and the types of data collected. This series is available as A Study of Schooling Technical Report No. 1, 1979-1980.

2. It should be kept in mind that this analysis is based on the number of different course offerings available at a school and does not consider the number of sections of a particular course that may have been offered.

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TABLE 1

Number and Percentage of FTEs in Subject Areas:* Secondary Schools

	Sr.High Schools		Jr.High Schools	
	N	%	N	%
English	(139.95)	20%	(95.73	22%
Math	(90.93)	13%	(74.60)	18%
Social Studies	(92.15)	13%	(59.69)	14%
Science	(83.93)	12%	(50.13)	12%
Arts	(56.08)	8%	(44.48)	10%
Foreign Language	(34.25)	5%	(6.2)	01%
Vocational Education	(153.45)	22%	(49.48)	12%
P.E.	(61.60)	9%	(45.47)	11%
TOTAL	(712.34)	100%	(425.77)	100%

* Percentages bases on total FTEs in subject areas only--other teaching, e.g., special ed, was excluded.

TABLE 2

Proportion of Total Instructional
Program Devoted to Vocational Education
Rank Order of Secondary Schools By Level

High Schools		Junior High/Middle Schools	
School	% of FTEs	School	% of FTEs
Fairfield	42%	Manchester	22%
Euclid	41	Fiarfield	15
Dennison	35	Newport	13
Woodlake	27	Vista	13
Crestview	24	Bradford	12
Vista	22	Euclid	12
Atwater	21	Atwater	8
Rosemont	21	Crestview	7
Manchester	19	Palisades	7
Laurel	15	Rosemont	7
Bradford	14	Woodlake	7
Newport	13	Laurel	4
Palisades	13		
Range = 29 percent		Range = 18 percent	
$\bar{X}$ = 27.49		$\bar{X}$ = 11.58	
s.d. = 10.04		s.d. = 4.92	

TABLE 3

Allocation of Teacher Resources
And School Race/Ethnicity

Senior High Schools		Junior High Schools	
Race/Ethnicity	$\bar{X}$% FTES	Race/Ethnicity	$\bar{X}$% FTES
White	23.14%	White	9.83%
Mixed and non-white	20.05%	Mixed and non-white	11.33%

TABLE 4

Characteristics of Vocational Programs
And Race/Ethnicity of Students Enrolled
Junior High Schools

	Format			
	Regular School Class		Extended Time/Off Campus	
CONTENT TYPE	White Schools	Non-white Mixed Schools	White Schools	Non-white Mixed Schools
Business	Vista (1)[a]	Rosemont (1)[c] Newport (1)[d] Laurel (1)[b] Manchester (1)[c]		
Trade Preparation				Fairfield (6)[c]
Military				
Agriculture				
Home Economics	Vista (1) Crestview (1) Woodlake (1) Atwater (1) Bradford (1) Euclid (1)	Rosemont (1)[c] Newport (2)[d] Palisades (2)[b] Laurel (1)[c] Manchester (2)[c]		
General Industrial Arts	Vista (1) Crestview (1) Woodlake (1) Atwater (2) Bradford (3) Euclid (1)	Rosemont (1)[c] Newport (3)[d] Palisades (1)[b] Manchester (1)[b]		
Consumer/ Career/Mis.	Bradford (1)	Palisades (1)[d]	Vista (1)	

a. school name (number of distinct courses offered)
b. mixed school, course enrollment predominately white
c. enrollment predominately non-white
d. mixed school, race/ethnicity of enrolled students not known

TABLE 5

Distribution of Vocational
Course Types by Race/Ethnicity
of Schools

Jr. High Schools

Type of course	White Schools	Non-white/Mixed Schools
Business	05%	16%
Trade	--	24%
Military	--	--
Agriculture	--	--
Home Economics	37%	32%
Industrial Arts	47%	24%
Consumer/Career/Misc.	11%	4%
	100%	100%

TABLE 6

Characteristics of Vocational Programs and Race/Ethnicity of Students Enrolled Senior High Schools

Format

	Regular School Class		Extended Time/Off Campus	
CONTENT TYPE	White Schools	Non-white Mixed Schools	White Schools	Non-white Mixed Schools
Business	Vista (9)a Crestview (4) Woodlake (3) Atwater (2) Bradford (5) Euclid (3) Dennison (6)	Fairfield (4)b Palisades (2)b(1)c Laurel (1)c Newport (2)d Rosemont (3)c Manchester (3)c	Vista (2) Woodlake (1) Bradford (1)	Fairfield(1)b (1)c Laurel (1)b Rosemont (4)c
Trade Preparation	Vista (1) Crestview (1) Woodlake (1) Atwater (1) Bradford (4)	Newport (1)d Manchester (4)c	Woodlake (3)	Fiarfield (4)c Laurel (4)c Newport (1)d Rosemont (11)c Manchester (1)c
Military	Woodlake (1)	Newport (1)d Rosemont (1)c Palisades (1)d Manchester (1)c		
Agriculture	Euclid (2) Dennison (2)	Fairfield (2)b		Fairfield (1)c
Home Economics	Vista (4) Crestview (2) Woodlake (1) Bradford (2) Euclid (1) Dennison (2)	Fairfield (4)b Palisades (2)c Laurel (1)c Newport (2)d Rosemont (3)c Manchester (4)c		
General Industrial Arts	Vista (3) Crestview (2) Woodlake (5) Atwater (2) Bradford (3) Euclid (7)	Palisades (1)c Laurel (1)c Newport (3)d Rosemont (3)c Manchester (1)c		
Consumer/ Career/Misc.	Vista (1) Euclid (1) Dennison (1)	Newport (1)d Rosemont (1)c Manchester (1)c	Crestview (1) Euclid (1)	Palisades (1)d

a. school name (number of distinct courses offered)
b. mixed school, course enrollment predominately white
c. enrollment predominately non-white
d. mixed school, race/ethnicity of enrolled students not known

TABLE 7

Distribution of Vocational
Course Types by Race/Ethnicity
of Schools

Sr. High Schools

Type of Course	White Schools	Non-white/Mixed Schools
Business	39%	27%
Trade	12%	31%
Military	-1%	5%
Agriculture	4%	3%
Home Economics	13%	19%
Industrial Arts	25%	10%
Consumer/Career/Misc.	6%	5%
	100%	100%

APPENDIX A

VOCATIONAL EDUCATION PROGRAMS--
SCHOOL BY SCHOOL

VOCATIONAL EDUCATION PROGRAMS

TEACHER RESOURCES, CONTENT, AND FORMAT

School -- Vista Senior High

Race/Ethnicity -- White

SES -- Middle

Location -- Suburban

Teacher Resources Allocated -- 22% total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Personal Typing	Reg. class
	Typing I	Reg. class
	Accounting	Reg. class
	Shorthand	Reg. class
	Intensive office education	Reg. class
	Cooperative office education	Reg. class
	Occupational Work Experience-- (business, management, tax, banking, labor regulations)	½ day program
	Stock Market	Reg. class
	Distributive Ed (marketing & economics)	2 yr.program work-study
TRADES	Architectural Drafting	Reg.class
HOME ECONOMICS	Homemaking I & II	Reg.class
	Single survival	Reg.class
	Relationships	Reg.class
GENERAL INDUSTRIAL ARTS	Woodworking I & II	Reg.class
	Electrical Shop	Reg.class
CONSUMER EDUCATION	Consumer Psychology	Reg.class

School -- Crestview Senior High

Race/Ethnicity -- White

SES -- Middle/Low

Location -- Suburban

Teacher Resources Allocated -- 24% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Economics	Reg.class
	Business Typing I & II	Reg.class
	Shorthand	Reg.class
TRADES	Machine Shop	Reg.class
HOME ECONOMICS	Home Economics I & II	Reg.class
GENERAL INDUSTRIAL ARTS	Mechanical Drawing (specified for general education)	Reg.class
	Metal Working	Reg.class
CAREER OR CONSUMER ED.	Life Logic	Reg.class
	Supervised work experience	On-the-job

School -- Woodlake Senior High

Race/Ethnicity -- White

SES -- Middle

Location -- Suburban

Teacher Resources Allocated -- 27% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Typing	Reg.class
	Business Machines	Reg.class
	Accounting	Reg.class
	Pre-Voc. (inter discip. math/lang. arts, money management, banking)	Work-study (option)
TRADES	Power Mechanics	Reg.class
	Auto Maintenance	2 hrs/day
	Health Careers	2 hrs/day
	Marine Technology	2 hrs/day
MILITARY	Naval Science (like ROTC)	
HOME ECONOMICS	Child Development	Reg.class
GENERAL INDUSTRIAL ARTS	Mechanical Drawing	Reg.class
	Electronics	Reg.class
	Woodshop I & II	Reg.class
	Metals	Reg.class

School -- Atwater Senior High

Race/Ethnicity -- White

SES -- Middle

Location -- Urban

Teacher Resources Allocated -- 21% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Touch Typing	Reg.class
	Accounting	Reg.class
TRADES	Auto Shop	Reg.class
HOME ECONOMICS	Foods Management	Reg.class
GENERAL INDUSTRIAL ARTS	Woods	Reg.class
	Metals	Reg.class

School -- Bradford Senior High

Race/Ethnicity -- White

SES -- Middle/Low

Location -- Suburban

Teacher Resources Allocated -- 14% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Typing	Reg.class
	Accounting I & II	Reg.class
	Office Practice	Reg.class
	Distributive Ed. (marketing)	2 yr.program with work exp.
	Business English	Reg.class
TRADES	Aviation	Reg.class
	Vocational auto tech,	Reg.class
	Auto Accessories	Reg.class
	Auto Engines	Reg.class
HOME ECONOMICS	Child Care	Reg.class
	Nutrition	Reg.class
GENERAL INDUSTRIAL ARTS	Electronics	Reg.class
	Metals	Reg.class
	Woods	Reg.class

School -- Euclid Senior High

Race/Ethnicity -- White

SES -- Middle

Location -- Rural

Teacher Resources Allocated -- 41% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Bookkeeping	Reg.class
	Business Law	Reg.class
	Office Procedures	Reg.class
AGRICULTURE	Intro to Agriculture	Reg.class
	Livestock Production	Reg.class
HOME ECONOMICS	Family Living	Reg.class
GENERAL INDUSTRIAL ARTS	General Shop	Reg.class
	General Shop (class forms corporation)	Reg.class
	Woods I & II	Reg.class
	Senior Industrial Arts	Reg.class
	Mechanical Drawing	Reg.class
	Drafting II	Reg.class
CAREER & CONSUMER ED.	CCUEP--general consumer and career education	Extended On-the-job

School -- Dennison Secondary School

Race/Ethnicity -- White

SES -- Middle

Location -- Rural

Teacher Resources Allocated -- 35% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Shorthand	Reg.class
	Accounting	Reg.class
	Typing	Reg.class
	Data Processing	Reg.class
	Business Law	Reg.class
	Stocks/futures	Reg.class
AGRICULTURE	Agriculture Core I & II (FFA program)	Reg.class
HOME ECONOMICS	Boys Home Economics	Reg.class
	Holiday Crafts	Reg.class
CONSUMER	Consumer Economics	Reg.class

School -- Fairfield Senior High

Race/Ethnicity -- Mixed (53% White, 42% Mex-Amer, 1% other)

SES -- Middle/Low

Location -- Rural/Suburban

Course Offerings

Type	Content	Format	Race/Eth. (% White)
AGRICULTURE	Ag. I	Reg.class	91%
	Ag. III	Reg.class	80%
	Ag. Coop.	Extended	43%
BUSINESS	Vo.Ed. Pre-employment lab-basic business office skills	Reg.class	17%
	Bookkeeping	Reg.class	61%
	Typing	Reg.class	57%
	Duplicating Skills	Extended	0%
	Distributive Ed (marketing)	Extended	62%
	CUAE Coop.	Reg.class	62%
TRADES	Cosmetology	Extended	33%
	Auto Repair	Extended	20%
	Building Construction	Extended	33%
	Home & community services (indust. & institutional cooking and sewing)	Extended	20%
HOME ECONOMICS	Home Economics	Reg.class	47%
	Home Economics II	Reg.class	62%
	Home Economics III	Reg.class	86%
	Home Economics cooperative ed (HECE)	Extended	58%

School -- Palisades Senior High

Race/Ethnicity -- Mixed (50% White, 50% Black)

SES -- High/Middle

Location -- Suburban

Teacher Resources Allocated -- 13% Total FTEs

Course Offerings

Type	Content	Format	Race/Eth. (% White)
BUSINESS	Orientation to Dist.Ed. (marketing - 2 yr. program)	Reg.class	54%
	Personal record keeping	Reg.class	20%
	Shorthand	Reg.class	--
HOME ECONOMICS	Sewing--vocational	Reg.class	31%
	Foods--meal management	Reg.class	15%
MILITARY	ROTC	Reg.class	--
GENERAL INDUSTRIAL ARTS	Beginning Woods	Reg.class	38%
GENERAL CAREER CONSUMER, OR WORK EXP.	Supervised work exp.	2 hrs/day	--

School -- Newport Senior High

Race/Ethnicity -- Mixed (47% White, 9% Black, 17% Asian, 18% Mex-Amer, 9% other)

SES -- Middle

Location -- Urban

Teacher Resources Allocated -- 13% Total FTEs

Course Offerings

Type	Content		Format	Race/Eth. (% White)
BUSINESS	Typing		Reg.class	Missing
	Accounting		Reg.class	"
TRADES	Hospital Occupations	2 semesters	2 hrs/day	"
	Auto Mechanics		2 hrs/day	"
MILITARY	ROTC			"
HOME ECONOMICS	Beginning Clothing		Reg.class	"
	Child Care (parenting)		Reg.class	"
GENERAL INDUSTRIAL ARTS	Woodworking		Reg.class	"
	Electronics		Reg.class	"
	Metalworking		Reg.class	"
CAREERS	Career Planning		Reg.class	"

School -- Laurel Senior High

Race/Ethnicity -- Mixed (52% White, 48% Black)

SES -- Low

Location -- Rural

Teacher Resources Allocated -- 15% Total FTEs

Course Offerings

Type	Content	Format	Race/Eth. (% White)
BUSINESS	Intensive office practice	2 hrs/day	--
	Type	Reg.class	42%
HOME ECONOMICS	Home Economics	Reg.class	22%
GENERAL INDUSTRIAL ARTS	Industrial Arts	Reg.class	16%

Four other vocational courses are available to students at Laurel by going to a nearby high school. These classes require considerable time away from school as they are 2 hour classes. The classes are made available first to students in Laurel's vocational education programs so it is probable that most of the participants are non-white. The courses seem oriented toward specific skills and trades:

transportation
electro-mechanical
metal fabrication
construction

School -- Rosemont Senior High

Race/Ethnicity -- Mexican American

SES -- Low

Location -- Urban

Teacher Resources Allocated -- 21% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Record Keeping	Reg.class
	Bookkeeping	Reg.class
	Shorthand	Reg.class
	Distributive Ed.(marketing)	Extended
	BOO Lab - bilingual office occupations	3 yr.prog. 3 hrs/day
	VOE - office skills	2 hrs/day
	VOE - pre-employment lab	2 hrs/day
MILITARY	ROTC	Reg.class
TRADES	Mill & cabinet shop	3 yr.prog. 3 hrs/day
	Cosmetalogy	3 yr.prog. 3 hrs/day
	Needle trades	3 yr.prog. 3 hrs/day
	Upholstery	3 yr.prog. 3 hrs/day
	Body and fender	3 yr.prog. 3 hrs/day
	Printing	3 yr.prog. 3 hrs/day
	Vocational drafting	3 yr.prog. 3 hrs/day
	Commercial art	3 yr.prog. 3 hrs/day
	Auto mechanics	3 yr.prog. 3 hrs/day
	Voc. commercial photography	3 yr.prog. 3 hrs/day
	Home economics cooperative ed. (Child care, food service, housekeeping)	3 yr.prog. 3 hrs/day
HOME ECONOMICS AND CONSUMER	Consumer education	Reg.class
	Home economics I & II	Reg.class
	Child development	Reg.class
GENERAL INDUSTRIAL ARTS	General shop	Reg.class
	Woodworking	Reg.class
	General drafting	Reg.class

School -- Manchester Senior High

Race/Ethnicity -- Black

SES -- Middle

Location -- Urban

Teacher Resources Allocated -- 19% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Typing	Reg.class
	Business education	Reg.class
	Bookkeeping	Reg.class
MILITARY	ROTC	
TRADES	Horticulture	Reg.class
	Architecture	Reg.class
	Electronics - T.V. repair	Reg.class
	Machine shop	Reg.class
	Child development - (vocational child care)	Work study
HOME ECONOMICS	Home economics	Reg.class
	Family living	Reg.class
	Clothing I & II	Reg.class
GENERAL INDUSTRIAL ARTS	Industrial arts	Reg.class
CAREERS	Careers	Reg.class

School -- Vista Junior High

Race/Ethnicity -- White

SES -- Middle

Location -- Suburban

Teacher Resources Allocated -- 13% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Typing	Reg.class
HOME ECONOMICS	Home arts	Reg.class
GENERAL INDUSTRIAL ARTS	Industrial arts	Reg.class

School -- Crestview Middle School

Race/Ethnicity -- White

SES -- Middle/Low

Location -- Suburban

Teacher Resources Allocated -- 7% Total FTEs

Course Offerings

Type	Content	Format
HOME ECONOMICS	Home economics	Reg.class
GENERAL INDUSTRIAL ARTS	Sh[illegible]	Reg.class

School -- Woodlake Junior High

Race/Ethnicity -- White

SES -- Middle

Location -- Suburban

Teacher Resources Allocated -- 7% Total FTEs

Course Offerings

Type	Content	Format
HOME ECONOMICS	Home economics	Reg.class
GENERAL INDUSTRIAL ARTS	Engines	Reg.class

School -- Atwater Junior High

Race/Ethnicity -- White

SES -- Middle

Location -- Urban

Teacher Resources Allocated -- 8% Total FTEs

Course Offerings

Type	Content	Format
HOME ECONOMICS	Home economics	Reg.class
GENERAL	Industrial arts	Reg.class
INDUSTRIAL ARTS	Mechanical drawing	Reg.class

School -- Bradford Junior High

Race/Ethnicity -- White

SES -- Middle/Low

Location -- Suburban

Teacher Resources Allocated -- 12% Total FTEs

Course Offerings

Type	Content	Format
HOME ECONOMICS	Foods	Reg.class
GENERAL	Woods	Reg.class
INDUSTRIAL ARTS	Metals	Reg.class
	Mechanical drawing	Reg.class
CAREER	Careers	Reg.class

School -- Euclid Junior High

Race/Ethnicity -- White

SES -- Middle

Location -- Rural

Teacher Resources Allocated -- 12% Total FTEs

Course Offerings

Type	Content	Format
HOME ECONOMICS	Home economics	Reg.class
GENERAL INDUSTRIAL ARTS	Industrial arts	Reg.class

School -- Palisades Middle School

Race/Ethnicity -- Mixed (50% White, 45% Black, 4% Mexican-American, 1% Asian)

SES -- High Middle

Location -- Suburban

Teacher Resources Allocated -- 7% Total FTEs

Course Offerings

Type	Content	Format	Race/Eth. (% White)
HOME ECONOMICS	Foods	Reg.class	52%
	Home economics	Reg.class	61%
GENERAL INDUSTRIAL ARTS	Woodshop	Reg.class	68%
CAREERS	PECE (Career ed.)	Reg.class	--

School -- Laurel Middle School

Race/Ethnicity -- Mixed

SES -- Middle/Low

Location -- Rural

Teacher Resources Allocated -- 4% Total FTEs

Course Offerings

Type	Content	Format	Race/Eth. (% White)
BUSINESS	Typing	Reg.class	83%
HOME ECONOMICS	Domestic arts	Reg.class	35%

School -- Fairfield Junior High

Race/Ethnicity -- Mixed (46% White, 4% Black, 50% Mexican-American)

SES -- Middle/Low

Location -- Rural

Teacher Resources Allocated -- 15% Total FTEs

Course Offerings

Type	Content	Format	Race/Eth. (% White)
TRADE PREPARATION	Home and community services	2/hrs off campus	0%
	Duplicating skills	2/hrs off campus	33%
	Horticulture	2/hrs off campus	67%
	General mechanical repair	2/hrs off campus	50%
	Building maintenance	2/hrs off campus	0%
	General construction trades	2/hrs off campus	--

School -- Newport Junior High

Race/Ethnicity -- Mixed (46% White, 11% Black, 17% Asian, 25% Mexican-American)

SES -- Middle

Location -- Urban

Teacher Resources Allocated -- 13% Total FTEs

Course Offerings

Type	Content	Format	Race/Eth. (% White)
BUSINESS	Typing	Reg.class	Missing
HOME ECONOMICS	Foods	Reg.class	"
	Clothing	Reg.class	"
GENERAL INDUSTRIAL ARTS	Woods	Reg.class	"
	Metals	Reg.class	"
	Drafting	Reg.class	"

School -- Rosemont Middle School

Race/Ethnicity -- Mexican American

SES -- Low

Location -- Urban

Teacher Resources Allocated -- 7% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Typing	Reg.class
HOME ECONOMICS	Home economics	Reg.class
GENERAL INDUSTRIAL ARTS	Shop	Reg.class

School -- Manchester Middle School

Race/Ethnicity -- Black

SES -- Middle

Location -- Urban

Teacher Resources Allocated -- 22% Total FTEs

Course Offerings

Type	Content	Format
BUSINESS	Typing	Reg.class
HOME ECONOMICS	Foods	Reg.class
	Clothing design	Reg.class
GENERAL INDUSTRIAL ARTS	Woodshop	Reg.class
	Metal shop	Reg.class
	Graphic arts	Reg.class
	Drafting	Reg.class
	Mid prep.	Reg.class

APPENDIX B

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Percentage of FTEs in Subject Areas:* Junior High/Middle Schools

	Total Tchrs.	Subject Tchrs.	English	Math	Science	Soc. Stud.	For. Lang.	Arts	Voc.	P.E.	% Academic
Vista	49	47.33	(10)21%	(8)17%	(8 1/3)18%	(7)15%	(0)0%	(5)11%	(6)13%	(3)6%	71%
Crestview	32	30.33	(9 1/3)31%	(5)16%	(4)13%	(4)13%	(0)0%	(4)13%	(2)7%	(2)7%	73%
Fairfield	42	39.20	(9 4/5)25%	(6)15%	(5)13%	(5)13%	(3/5) 1%	(1 4/5)5%	(6)15%	(5)13%	68%
Rosemont	44	41.80	(10)24%	(8)19%	(6 4/5)16%	(6)14%	(1)2%	(3)7%	(3)7%	(4)10%	75%
Newport	75	59.60	(11)18%	(10 2/5)17%	(5)8%	(8 3/5)14%	(4/5)1%	(8)13%	(8)13%	(7 4/5)13%	58%
Woodlake	30	30.66	(8)26%	(4)13%	(3)10%	(4)13%	(2/3)2%	(4)13%	(2)7%	(5)16%	64%
Atwater	24	24	(4)17%	(4)17%	(2)8%	(4)17%	(0)0%	(5)21%	(2)8%	(3)13%	59%
Palisades	49	44.60	(12)27%	(10)22%	(3)7%	(6)13%	(4/5)2%	(3 4/5)9%	(3)7%	(6)13%	71%
Laurel	24	15	(4)27%	(3)20%	(3)20%	(1 2/5)9%	(0)0%	(2)13%	(3/5)4%	(1)7%	76%
Manchester	62	54.20	(9 3/5)18%	(9 3/5)18%	(4)7%	(7)13%	(2)4%	(4)7%	(12)22%	(6)11%	60%
Bradford	35	32.40	(7)22%	(5 3/5)17%	(5)15%	(5 4/5)18%	(0)0%	(3)9%	(4)12%	(2)6%	72%
Euclid	13	6.67	(1)15%	(1)15%	(1)15%	(5/6)12%	(1/3)5%	(5/6)12%	(5/6)12%	(2/3)10%	62%

*Percentage based on total FTEs in subject areas only - other teaching, e.g., special ed., was excluded.

Percentage of FTEs in Subject Areas:* High Schools

	Total Tchrs.	Subject Tchrs.	English	Math	Science	Soc. Stud.	For. Lang.	Arts	Voc.	P.E.	% Academic
Vista	84	81	(16) 20%	(10) 12%	(10) 12%	(9) 11%	(3) 4%	(9) 11%	(18) 22%	(5) 6%	59%
Crestview	44	44.59	(9) 20%	(6) 13%	(4) 9%	(6) 13%	(1 1/6) 3%	(4 1/3) 10%	(10 3/5) 24%	(3) 7%	58%
Fairfield	57	53.20	(9 1/5) 17%	(5) 9%	(5) 9%	(4 4/5) 9%	(1) 2%	(1 3/5) 3%	(22 3/5) 42%	(4) 8%	46%
Rosemont	121	118.60	(26 1/5) 22%	(16) 13%	(17 3/5) 15%	(15 3/5) 13%	(5) 4%	(6) 5%	(25) 21%	(7 1/5) 6%	67%
Newport	85	70.25	(13 3/4) 19%	(8) 11%	(7) 10%	(7 3/4) 11%	(6 3/4) 10%	(7 3/4) 11%	(9 1/4) 13%	(10) 14%	61%
Woodlake	57	54.80	(11 4/5) 22%	(5) 9%	(5) 9%	(7) 13%	(2) 4%	(4) 8%	(15) 27%	(5) 9%	57%
Atwater	25	23.60	(5) 21%	(2 1/5) 9%	(2) 8%	(4) 17%	(1) 4%	(2) 8%	(5) 21%	(2 2/5) 10%	59%
Palisades	68	63.80	(10) 16%	(9 2/5) 15%	(8) 13%	(10) 16%	(5) 8%	(7 2/5) 12%	(8) 13%	(6) 9%	68%
Laurel	18	20	(3) 15%	(4) 20%	(3) 15%	(3) 15%	(0) 0%	(2) 10%	(3) 15%	(2) 10%	65%
Manchester	114	111	(25) 23%	(15) 14%	(14) 13%	(17) 15%	(6) 5%	(4) 4%	(21) 19%	(9) 8%	70%
Bradford	63	49	(8) 16%	(8) 16%	(6) 12%	(6) 12%	(3) 6%	(6) 12%	(7) 14%	(6) 12%	62%
Euclid	24	14.50	(2) 14%	(1 1/3) 9%	(1 1/3) 9%	(1) 7%	(1/3) 2%	(1 1/2) 10%	(6) 41%	(1) 7%	41%
Dennison	11	8.50	(1) 12%	(1) 12%	(1) 12%	(1) 12%	(0) 0%	(1/2) 6%	(3) 35%	(1) 12%	48%

*Percentages based on total FTEs in subject areas only - other teaching, e.g., special ed., was excluded.