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A Survey of the Need for an Area-Vocational School in Vermilion County, Illinois

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A SURVEY OF THE NEED FOR AN AREA-VOCATIONAL SCHOOL

IN VERMILION COUNTY, ILLINOIS

(TITLE)

BY

Tom L. Davis

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Master of Science in Education

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1968

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING
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PREFACE

It was hoped at the outset of this study that this work would culminate in action toward making an area-vocational school in Vermilion County a reality. It is apparent, however, that it can not be started at this time due to the financial difficulties of the Danville School system.

A special thanks is extended to all of the firms and individuals who made this study possible through their participation in surveys and interviews. Grateful acknowledgment is due the following individuals without whose help this study could not have been completed:

Mr. Robert Fink, formerly head of the industrial arts department at Danville High School.

Mr. Ralph H. Elliot, Vermilion County Superintendent of Schools.

Mr. Bill Ingram, formerly power mechanics and vocational auto mechanics teacher at Danville High School.

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INTRODUCTION

As the title indicates, the purpose of this study is to determine if a need exists for an area-vocational school in Vermilion County, Illinois. The need is determined from the standpoint of the students, industry and the unions through which the future tradesmen would work.

Since the scope of this study includes the prospective entrant into the labor market and the educational institution through which he receives training, the potential employers, and the organization through which the trades are regulated, all three of these are treated in this study so that a total picture can be seen. It is hoped that this is the most realistic approach of treating the problems encountered in Vermilion County, hence to the curriculum in the schools which leads to the trades, namely industrial-vocational subjects.

The need for this study is brought to light by the lack of properly trained individuals graduating from high schools to fill the jobs that are open. The statistics of high school graduates, with industrial-vocational training, who enter the trade in which they received training are very discouraging.

Generally, the consensus in the Danville area industries is, the schools are doing an inadequate job of educating students for today's world of work. This opinion arises from the fact that the content of the courses offered is outdated and not applicable, for the most part. Also, the curriculum, as a whole, is lagging.

Danville industries have formed committees to work with industrial education committees in order to formulate a practical, realistic and meaningful program--one that could be implemented by the schools and also facilitate industry by helping to train workers. Unfortunately, educators have gone away from these committee meetings, apparently unconvinced that industry knows what it wants, and continued to tread the paths that the former programs had followed for many years, with few changes or improvements and little updating. As a result of these many committees which have come and gone without culminating in an improved program, industry has turned sour on educational institutions as a good source for labor.

CHAPTER I

DESCRIPTION OF VERMILION COUNTY

Physical Limitations

Vermilion County is basically rectangular in shape, consisting of 898 square miles, with dimensions approximately 45 miles long by 22 miles wide. It is located about 100 miles south of Chicago, with the Illinois-Indiana border as its eastern boundry. The county seat is Danville.

Population

According to the last census (1960), Vermilion County's population totaled 96,176¹, with 41,856² of this number concentrated in Danville, the largest town located in the county. In the last 15 years, the population has increased at a rate of 1 per cent per year. At the same time the population of the state of Illinois as a whole increased about 1.5 per cent per year and the growth rate for the United States was just under 2 per cent per year. The following table shows the growth rate for the 25 year period from 1940 to 1965 in Vermilion County. During the decade from 1950 to 1960, Vermilion County's growth rate lagged 5.3 per cent behind the state average; however, in 1960, Vermilion County exceeded

¹U.S. Department of Commerce, Bureau of the Census, United States Census of Population: 1960. Final Report, PC(1)-15B.

²The latest available figures list the population in Danville as 47,543; The Danville Commercial-News, June 5, 1968.

TABLE 1
POPULATION GROWTH RATE

Year	Population	Rate of Increase
1940	86,791	
1950	87,079	+ 0.3%
1960	96,176	+10.4%
1965	99,800	+ 3.8%

the state average of the per cent of its population under 18 years of age by 3.7 per cent³. In Table 2, which follows, the population is broken into age groups to show population trends in the county for the period 1940 to 1960.

TABLE 2
POPULATION TRENDS BY AGE GROUPS^a

Age	1940	1950	1960	Rate of Increase
Under 5	6,578	8,490	10,245	+55.7%
5-14	13,838	13,490	18,700	+35.0%
15-24	15,044	11,265	11,447	-24.0%
25-34	15,404	13,018	11,538	-25.1%
35-44	12,004	11,523	12,856	+ 7.1%
45-54	11,369	10,737	10,839	- 4.7%
Over 54	12,734	18,556	20,551	+61.4%

^aU.S. Bureau of Census Reports

³U.S. Department of Commerce, loc. cit.

Industry

In 1963, Vermilion County contained "143 manufacturing establishments of sufficient stature to be included in the 1963 Illinois Manufacturers Directory. . . ." ⁴ It was listed number 15 among the 102 counties in Illinois with respect to the number of manufacturing plants, which evinces that this county is industrial in nature.

Financial Comparison

Vermilion County stands approximately 1,000 dollars below the median income per household in the state of Illinois. The city of Danville is only slightly better off than the rest of the county with a median per household income about 300 dollars higher--still almost 700 dollars lower than the state average. ⁵

Educational System

The public education system for the 1967-68 school year was made up of thirty-six school districts, three of which were unit districts. ⁶ In four years, since the 1963-64 school year, eight school districts have been consolidated, one resulting in the third unit district in the county.

At the present time, a survey has been made and the subsequent study and investigation is being done to explore the possibility of combining the whole southern half of the county into one, and at the most

⁴Christy A. Murphy et al., Technician Need Study: Vermilion County, Illinois (Champaign: University Press, 1964), p. 13.

⁵"Survey of Buying Power," Sales Management, (New York: Sales Management, Inc., June 10, 1963), pp. 242-256.

⁶Office of Vermilion County Superintendent of Schools, Danville, Illinois.

three, school districts. The study is to be completed by October 31, 1968; it involves eleven elementary districts and five high school districts.⁷

Shortly after the turn of this decade, a similar study was conducted in the northern half of the county. However, the recommendations of the survey team were not carried out for various reasons. Two of the more important ones were, localistic pride of having a school and the fact that each high school district (town) wanted the new high school building located on their existing premises.

One problem that interferes with consolidation into a unit district is that one of the districts--usually the high school district--has a debt, or a larger debt than the other. Small districts refuse to join forces with other districts to make an economically sound district because of traditional rivalries.

In October, 1967, there were a total of 21,343 students in public schools, and another 2,284 in the various parochial schools. Of this number, 6,426 were enrolled in high school level courses and an additional 368 attending parochial high school--3,051 are classified as juniors and seniors.⁸

In 1953, the ratio of high school students to elementary school students in Vermilion County was 1 to 3.12; by 1963, this ratio had increased to 1 to 2.50; and by 1967, to 1 to 2.48.⁹ This indicates that a larger proportion of students are continuing into secondary

⁷Committee for Study of Education in Southern Vermilion County, Illinois, "Survey Report" (Field Experiences Class, Illinois State University, 1967), p. 2. (Mimeographed.)

⁸Office of Vermilion County Superintendent of Schools, Danville, Illinois.

⁹Ibid.

education. In the table which follows, the median level of education of Vermillion County residents, 25 and over, is compared with state and national levels from 1940 to 1960.

TABLE 3
MEDIAN LEVEL OF EDUCATION^a

	1940	1950	1960
United States	8.6	9.3	10.6
Illinois	8.6	9.3	10.5
Vermillion County	8.4	9.0	9.9

^aU.S. Census Reports.

The average Danville male 25 or over left school after 10.5 years of formal education. The census tabulation shows 11,191 males in this age bracket, in Danville.¹⁰ Table 4, below, shows the level of education attained by this group.

TABLE 4
LEVEL OF EDUCATIONAL ATTAINMENT
OF DANVILLE MALES^a

Number	Formal Education
101	None
2,100	Some, but less than 8 grades
2,445	Elementary (8 grades)
1,874	Some high school
4,671	High school diploma
930	1-3 years of college
978	4 or more years of college

^aThe Danville Commercial-News, January 18, 1968.

¹⁰The Danville Commercial-News, January 18, 1968.

Comparison of the levels of education attained by Danville males, twenty-five years of age and older, with men of the same age group in the whole county reveals that the men from Danville have gone to school longer, on the average.

The table which follows compares the level of education attained, both men and women, by this same age group in various cities throughout the state of Illinois.

TABLE 5^a

City	Men	Women
Danville	10.5	10.6
Champaign	12.7	12.3
Urbana	12.5	12.5
Rantoul	12.4	12.4
Decatur	11.0	11.2
Bloomington	11.1	11.7
Brookfield	12.0	11.4
Carbondale	12.6	12.2
Joliet	10.7	11.0
Kankakee	9.9	10.0
Peoria	10.3	10.7
Rockford	10.7	11.3
Springfield	10.9	11.3

^aThe Danville Commercial-News,
January 18, 1968.

While the median level of education has been rising in Vermilion County, so has the opportunity for more education. On July 1, 1966, School District 507 came into being. Prior to that time Danville Junior College had been operated by Danville Unit District 118. It has offerings in two-year, post-high school curricula and various technological and vocational courses. In addition, the junior college also has an Adult Education Division which offers opportunity for those who for various reasons did not acquire an education during their school age. Courses in adult education consist of various academic and a number of vocational subjects.

Eight of the fourteen public high schools included in this study are in the junior college district. If these students wish to take advantage of these post high school opportunities, they have available to them the services of the college at minimum cost.

CHAPTER II

PRESENT EDUCATIONAL OPPORTUNITIES

In Vermilion County there are fourteen public high schools and one parochial high school. Of these, two schools have no industrial arts facilities and another school has the facilities but lacks a teacher. Only two of the schools have any vocational-industrial course offerings. Table 6 shows the courses offered, the length of training and the level at which instruction is offered at each of these schools.

With the exception of Danville High School, the opportunities for industry-oriented education is quite limited. When working with a limited budget for industrial arts, the courses most often taught are wood shop, general metals and drafting. These courses are usually taught through the medium of projects and are, for the most part, hand-craft type courses.

One of the ideals of education is educating the whole person, but the primary purpose for obtaining an education is to prepare oneself for the world of work.

Rates of increase in certain areas of technical work have been reported at a phenomenal figure of more than 600 per cent. The underlying cause of this high rate of increase is the rapid change of the social order in the United States to a society dependent upon science and technology. Such a society demands of its members an ever increasing amount of technical and scientific knowledge.¹

Industrial arts, then, needs to be educating young men in the areas for

¹ Murphy, op. cit. p. 2.

TABLE 6

INDUSTRIAL ARTS COURSE OFFERINGS IN VERMILION COUNTY'S HIGH SCHOOLS

School	Grade	Length of Course						
		Electricity	Drafting	General Metals	Machine Shop	Power Mechanics	Welding	Wood Shop
Armstrong (176) ^f	9	9 wks.	9 wks.	9 wks.				9 wks.
	10		18 wks.					18 wks.
	11			36 wks.	9 wks. ^a		12 wks. ^a	
	12 ^E	36 wks.	36 wks.	36 wks.	36 wks.			36 wks.
Bismark (276)	9	9 wks.	9 wks.	9 wks.				9 wks.
	10		18 wks.					18 wks.
	11	18 wks.		18 wks.			18 wks. ^a	
	12		18 wks.		18 wks.			
Catlin (219)	9							
	10		9 wks.	9 wks.				9 wks.
	11		18 wks.					18 wks.
	12		18 wks.					18 wks.
Danville (3,167)	9	18 wks. ^b	18 wks. ^b	18 wks. ^b				18 wks. ^b
	10 ^E	36 wks. ^c	36 wks. ^c	36 wks. ^c	36 wks. ^c	36 wks. ^c	36 wks. ^c	36 wks. ^c
	11 ^E		36 wks. ^V		36 wks. ^V	36 wks. ^A	36 wks. ^X	
	12 ^E		36 wks. ^V		36 wks. ^V	36 wks. ^A	36 wks. ^X	
East Lynn (66)	9		9 wks.	9 wks.				18 wks.
	10		18 wks.	18 wks.				18 wks.
	11							36 wks.
	12 ^E		36 wks.	36 wks.				36 wks.
Georgetown (408)	9	9 wks.	9 wks.	9 wks.				9 wks.
	10		18 wks.					18 wks.
	11	18 wks.		18 wks.				
	12 ^E		36 wks.	18 wks.	9 wks. ^a		9 wks. ^a	36 wks.
Hoopston (520)	9 ^E	18 wks.	18 wks.	18 wks.				18 wks.
	10 ^E		36 wks. ^c	36 wks. ^c		36 wks. ^c	9 wks. ^a	36 wks. ^c
	11 ^E		36 wks. ^d		36 wks. ^V	36 wks. ^A		36 wks. ^d
	12 ^E		36 wks.		36 wks. ^V	36 wks. ^A		36 wks.
Jamaica (208)	9	9 wks.	9 wks.	9 wks.				9 wks.
	10		18 wks.	18 wks.				18 wks.
	11 ^E	9 wks.			18 wks.	9 wks.	9 wks.	18 wks.
	12 ^E		18 wks.			18 wks.		18 wks.
Oakwood (379)	9	4½ wks.	9 wks.	9 wks.		4½ wks.		9 wks.
	10		18 wks.					18 wks.
	11 ^E			18 wks.	18 wks.			18 wks.
	12 ^E		18 wks.		18 wks.			18 wks.
Rankin (107)	9	9 wks.	9 wks.	9 wks.				9 wks.
	10		18 wks.					18 wks.
	11		18 wks.	18 wks.			9 wks. ^a	
	12 ^E			36 wks.				36 wks.
Rossville (211)	9			6 wks.				6 wks.
	10		18 wks.					18 wks.
	11				36 wks.		9 wks. ^e	
	12					36 wks.		

^aOffered as a section in metal shop.

^bDepending upon the junior high school attended.

^cCan be taken in grades 10, 11 or 12.

^dCan be taken in grades 11 or 12.

^eOffered as a section in machine shop.

^fStudent enrollments are the total number of students enrolled on October 1, 1967. Office of Vermilion County Superintendent of Schools, Danville, Illinois.

^ECourses are elective.

^V2 hour vocational course.

^AAuto mechanics, 2 hour vocational.

^X1 hour vocational course.

Note:

Potomac and Schlarman, enrollments 106 and 368, respectively, do not have facilities for industrial arts; Ridgefarm, enrollment 154, has the facilities but does not have a teacher, hence no program. These 628 students go through high without even the slightest exposure to industrial arts.

Westville, enrollment 429, has an industrial arts program but it is not taught in the traditional fashion. In the fall of 1967, a pair of team teachers embarked on a new program involving the conceptual approach. The areas of learning are not categorized in the traditional manner and would not fit into this table. The courses for each of the four years are very general with no emphasis on skill.

which there are demands for workers--if indeed it is to be called education of industry.

It is unpleasant, but true, that scientific and technical advances have already inflicted unemployment and consequent hardship upon people whose talents and skills were in steady and heavy demand in the past. The immediate future holds grim prospects for people who are unable (or who do not have an opportunity) to acquire the additional training demanded by this new order of society.²

The total high school enrollment in 1967 in Vermilion County was 6,794. Adding the fifth, sixth, seventh and eighth grade enrollments of 7,758 students brings the total possible graduates during the 1968-73 period to 14,552.³ Therefore, it is entirely possible for the Vermilion County labor market to be subjected to the pressure of between 10 and 11 thousand⁴ job seekers between 1968 and 1975. Confronting these job seekers will be an employment market which demands increased levels of training as a prerequisite for initial job placement. Obviously, one solution to this problem is better educational opportunities.

Day after day we read and hear of the poverty, ghettos and jobless among us. And yet, right here in Danville . . . there are more jobs now available than ever before in history.

Danville's latest unemployment figures are for February and they are high at 6.6 per cent. And yet, the highest percentage is women. The manpower market is tighter than it has ever been. . . .

The biggest unemployment rate of all is found among teenagers. These are the whites and nonwhites between 16 and 19 years of age. . . .

Too many high school graduates can't type and can't spell. Needed are secretaries, stenographers, typists and general clerical workers. Also needed are mechanics, engineers, registered nurses and aides, waiters and waitresses, cooks,

²Ibid. p. 3.

³October 1, 1967. Office of Superintendent of Vermilion County Schools, Danville, Illinois.

⁴This figure allows twenty per cent for college bound students who will not be entering the labor market, full time, during this period.

porters and cleaners. Badly needed are machinists, tool and die makers, lathe and screw machine operators.⁵

When asked about this irony that exists--many existing jobs while unemployment rates continue to rise--one personnel man made this statement:

One major cause, he said, is that many people . . . ask for jobs that they are not qualified for. They do it because they want a job with a future but invariably such jobs demand special education, training or experience.⁶

The smallest high school in the county--East Lynn, enrollment 66--has a per student cost in excess of 1,600 dollars. Needless to say, the course offerings of a school this size are quite limited. The resulting situation for the student is a high cost, restricted education. The other schools in the county also face these problems.

Educationally, as well as financially, it is not efficient to have a multitude of schools, each of which is too small to offer its students maximum possibilities in education. The citizenry of Vermillion County have indicated their awareness of this by consolidation of school districts; however, consolidation alone is not enough. If the students are to receive adequate vocational training, it must be done on a broader scope than local districts. In order to equip an educational institution with the expensive equipment needed to train students for today's industrial world, vocational training should be considered on a broader geographical basis.

⁵The Danville Commercial-News, May 25, 1968.

⁶Ibid.

CHAPTER III

LABOR NEEDS OF LOCAL INDUSTRY

The industries in Danville have been more than willing, down through the years, to assist the schools in any way to improve the curriculum-- from donating good, modern equipment to organizing industrial study committees. The results have been quite disappointing. The efforts of these people have invariably culminated in non-commitment and certainly no action on the part of the schools.

In a technical need study conducted in Vermillion county several years ago, the survey group found that employers followed one of two courses of action: operated a training program to orient technicians or hired and imported into Vermillion County technicians who received training elsewhere. This group also found that many of the more highly qualified, hence more highly paid, technicians were not natives of Vermillion County. Too, they found that the technician who attended high school outside Vermillion County had a mean salary that was 907 dollars higher than the mean salary of graduates of a Vermillion County high school.¹

The aforementioned study was concerned only with technicians, not skilled and semi-skilled personnel. It revealed that locally trained technicians were not as highly paid as those trained outside Vermillion County due to the fact that there is no local opportunity for technical

¹Murphy, op. cit., p. 71.

education. A survey of Vermilion County industries reveals that the areas in which there are opportunities for employment are not being offered in the high schools in the county. Refer to Table 7.

The results of this survey show that there are needs now and anticipated in the future in sixteen of the areas included in this study² and one area specified by participating industries. Six of these areas fall under the title building trades, one in photo-offset reproduction, one in welding, four areas of mechanics and repairmen, hairdressers, food trades, operating engineers, drafting and machine occupations.

Of the six areas under building trades, two are virtually closed to students coming from high school vocational classes. In the Danville area, masonry apprenticeships allegedly are given almost exclusively to relatives of union members. As long as this trend continues, an effort to offer a vocational class in masonry is futile. Also, plumbers and pipefitters prefer to use their own system of apprenticeship rather than acknowledge any previous training in a formal educational situation. In the Champaign area, the carpentry union is virtually closed at this time, but in Danville, it, the electricians, painters and sheet metal unions are willing to cooperate with the schools in placing graduates and selecting course content.

The only demands for personnel in the graphic arts are within the realm of offset printing. These occupations--paste-up, art work, camera, stripping, platemaking and presswork--can all be lumped into one subject matter entitled photo-offset printing. The different unions involved are willing to work with the schools; however, the amalgamated unions in

²Job titles were taken from the Occupational Outlook Handbook.

TABLE 7

SKILLED OCCUPATIONAL NEEDS IN THE DANVILLE AREA

Present Needs	Future Needs	Total Number New Employed (In Each Area)		Present Needs	Future Needs	Total Number New Employed (In Each Area)		Present Needs	Future Needs	Total Number New Employed (In Each Area)	
Building Trades											
19	28 ^a	15	Masonry	20	11-15 ^a	22	Painters and finishers				Others (specify)
7	8	11	Cabinetmaking				Others (specify)				
68	45-54 ^a	50	Carpentry	15	15 ^a	32	Sheet metal workers				
133	235	137	Electricians								
32	34-51 ^a	44	Plumbers and pipefitters								
Graphic Arts											
4	4	231	Composing room occupations	3	4 ^a	52	Strippers and platemakers				
4	5	22	Linotype operators	2	5 ^a	114	Offset pressmen				
1	2	1	Photoengravers	3	5	269	Bookbinders				
0	0	10	Electrotypers and stereotypers				Others (specify)				
1	1	34	Letterpress pressmen								
0	0	9	Gravure pressmen								
3	7 ^a	59	Paste-up and art work								
Welders											
8	11-13	23	Stick-arc welders				Repair and finishers				
			TIG welders				Set up welders				
1	2	3	MIG welders				Others (specify)				
		4	Tackers and spotters								
3	4	9	Burners (cutting)								
			Automatic equipment operators								
Mechanics and Repairmen											
116	130	214	Maintenance (general)	11	9-13 ^b	66	Industrial machine repair (millwright)				Others (specify)
	1	3	Small engine repair	4	5	12	Parts service men				
44	48	102	Auto mechanics	5	8 ^c	38	Maintenance electrician				
2	3	5	Diesel mechanics				Others (specify)				
10	17-18 ^a	26	Air conditioning and refrigeration								
19	18	29	Industrial machine repair								
6	6	14	Television and radio								
Hairdressers											
1	1	5	Barbers				Others (specify)				
16	27 ^a	45	Beauticians								
Food Trades											
5	4	15	Cooks				Others (specify)				
1		1	Chefs	7	8	11	Retail Bakers				
Operator Engineers (power shovels, cranes, derricks and bulldozers, etc.)											
Specify											
17	34	17	Technicians	6	7-10	8	Endloaders				
4		8	Engineers	6	8-11	6	Backhoes				
2	3	2	Scrapers	2	2-3	2	Graders				
Draftsmen											
26	32 ^a	64	Machine				Others (specify)				
3	8	3	Civil	1	1 ^d	2	Electrical				
1	5	3	Architectural		a	1	Layout				
				2	1	1	Tool Design				
Radio Broadcasters											
Specify											
a		4	Radio Announcer				Specify				
Machine Occupations											
29	38 ^b	61	Machinists (general)				Others (specify)				
2	10 ^b	16	Machine tool operators								
7	9 ^d	37	Tool and die makers								
Forge and Foundry Shop Occupations											
		71	Molders				Others (specify)				
		45	Coremakers								
9	10	21	Patternmaking								

^aEmployers have indicated that the field is open.

^bThere is a need for two yearly.

^cThere is a need for one yearly.

^dThere is a need for three yearly.

Chicago operate their own school to train men for these jobs. It is not imperative that a man attend this apprentice school to get a job in the union offset shops. It does, however, guarantee the man a job someplace if he is willing to relocate. The advantage of this school over public high school training is the uniformity of training of each trainee, thus the employer knows at what stage of development each trainee is when he is hired.

R. R. Donnelly and Sons, Crawfordsville, Indiana, one of the big employers in the graphic arts in this survey, operates their own training facilities and requires every new employee to participate in their training program before moving into the apprenticeship program. This applies not only to boys just out of high school but also to journeymen if they have not worked in a Donnelly plant before.

The products of most high school welding programs are little more than "rod burners". This is unfortunate because good weldors are always in demand. Several of the companies in Danville have given to Danville High School good, current equipment to use in their vocational welding program. They have also offered to give them more equipment if the school would provide space to put it. These companies will support a good, comprehensive welding program, with adequate space, to the fullest extent.

Maintenance is becoming a big problem, as indicated by the numbers of personnel presently needed and the anticipated needs, that is getting more complicated. It is no longer a case of taking someone who can not do anything else and making him a maintenance man. These people need to be trained and they should have the opportunity to be trained before they are out of high school. The probability is that they would not return to school to receive such training after leaving school.

Auto mechanics is becoming more and more technical each year. The days of the "shade tree" mechanic are gone. The automobile is not a toy; in order to keep it in good running condition the people who work on it must be competent mechanics.

There is no national organization of auto mechanics to impose restrictions upon qualified persons who want to enter the trade.

The field of air conditioning and refrigeration is growing so rapidly that it is almost beyond comprehension. There is a growing demand for refrigeration mechanics. The demand in the Danville area is not so great as in other parts of the country, but it is strong enough to warrant a course offering in air conditioning and refrigeration.

Industrial machine repair as a course in itself would be difficult and almost futile on the high school level. The principles could, however, be taught as a part of machine shop.

Beauticians are numerous, however the number of women having their hair fixed weekly is on an upswing. In addition to the increasing business, the turnover of beauticians is tremendous--perhaps because of the number of young girls who pursue this occupation. It would be difficult for a public high school to undertake such a program, due to all the legal requirements that must be met, plus the cost of equipment and hiring qualified personnel to teach the courses.

Mr. Bennett Rosen of the Danville Beauty School offered his services in helping to establish cosmetology as a part of the curriculum in a high school level vocational program. In a letter addressed to the superintendent of the Danville schools, he stated in part:

When it was learned that the Danville School System intended to initiate a vocational school in this area with possible inclusion of a cosmetology division, I wanted you and your co-workers to

know of the activities of the Danville Beauty School in bringing a beauty culture education within reach of anyone who desires it.

We have a faculty staffed by five competent teachers. Our school occupies 6000 square feet. We would like to continue our present basis of having the student only when his regular school is not in session, or could arrange having the student on a released time basis as part of his regular high school day, as has been worked out with other vocational activities.

As long as the food supplies hold up, the food trades will remain strong as an area of employment. There are more people eating out today than ever before; there is more catering done and more banquets prepared for special occasions. Bakeries, too, are doing an overwhelming business and have needs for people who know how to prepare pasteries.

Operating engineers are in strong demand and will continue to be as long as construction maintains its current pace. This is a lucrative field with few barriers except lack of knowledge.

The demand for good draftsmen continues although there are three schools in Danville--Danville High School vocational drafting, Manpower drafting and Danville Junior College Vocational-Technical Division--that are turning out draftsmen. There are ten other high schools that offer some drafting. (One of the complaints that occurred frequently about young men entering this field is a lack of ability to read blueprints.)

The demand in the machine-tool occupations seems to be fairly stable. There is always a need for personnel who know the fundamentals of the machine trades and can adapt to the particular needs of the employing firm. Again, the cries from the employers is for young men who have the ability to read blueprints.

CONCLUSIONS

There is evidence presented in this study that students in the high schools in Vermilion County are getting an inadequate introduction to the study of industry. The course content, which was not discussed here, indicates that the introduction the students do get is not a true picture of industrial methods and processes.

In an address to the New Mexico Industrial Arts Association, Dr. Kenneth E. Dawson stated:

. . . industrial arts can no longer go on with its current content centered around the teaching of crafts and skills which were outdated years ago. . . . the use of the individual project is applicable only with a very small portion of our student population. No longer can school time be allotted to the narrowness of project making for all students. A few moments ago, I stated that the amount of knowledge in industry and technology has doubled in the past ten years. I seriously doubt that the average industrial arts teacher has doubled the amount of information he has been able to instill into his students in that time. As a matter of fact, a survey of the nation's industrial arts program would lead one to doubt that we have doubled our informational input since 1900. Assuming that we have doubled our teaching efficiency since 1900, we are still four times worse off today than we were in 1900.¹

Only a small percentage of the high school graduates in Illinois receive a four-year college degree; less than one-half even attempt college. Since the great majority of the students who complete high school do not acquire a college degree before entering the work force, school curricula should be oriented toward occupational areas in which there is

¹Kenneth E. Dawson, "The Golden Era Approaches--Will We Be Ready?", An address to the New Mexico Industrial Arts Association, Albuquerque, New Mexico, October 27, 1966. pp.7-8.

potential employment. The difficulty is that the local schools do not have enough funds to offer a broad vocational program; hence, a large number of their students remain unemployable in a period when there are many vacancies for skilled and technical workers.

Due to this lack of funds, the resulting educational program is the academic college preparatory curriculum as the only one offered in high school to all students, even though a large percentage do not go on to college. This becomes a vicious spiral of unemployment in communities least able, financially, to equip their young people with employable skills. Because of the lack of finances, the schools in these communities must offer inferior educational programs; the large majority of students there, who are not preparing to go to college, do not have the opportunity of preparing themselves to go to work.

Not only has the emphasis of the subject matter been misdirected, but so also have the placement services for high school students. In fact, services for students other than the college bound have been quite hap-hazard, at best, and usually non-existent.

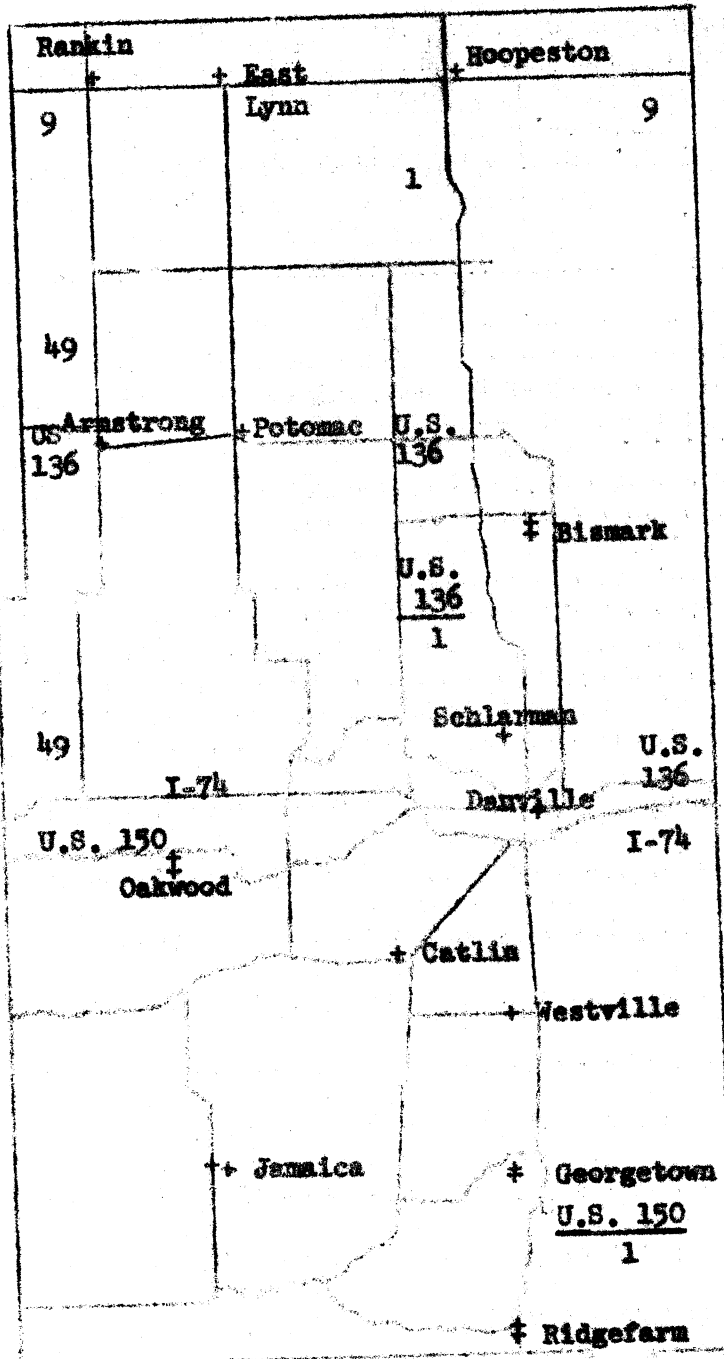
The need for manpower has been shown in the skilled and semi-skilled areas, which are easily learned by persons of average intelligence and persistence. Yet in only six of the occupational areas in which needs were shown to exist do the schools offer programs which lead to employment in the trades--and one of these is totally inadequate. Of these six, all are offered by Danville High School and two are offered by Hoopston High School; none of the other 3,107 high school students in the county have the opportunity to participate in a vocational class.

Since it is not financially possible, from the standpoint of staff and facilities, nor is the student demand large enough to offer all these

classes in each of the high schools, the most economical way to offer these courses to the students and still have a good, comprehensive program in each area is to combine efforts. A county area-vocational high school would have an adequate student body from which to draw, a graduating class with marketable skills and a more economically educated graduate.

Appendix A

Map of Vermillion County



+--Designates a high school
 I-74--Interstate highways
 U.S. 136--U.S. highways
 9 --State highways
 All others--County and township pavements

Map of Vermillion County showing the fifteen high schools located within the perimeter of the county and the principle arteries of travel.

Appendix B

Interview Forms for Interviewing

Industrial Arts Teachers

Curriculum Content for Electricity

School _____

Course Length _____

Instructor _____

Introduction _____	House Wiring _____	Motors _____
Capacitance _____	Wiring Codes _____	Theory of Operation _____
Basic Math _____	Wiring Methods _____	Split-phase _____
Resistance _____	& Devices _____	Horsepower Unit _____
Magnetic _____	Lighting _____	RPM Formula _____
Devices _____	Heating _____	Torque _____
Electromagnetism _____	Major Home _____	Multi-speed Motors _____
Tests and _____	Appliances _____	Capacitor Motors _____
Measurements _____		Shaded-pole Motors _____
Circuit Structure _____	Automotive Electricity _____	Repulsion-induction _____
Theory of _____	Starting Circuit _____	Motors _____
Electricity _____	Generator _____	Synchronous-timing _____
Soldering _____	Alternator _____	Motors _____
Procedures _____	Regulator _____	Universal Motor _____
Electrochemical _____	Ignition System _____	Tachometer _____
Devices and _____	Lights & Acc. _____	
Processes _____	Fuses & Circuit _____	Electrical and Electronic _____
Sources of _____	Breakers _____	Manufacturing Industrie _____
Electrical _____	Care & Maintenance _____	
Power _____	Circuit Diagram _____	

By what method(s)?

Project _____ Student Selected _____ Teacher Selected _____

Free

Limited

Exercises _____

Experimentation _____

Explains:

Comments, Suggestions or Remarks:

Curriculum Content for General Metal Shop

School _____

Course Length _____

Instructor _____

History of Metals _____ Hardening _____ Finishing _____

Types of Metals _____ Tools Used _____ Forming _____

Properties of Metals _____ Metallurgy _____ Shaping _____

Testing _____ Foundry Processes _____ Adhesion _____

Bending _____ Heat Treating _____ Fastening _____

Braking _____ Use in Shop of Different Metals _____

By what method(s)?

Project _____

Student Selected

Teacher Selected

Free

Limited

Exercises _____

Experimentation _____

Explain:

Comments, Suggestions or Remarks:

Curriculum Content for Machine Shop

School _____

Course Length _____

Instructor _____

Forming and Shaping by Machine Tool:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

By what method(s)?

Project _____	Student Selected	Teacher Selected
	Free	
	Limited	

Exercises _____

Experimentation _____

Explain:

Comments, Suggestions or Remarks:

Curriculum Content for Plastics

School _____

Course Length _____

Instructor _____

History and Development of Plastics _____

Kinds and uses of Plastics _____

Fabrication _____

Shaping _____

Forming _____

Finishing _____

By what method(s)?

Project _____

Student Selected

Teacher Selected

Free

Limited

Exercises _____

Experimentation _____

Explain:

Comments, Suggestions or Remarks:

Curriculum Content for Power Mechanics

School _____

Course Length _____

31

Instructor _____

Natural Power _____	Electricity & Magnetism _____	Internal Combustion Engines _____
Muscle _____	Chemical _____	History _____
Levers _____	Static _____	2 & 4 Cycle _____
Water _____	Generators _____	Diesel _____
Wind _____	AC _____	Spark _____
Steam Power _____	DC _____	Electrical Systems _____
Boilers _____	Exotic Converters _____	Turbines _____
Engines _____	Fuel Cell _____	Auto _____
Turbines _____	Photo Cell _____	Aircraft _____
Atomic Power		Diesel Operation _____
Generating _____		Development _____
Fuel _____		Efficiency _____
Reactor _____		Applications _____
		Aircraft Piston Engines _____
		Radial _____
		Rotary _____
		Airstream Reaction Engines _____
		Jet _____
		Rocket _____

By what method(s)?

Project _____ Student Selected Teacher Selected

Free
Limited

Exercises _____

Experimentation _____

Explain:

Curriculum Content for Printing

School _____

Course Length _____

Instructor _____

Composition _____	Presswork _____	Camera Work _____
Hand _____	Letterpress _____	
Machine _____	Platen _____	Darkroom Procedures _____
Cold _____	Cylinder _____	
	Offset _____	Pasteup _____
Proofreading _____	Duplicator _____	
	Press _____	Stripping _____
Imposition & Lockup _____	Bindery _____	Platemaking _____
	Paper Cutting _____	
	Plastic Binding _____	
	Stitching _____	
	Padding _____	

By what method(s)?

Project _____	Student Selected	Teacher Selected
	Free	
	Limited	

Exercises _____

Experimentation _____

Explain:

Comments, Suggestions or Remarks:

Curriculum Content for Welding

School _____

Course Length _____

Instructor _____

Arc-air _____

Submerged Arc _____

Tungston-Inert Gas _____
(TIG)

Metallic Arc _____
(Stick Arc)

Vapor Shield _____

Metallic-Inert Gas _____
(MIG)

Oxyacetylene _____

Resistance _____

By what method(s)?

Project _____

Student Selected

Teacher Selected

Free

Limited

Exercises _____

Experimentation _____

Explain:

Comments, Suggestions or Remarks:

Curriculum Content for Wood Shop

School _____

Course Length _____

Instructor _____

Use and Care of
Tools & Equipment _____

Surface
Preparation _____

Adhesion _____

Joints _____

Finishing _____

Lumber and the
Lumbering
Industry _____

Fasteners &
Fastening _____

Forming &
Shaping _____

By what Method(s)?

Project _____

Student Selected

Teacher Selected

Free

Limited

Exercises _____

Experimentation _____

Explain:

Comments, Suggestions or Remarks:

Personal Information Sheet of Instructors

Teaching Experience _____ years in Industrial Education

Trade Experience _____ years

Description _____

Industrial Education Major _____ Minor _____

At what College _____

College Hours in Industrial Education _____

College Hours in Field(s)

_____	_____
_____	_____
_____	_____

Other Training

Explain:

Comments:

Appendix C

Survey Form

A SURVEY OF THE VOCATIONAL NEEDS IN THE DANVILLE AREA

The Industrial Education Department at Danville Senior High School is conducting a survey to determine future needs in non-professional skilled occupational areas in Danville and the surrounding communities.

We would appreciate your assistance by completing this questionnaire.

This information will be used to bring industrial education course offerings in line with the labor needs both present and future.

Instructions: Indicate the number in the appropriate blanks of your employment needs both present and future as well as the total numbers now employed under each occupational classification.

Present Needs	Future Needs	Total Number Now Employed (In Each Area)		Present Needs	Future Needs	Total Number Now Employed (In Each Area)	
Building Trades							
.....	Masonry	.....	.....	.....	Painters and finishers
.....	Cabinetmaking	.....	.....	.....	Others (specify)
.....	Carpentry	.....	.....	.....	_____
.....	Electricians	.....	.....	.....	_____
.....	Plumbers and pipefitters	.....	.....	.....	_____
Graphic Arts							
.....	Composing room occupations	.....	.....	.....	Strippers and platemakers
.....	Linotype operators	.....	.....	.....	Offset pressmen
.....	Photoengravers	.....	.....	.....	Bookbinders
.....	Electrotypers and stereotypers	.....	.....	.....	Others (specify)
.....	Letterpress pressmen	.....	.....	.....	_____
.....	Gravure pressmen	.....	.....	.....	_____
.....	Paste-up and art work	.....	.....	.....	_____
Welders							
.....	Stick-arc welders	.....	.....	.....	Repair and finishers
.....	TIG welders	.....	.....	.....	Set up welders
.....	MIG welders	.....	.....	.....	Others (specify)
.....	Tackers and spotters	.....	.....	.....	_____
.....	Burners (cutting)	.....	.....	.....	_____
.....	Automatic equipment operators	.....	.....	.....	_____
Mechanics and Repairmen							
.....	Maintenance (general)	.....	.....	.....	Industrial machine repair (millwright)
.....	Small engine repair	.....	.....	.....	Parts service men
.....	Auto mechanics	.....	.....	.....	Maintenance electrician
.....	Diesel mechanics	.....	.....	.....	Others (specify)
.....	Air conditioning and refrigeration	.....	.....	.....	_____
.....	Industrial machine repair	.....	.....	.....	_____
.....	Television and radio	.....	.....	.....	_____

Present Needs	Future Needs	Total Number Now Employed (In Each Area)		Present Needs	Future Needs	Total Number Now Employed (In Each Area)	
Hairdressers							
.....	Barbers				Others (specify)
.....	Beauticians	.....	.....	.....	_____
.....	_____
Food Trades							
.....	Cooks				Others (specify)
.....	Chefs	.....	.....	.....	_____
.....	_____
Operator Engineers (power shovels, cranes, derricks and bulldozers, etc.)							
			Specify				Specify
.....	_____	_____
.....	_____	_____
Draftsmen							
.....	Machine				Others (specify)
.....	Civil	.....	.....	.....	_____
.....	Architectural	.....	.....	.....	_____
Radio Broadcasters							
			Specify				Specify
.....	_____	_____
Machine Occupations							
.....	Machinists (general)				Others (specify)
.....	Machine tool operators	.....	.....	.....	_____
.....	Tool and die makers	.....	.....	.....	_____
Forge and Foundry Shop Occupations							
.....	Molders				Others (specify)
.....	Coremakers	_____
.....	Pattermaking	_____

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