

A STUDY OF THE  
STUDENTS OF VOCATIONAL AGRICULTURE  
IN A  
SMALL SUBURBAN HIGH SCHOOL  
FROM 1919 TO 1933

by

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## INTRODUCTION

Studies on students of vocational agriculture in several communities have been made by Nylin, and Gregory, according to Lathrop (1938), but inquiries upon such students in a single small suburban high school appear to be lacking. An opportunity to make such a study was afforded at Washburn High School of Topeka, Kansas.

This high school district, organized in 1918, included the territory some five miles south and west of the then existing city limits of Topeka. As there was no center of community life in that territory, it was decided to lease from Washburn College, quarters for the high school which formerly had been used for the Washburn Academy. At that time the college campus was on the northeast border of the district. With the growth of the city mainly to the southwest, the present location is now surrounded by territory that has been taken into the city. It is now a mile from the high school quarters to the nearest part of the district (Fig. 1).

The growth of the city suburban tracts has moved southwest, and the bordering farms are gradually being subdivided. This condition has furnished the high school with a constant supply of students from small tracts whose fathers

are in lines of work other than farming, but who have an interest in agriculture.

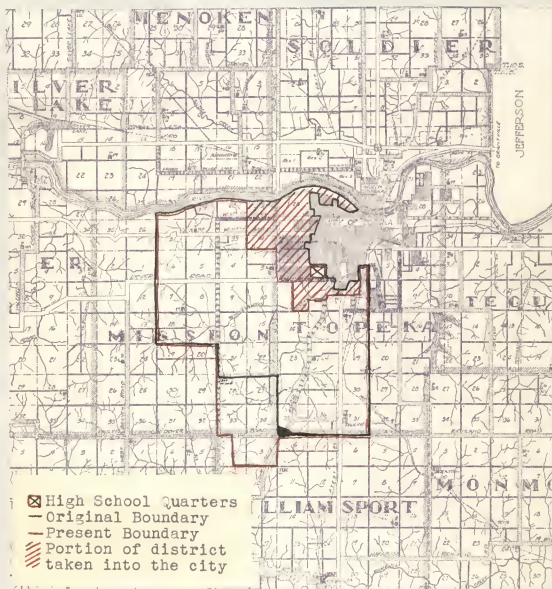


Fig. 1. A partial map of Shawnee County, showing the location of the high school quarters, and the original and present district boundaries.

As Shawnee County is organized under the Barnes Law, students from other parts of the county may attend Washburn High School without payment of tuition. Many students come from the suburbs east of the city because of good bus connections direct to the Washburn campus. Other out-of-district students ride to school with persons driving into the city to work. This small suburban high school now has 134 students (1937-38). Sixty nine were from the high school district, and only 25 of these were from homes dependent entirely upon the business of farming. Of the total enrollment, only 43 were from real farm homes.

#### Vocational Agriculture

In 1919, one year after the organization of the high school district, Washburn High School was approved by the State Board for Vocational Education for the teaching of vocational agriculture. In the last nineteen years, 239 boys have completed at least one year of this work. Obviously, many of these were from suburban and some from city homes.

With the passage of the Smith-Hughes Act in 1917, the requirements for Federal Aid for vocational agriculture are as follows:

The controlling purpose of such education shall be to fit for useful farm employment. Such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm or of the farm home. Such schools shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm for at least six months per year.

The purpose of this act was to provide definite farm experiences. Those who feel an interest in the vocation of farming during their high school career and are in a position to get such experience, are considered eligible students of vocational agriculture.

#### PURPOSE OF STUDY

Since Washburn High School has been offering vocational agriculture as a part of its curriculum for the past 19 years, since it is a small suburban high school, and since a check on the present activities of former students would give an indication of the value of the course in the community and to the men themselves, this study was undertaken.

It was thought that some combination of factors could be found that would indicate, by the close of the high school work, whether or not the student would become engaged in the business of farming.

This investigation was started with four main objec-

tives, namely:

1. To determine as near as possible, the combination of factors that lead to farm placement in a farming community adjacent to a city.
2. To determine, if possible, the influence of project efficiency or skill with later occupations.
3. To determine if courses in vocational agriculture influence the kind of work undertaken by city or suburban boys, five or more years out of high school.
4. To find the effects of residence location on farm placement on boys who have been enrolled in vocational agriculture at Washburn High School.

#### METHOD OF PROCEDURE

1. Former students of vocational agriculture of Washburn High School were used as a basis for this study.
2. The names of all former students of vocational agriculture were taken from the permanent record files of the Washburn High School.
3. The possible sources of data were considered. Each was analyzed and a survey blank was built for suitable material from each source.
4. The sources of data selected were: the permanent school records, the records in the department of vocational



agriculture, and by visitation with former students, relatives, classmates, neighbors, and friends.

5. From the school records the present age of each individual, the number of years he was enrolled in vocational agriculture, his grades in vocational agriculture, his father's occupation while he attended high school, whether his residence was in the city, suburban, or on a farm, and if he was a high school graduate, were obtained.

6. From the records in the department of vocational agriculture were obtained the labor income on project work, the size of the project program, and the hours reported as student labor.

7. Present occupation, whether they attended college, and if so, where, if married, and whether parents were owners or tenants during the high school career, were answered by visitation sources.

8. The data were compiled, and individuals about whom incomplete information was obtained, were investigated.

9. The data were tabulated, analyzed, and evaluated.

10. The findings were listed and summarized.

11. Conclusions were drawn and enumerated.



## FINDINGS

### Interpretation of Survey Outline

As the period immediately following high school seems to be one of unrest and attempted adjustment, it was deemed unwise to consider in this study, those who have been out of high school for less than five years. This gave an age range from 22 to 37 years and covers a period of fourteen years.

Complete data were obtained on those boys who had been in vocational agriculture during the twelve year period ending with the last year of this study, 1933. Boys who had taken the work during the first two years, 1919-20 and 1920-21, do not have records of individual project work, either in the school files, or in the office of the State Board for Vocational Education, as no records were made at that time. This study considers ninety eight completed records for the years 1921-22 to 1932-33, and twenty six records complete, except for the project records, for the years 1919-20 and 1920-21. Thirty six other boys, who were in the department during the period of this study were not considered. These were divided into four groups; those deceased, those who failed in their school work and do not

have final grades in vocational agriculture, those who did not complete their project records, and those who transferred to other schools. In the study of this group, it was found that five are deceased, eight failed in their school work, twelve did not complete their project records, and the eleven who transferred cannot be located. Of the eight who failed, three cannot be located, two are now on farms, and three are in other lines of work. Of the twelve who did not complete their project records, five boys cannot be located, four are now living on farms, and three are in other lines of work.

In considering both the present occupation of the individual and the occupation of the father, while the boy was in school, the classification was divided into three groups; those engaged in farming, those engaged in activities allied to farming, and those engaged in lines of work not allied to the farm business. No attempt was made to rank or rate within these groups. Those engaged in farming varied from extensive, successful farmers to farm hands. The group in activities allied to farming, included those in work where information gathered in a course in vocational agriculture was of benefit to them. Included in this group were forestry men, nursery men, packer buyers of livestock, certain packinghouse workers, feed and seed dealers,

livestock fieldmen, and agricultural journalists. In the remaining group, almost every line of work was represented. There were bakers, bankers, cleaners, doctors, lawyers, undertakers, truckers, stenographers, school teachers, salesmen of many kinds, craftsmen, soldiers, sailors, and many others.

During the period covered in this study, three systems of grading were used. They were:

1. Numerical grades with a passing range from 70 to 100.
2. Letter grades E, G, M, P, and F.
3. Letter grades A, B, C, D, and F.

Table 1 shows the values assigned the various school marks to make them comparable.

Table 1. The values assigned the various school marks.

School Marks			Assigned Value
92-100	E	A	40
85-91	G	B	30
78-84	M	C	20
70-77	P	D	10

When a student had more than one year of vocational agriculture, each year received its grade value according to this table. The grade used was the average of these.

In order to rank project size, it was necessary to assign values to the various enterprises considering the

initial investment, feed and labor requirements, and the potential value in the community (Table 2).

Project income was recorded to the nearest dollar.

Table 2. Values assigned to the various enterprises considering initial investment, feed and labor requirements, and potential value in the community.

Enterprise	Value
1 dairy cow	100
2 beef calves	100
1 sow and litter	100
2 horses	100
1 ewe and lamb	20
1 pig	12
1 veal calf	12
1 laying pullet	4
10 baby chicks	5
1 milk goat	10
1 acre corn or sorghums	14
1 acre soybeans	25
1 acre wheat	8
1 acre oats	5
$\frac{1}{4}$ acre potatoes	50
1/10 acre garden	50
$\frac{1}{2}$ acre mixed orchard	50
$\frac{1}{4}$ acre grapes	20

## Age Groups

The data on age groups are presented in Figure 2.



Figure 2. Age groups of former students of vocational agriculture at Washburn High School.

The ages ranged from 22 to 37 years, with but three in the group 22 years old, and five in the group 37 years old. As the ages were taken from the permanent school records, and no birth dates were considered, more than the actual amount of age difference is probably shown in grouping by ages. This was shown by the groups 22 years old, and 23 years old. Three were in the group 22 years old, and five in the group 23 years old, for a total of eight. The next higher age groups average nine in each with the enrollment in vocational agriculture remaining constant. The three

who were in the 22 year old group would have graduated from high school at the age of seventeen. Undoubtedly their next birthday was very near, and they were in the same class as the group 23 years old.

There seems to be no explainable reason for the small group 30 years old, except that the next age groups, both 29 and 31, are much larger. During the period when these three groups were in school, from 1922 to 1926, the total school enrollment was much higher. This was probably due to two factors; the taking into the City of Topeka of a part of the territory in which a high percentage of the total school population lived, and recognition of the superior school administration, at that time. A large part of those who had started their high school work at Washburn wished to complete it there, even though they had to pay tuition. Others, largely from city territory, helped to increase the total enrollment. During the school year 1924-25, the total school enrollment reached 225, and for the school years 1920-21 to 1925-26 inclusive, an average total school enrollment of 196.6 was maintained. The school years 1926-27 to 1932-33 showed an average total school enrollment of 131.6.

Of the 24 not considered because of death, or incom-

plate records, 15, or 62.5 percent, were in the age groups above 31.

The individuals were divided according to their present occupation and grouped by ages from 22 to 25, 26 to 29, 30 to 33, and 34 to 37 years. The total number of boys in the group 22 to 25 years old was 27, of which 10, or 36.3 percent, were farmers, and 5, or 18.1 percent, were in occupations allied to farming. This made a total of 15, or 54.4 percent, in some kind of agricultural work. Forty were in the group from 26 to 29 years. 17, or 42.5 percent, were farmers, and 7, or 17.5 percent, were in allied occupations for a total of all agricultural workers of 60 percent. There were 33 in the next group, 30 to 33 years. Ten or 33.3 percent, were farmers and 3, or 9.0 percent were in the group in work allied to farming. A total of all agricultural workers of 42.3 percent. In the group that started with the department, those from 34 to 37 years of age, but 4 of the 24 are farmers and but 3 are in allied work, making 29.1 percent of this group engaged in some phase of agricultural work. Sixty three percent of those in this group were from city and suburban homes.

#### Years in Vocational Agriculture

The number of years in vocational agriculture, with the residence location while attending high school, is shown



in Table 3.

Table 3. Years of enrollment and residence.

Residence	1 year		2 years		3 years	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
City	11	22.0	10	16.4	1	7.7
Suburban	10	20.0	15	24.6	2	15.4
Farm	29	58.0	36	59.0	10	76.9
Total	50	100.0	61	100.0	13	100.0

The ratio of city, suburban and farm boys in vocational agriculture remained about the same for the first and second year of the work but the farm boys increased almost 20 percent in the three year group. This is shown graphically in Figure 3. Gregory, according to Lathrop (1938), found that 53 percent of those taking 3 or 4 years of the work were farming five years after their course in vocational agriculture against 46 percent of those who took 1 or 2 years. Nylin, according to Lathrop (1938), found that 75 percent of those taking 4 years were farming or in related occupations and that this percent decreased with the number of years of work.

Only three years of the work were offered at Washburn. Of those with but one year of vocational agriculture, 28 percent were farming and 12 percent were in allied occupations. In the group with two years 27.8 percent were farming and 16.4 percent were in work allied to farming. The

three year group had 76.9 percent farming and 15.4 percent in allied work.

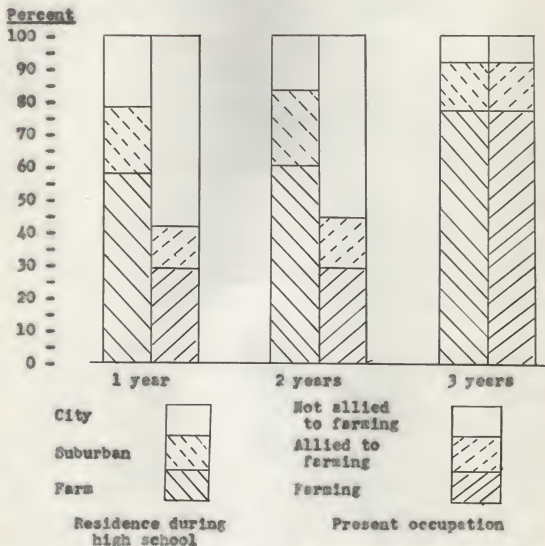


Figure 3. Present occupation compared with residence during high school of students in classes in vocational agriculture, one, two, and three years.

Table 4 shows the percent of those farming and in al-

lied occupations according to the number of years in vocational agriculture.

Table 4. Percent of those farming and in allied occupations by number of years in vocational agriculture.

Present Occupation	1 year	2 years	3 years
Farming	28.	27.8	76.9
Allied to Farming	12.	16.4	15.4
Total	40.	44.2	92.3

#### Grades in Vocational Agriculture

In considering the grades of the boys in this study, it must be recognized that all failures, and those who would have been near failure for incomplete records, have been eliminated. This was because it was impossible to determine between those who dropped out of school before the end of the school year, those who finished the year but did not complete their project work, and those who failed. A summarization of grades in vocational agriculture, by groups, is shown in Table 5.

Table 5. Summarization of grades in vocational agriculture, by groups.

	All Boys	Farm Boys	Suburban Boys	City Boys
Number	124	75	27	22
Mean	24.2	24.6	22.0	25.6
S. D.	8.11	8.90	6.65	4.40
P. E. m.	.490	.693	.863	.633

Although no significant difference was found in the boys by residence location, it was found that the mean grade in vocational agriculture for boys who were in the work for three years was  $32.35 \pm .6342$  with a standard deviation of 3.39. This ranks them superior to the rest of the group, as the difference of the means between the entire group and the third year boys is more than 10 times greater than the probable error of the differences of the means of those groups.

#### Home Ownership

About 65 percent of all of the boys in this study came from homes owned by their parents. Two of every three from the farm were from owned homes. Suburban homes had a lower percent of ownership, 55.5 percent. Table 6 shows the status of home ownership, by groups.

Table 6. Status of parents' possession of homes, by groups.

Fathers' Title	All Homes		Farm Homes		Suburban Homes		City Homes	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Ownership	80	64.6	50	66.7	15	55.5	15	68.1
Tenant	44	35.4	25	33.3	12	44.5	7	31.9
Total	124	100.0	75	100.0	27	100.0	22	100.0

In determining the influence of home ownership on present occupation, all of those from owned homes were separated by residence location and present occupation (Table 7).

Table 7. Present occupation of those from owned homes, by location.

Present Occupation	Farm	Owmed Homes Suburban	City
Farming	27	2	0
Allied to Farming	8	1	2
Not Allied to Farming	15	12	19
Total	50	15	15

Seventy three percent of those farming were from owned farm homes, 5.4 percent were from suburban owned homes and none were from city homes. Almost 87 percent of those from city owned homes were in work not allied to farming. Forty eight percent of those from tenant farms were farming.

#### High School Graduates

Eighty four, or 67.7 percent, of all of the boys in this study, were graduates from high school. Sixty of the eighty four, or 71.4 percent of those who graduated, came from homes owned by their fathers. Seventy five percent of all of the boys who came from owned homes were graduated, compared with 34.5 percent of the boys from rented homes.

A slightly smaller percent of farm boys, from owned homes, were graduated, this being seventy percent. Thirteen of the fifteen boys from owned city homes were graduated. Forty seven percent of all of the graduates were farming or engaged in allied activities.

### College Students

As the quarters of the Washburn High School are leased from the Washburn College, and as a part of the college faculty teach a part of their time in the high school, it is to be expected that a high percent of all of the graduates of the high school, who go to college, should chose Washburn College. Twenty nine, or 23.4 percent, of all of the boys attended college. If they were graduated from college was not determined. Although several of this group later transferred to other colleges, twenty three of the twenty nine spent at least one year at Washburn College. Of the six who attended other colleges, five enrolled at Kansas State College, and one at Iowa State College. All of these took college work, either in general agricultural subjects, agricultural journalism, or agricultural engineering. Two others transferred from Washburn College to the Kansas State College for some work. All who attended the Kansas State College were from farm homes owned by their fathers; five

had taken two years, or more, of vocational agriculture, the mean of their grades in vocational agriculture was 29.4 or 5.2 more than the mean grade for the entire group. All are now farming, or engaged in work closely allied to farming, and live in the vicinity of Topeka.

### Marriage

Ninety eight of the 124 boys in this study were married. Of the 26 who remained single, 16 were under twenty seven years of age. Only two of those single were over 30 years old, one of these had a dependent mother and the other one was in the army.

### Present Occupation and Fathers' Occupation

Since 73 percent of those farming are from owned farm homes, it is to be expected that a large part of those whose fathers are farmers, are themselves farming. This is shown in Table 8, comparing the occupations of the fathers' with their sons.



Table 8. Occupations of fathers compared with their sons.

Sons' Occupations	Farming	Fathers' Occupations Allied to Farming	Not Allied to Farming
Farming	37	2	2
Allied to Farming	13	1	4
Not Allied to Farming	27	9	29
Total	77	12	35

Boys whose fathers show no interest in farm business by their residence and occupation, are not inclined to become farmers even though they have shown enough interest in vocational agriculture to complete the required work.

#### Project Efficiency

Standards by which project efficiency may be measured from the tabulated records of project size, and labor income have not been formulated. As it was apparent that little relationship existed between these factors, an attempt was made to correlate each factor with the present occupation divided into but two categories, those in work related to agriculture, and those in work not related to agriculture, using the biserial correlation formula.

The coefficient of correlation between income and present occupation was found to be .48. This was found to be 6.2 times greater than its probable error, which was found to be .077. This is a significant ratio so it may be said that present occupation may be predicted with some degree of accuracy from project income upon groups similar to the sample in this study.

The coefficient of correlation between size and present occupation was found to be  $.315 \pm .085$ . This gave a ratio of 3.7, which is less than the ratio between the coefficient of correlation and its probable error between income and present occupation. This would indicate that project income has a greater predictive value than project size.

## SUMMARY AND CONCLUSIONS

A relationship exists among such environmental conditions as residence location and ownership, and father's occupation, and the work students of vocational agriculture do after they leave high school.

Boys whose fathers were farmers, are more likely to farm than boys whose fathers were not interested in the farm business.

Boys from owned farm homes are more likely to become farmers than those from tenant farm homes.

A part of those boys who take but one or two years of agriculture in high school, are exploring the vocations and may be expected to go into other occupations just as some of those exploring in other fields will later become farmers.

Normally, city and suburban homes do not offer a vocational interest in agriculture and the boys from such homes do not take the advanced courses with their high school work, nor do they enter into the farm business later in life.

Boys from farm homes normally have a vocational interest in the farm business, and if they continue through high school with that interest, as shown by enrollment in ad-

vanced classes in agriculture, a very high percent may be expected to become farmers.

As those who enroll for three years or more of the work are a selected group, they may be expected to be superior in their grades in agriculture to any other group studying that subject.

It may be that project size and income have some value in predicting whether or not a boy will become a farmer because those from farm homes who do become farmers, have experience and facilities that are not shared with those from the city and suburbs.

#### ACKNOWLEDGMENTS

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## BIBLIOGRAPHY

Hoopes, L. B.

Factors affecting establishment in farming. Agr.  
Educ. 10:194-95. Apr. 1938.

Lathrop, F. W.

Recent studies in vocational agriculture related to  
the establishment of young men in farming. Agr.  
Educ. 10:174-75. Mar. 1938.

Pearson, James H.

Progressive establishment of young men in farming  
occupations. Amer. Voc. Assn. Jour. 9(3):131-192.  
Sept. 1936.

Summaries of studies in agricultural education. U. S.  
Dept. Int., Off. Educ., Voc. Educ. Bul. 180. 196 p.  
1935.

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