

A STUDY OF SOME TRAINING FACTORS, ASSOCIATED WITH
THE SUCCESS OR FAILURE OF COOPERATIVE
EXTENSION WORKERS

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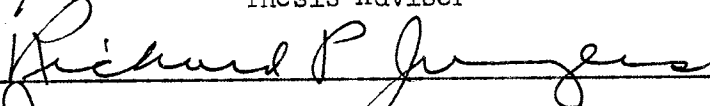
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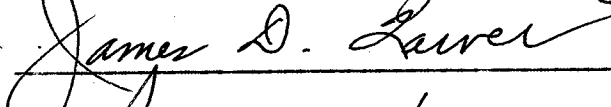
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PREFACE

The Cooperative Extension Service is an educational function carried on in each of the fifty States. Little if any research has ever been undertaken to determine improved methods of training the employees of this organization.

This study is designed to determine if there are significant differences in the formal preparation of a selected group of Extension workers considered highly successful as compared to the formal preparation of a group of fellow employees considered to be unsuccessful. The purpose of this paper is to outline in broad terms, some possible changes in the formal training of Cooperative Extension Service employees.

The author is indebted to Dr. Luther Brannon for guidance and encouragement in undertaking this task.

Special thanks are due my adviser, Dr. Helmer Sorenson, who labored long hours to guide the preparation of this paper. I am also indebted to committee members Drs. Richard Jungers and James Tarver for their able assistance and encouragement.

Mrs. Ann Anderson is due special thanks for her preparation of this manuscript.

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CHAPTER I

INTRODUCTION

The Cooperative Extension Service is a branch of education only forty-five years old, but it is about the last remaining vestige of the Land Grant system still in its original form. Along with other branches of technical agricultural education, the Cooperative Extension Service is now undergoing what the late Secretary Dulles called "an agonizing reappraisal." Extension administrators need to know if there are better ways of selecting and training personnel. This study is being undertaken to see if there are recognizable differences between the course of study taken by highly successful as compared to that taken by unsuccessful employees of the Cooperative Extension Service.

While the Cooperative Extension Service was not formed until 1914, and then in only a few states, it has become a vigorous and vital force in American education. Dr. E. O. Heady of Iowa State University has shown that high farm income per county is closely related to highly intensified Cooperative Extension Service programs in those counties. The extension worker, as county agent, home agent, assistant agent, specialist, or administrator, has long been called the interpreter of

research for farms and homes. Dr. Seaman Knapp,¹ the father of the Cooperative Extension Service, stated that good interpreters were much harder to find or train than were good researchers or practitioners. Many extension administrators have stated in many ways and in many meetings that the persons who fail in our work do so because they do not understand people rather than because they do not understand technical agriculture. Dr. Kenyon L. Butterfield,² of New York and Michigan, was talking as early as 1921 at National Extension meetings about the need for better communicators rather than better technicians. It is with helping to solve the problem of locating and training those interpreters that this writer is concerned.

It must be recognized that anyone who is going to serve the Cooperative Extension Service as a county worker or as a specialist must have real competence in agriculture or home economics. One major problem is that competence in an area on graduation from college does not indicate competence five years later. At the recent centennial observation of Darwin's Origin of Species at the University of Chicago, Dr. Julian Huxley told the assembly that the total sum of human knowledge is now being doubled every ten years. It has been a commonly acknowledged fact that this doubling was occurring every 15 years, but if either figure is accepted one must learn rapidly even to try to stay abreast of current developments.

In the field of agriculture and home economics changes are almost

¹Joseph C. Bailey, Seaman A. Knapp, School Master of American Agriculture (New York, 1931), p. 34.

²A. C. True, A History of Agricultural Extension Work, U.S.D.A. Misc. Pub. No. 15 (Washington D.C.), p. 7.

as rapid as in atomic physics. In poultry husbandry, for example, not only has the entire feeding program from rations to systems to results changed markedly in the past decade, but the economics of keeping chickens has changed from a farm sideline to a multi-million dollar vertically integrated business managed largely by a relatively few men with IBM machines. A well educated poultry husbandry graduate of the early 1940's would be lost in the complexities of today's business without additional knowledge, knowledge not alone in poultry husbandry but also in economics, agricultural chemistry, pharmacy, finance, marketing, and many other fields once outside his sphere of knowledge. Does this not indicate that a broader base for the Cooperative Extension Service worker's knowledge is desirable now?

While much has been said, little or no research has been undertaken on the subject of education of extension workers. A letter to Dr. Hudson W. Fishback, Federal Extension Service Training Director, elicited the response that there was no basic research germane to the problem. He did direct the author's attention to some published works of Dr. Harold C. Love, Farm and Ranch Professor of Agricultural Economics at the University of Houston. Subsequent correspondence with Dr. Love resulted in a two-day visit in his office during which time he helped the author locate much of the pertinent literature quoted in this paper.

The agricultural picture in this nation is undergoing drastic changes. Newspapers and general news magazines frequently allude to farm surpluses, support prices, and dwindling farm populations. Those who are engaged in technical agriculture see and hear the results of the so-called vertical integration of many farm crops. This vertical

integration means that small independent farmers are being displaced by heavily capitalized associations which carry on more than one job in the production and marketing of agricultural products. According to the 1950 census, our farm population has dropped from more than one-half of the total population to thirteen per cent of the total. Informed predictions indicate that a further drop to about eight per cent of the total is expected within five years. The large surpluses of wheat, cotton, and other farm crops are not nearly so frightening as the tremendous surplus of agricultural labor being produced.

Since the Cooperative Extension Service has helped create this surplus of labor, does it not behoove the organization to begin at once to help alleviate it? Many workers in the field of training extension personnel are coming to the conclusion that they must broaden the base so that these people may be better trained to advise farm workers in possible alternatives to continued agricultural production.

Within the past two years a collection of over 2,000 questions submitted by county agents to the state office has been made. These questions show two things: first, they indicate an interest in home improvement, yard beautification, and youth activities outside of school. Many extension workers are woefully lacking in the background that would enable them to answer questions in these fields. This seems to indicate a need for a broader background in agriculture as well as in other subjects. Second, these questions indicate a growing awareness that more and more rural people must earn part of their income away from the farm. This seems to show that extension people must become trained in at least some appreciation of the possible alternatives that farm people have.

Dr. E. O. Heady³ of the University of Iowa thinks that our 4-H training program needs to be drastically altered. He makes the flat statement that one basic answer to the present farm problem lies in keeping farm youth from entering agricultural production. This statement shocks many extension workers. He stated that only by a process of re-education of the workers concerned can the re-education of the young people hope to succeed.

It is difficult for a county agent who has been primarily trained in, and has learned to love, the field of animal husbandry to tell some bright youth that he has little chance of making a living with beef cattle unless he has \$150,000 to invest in the business. Should not our 4-H Club meetings spend some time in showing these young people various alternatives for a life work rather than spend so much time glamorizing fairs and shows and grand champion exhibits?

Farm operators are frequently faced with evidence that big business is taking over agriculture. Automation and mechanization are rapidly entering the picture. The day of the small flock of hens, the fifteen-cow dairy, or the forty-acre patch of corn or cotton is about gone. At present 95 percent of the frying chicken industry is integrated and the farmer is only a laborer. There are several feed lots which feed hundreds of thousands of cattle per year, which need only to clear the manure in order to make a good return on the investment. The farmer who feeds and sells 50 to 100 steers each winter cannot compete with them. It is estimated that the total quantity of eggs needed by this

³E. O. Heady, "Adoption of Extension Education and Auxiliary Aids," Journal of Farm Economics, 39, 1957, p. 114.

nation can be produced by 10,000 large poultry farms within a few years. Contrast this with the fact that, according to the 1950 census, 50,000 Oklahoma farmers are keeping small flocks. It matters not if one approves or disapproves of the present trends; the tide has set in and it behooves all to be sure that the people with whom extension workers are most concerned are not washed away.

It is this writer's conviction that only those people who can see this broader picture can successfully advise rural people in the future. The Cooperative Extension Service job lies not alone with farm people. Extension salaries come from all the tax payers of the country. As larger percentages of these people move to the cities, there will be more and more calls for additional types of information.⁴ The establishment of 4-H Club work in city schools must take place. Oklahoma has had an outstanding 4-H program for many years. This state has won more national awards than any other, but a fact of which extension employees are prouder is that no Oklahoma 4-H Club member has ever been sent to the penitentiary. There are many projects, such as speech, rabbit raising, or home beautification, which can be used now by urban youth. The plan is to add more projects aimed at this larger group. Projects can include auto mechanics, pigeons, art, and music. Surely it will require people with a broad general education to carry on such a program.

⁴Harold C. Love, "Educational Requirements for Extension Workers with Suggestions on In-Service Training," Journal of Farm Economics, 40, 1958, p. 363.

Hypotheses

The writer believes that there will be found to be a significant difference in the amount and kind of preparation between highly successful and unsuccessful cooperative extension workers. The writer further believes that those persons who have taken undergraduate and graduate courses in sociology, communication skills, and education are more likely to be considered highly successful while those persons who have taken more of their work in the fields of technical agriculture to the virtual exclusion of other subjects are more likely to be unsuccessful.

Scope

A preliminary survey of the transcripts of both men and women employees indicated that there was little or no difference in the required curriculum among the women employees. Since the women had little choice and since their course of study was usually much broader than that taken by any of the men, it was decided to limit this study to the men employees of the Cooperative Extension Service.

Limitations

The writer realizes that the classification of persons into the highly successful or the unsuccessful group is a subjective classification. At the present time there is no other method by which employees can be classified.

Summary

The problem of training extension workers does not lend itself to

an easy solution. Many of the remarks stated above, and statements cited from others, will be considered rank heresy by some extension workers.

The author believes, however, that, as the changing scene in agriculture manifests itself more and more, extension people will begin to realize that old-fashioned methods in teaching agriculture are as bad as old-fashioned methods of farming.

CHAPTER II

ORIGINS OF THE COOPERATIVE EXTENSION SERVICE

This chapter reviews the origin and legal basis of the entire Cooperative Extension Service, and outlines the development of training of extension workers with particular emphasis on the training program in Oklahoma. The Cooperative Extension Service is one of the three basic functions now undertaken by the land grant colleges and universities of the various states and territories.

Perhaps a resume of the extension organization as it fits into the educational program of the land grant college system of the United States would be in order. The law establishing this organization and the methods of implementing it in the several states have a bearing on any training program that might be carried on.

There are three types of organization most common among the states.

These are:

1. The Agricultural Vice President type. In this type there is a vice president of the college charged with the responsibility for extension policies, relationships, and general budget. Under him there is usually a director of extension, a director of research, and a dean of the college of agriculture.
2. The Dean and Director type. Here the dean of agriculture also carries the titles of director of extension and director of research. There is an associate director in charge of extension, and associate director in charge of research, and an associate dean in charge of college teaching.
3. The coordinate type. In this type the director of exten-

sion reports to the president and has equal rank with the dean of the college of agriculture and the director of the experiment station. There are instances of this type of organization where the budget, appointments, and general policies may be cleared in the president's office through the dean of agriculture, but the dean of agriculture exercises little active direction of extension operations.⁵

While county agent work, home demonstration work, and 4-H Club work are basic in all of the states, the organization varies from state to state. In many states the 4-H Club work is done by county agents, home agents, and assistant agents. In others the 4-H Club worker is known as a 4-H Club agent. In all states there is a home demonstration leader, and usually there is a 4-H Club leader. Many of the larger states do not have a county agent leader. In these states the director usually works more directly with the district agents to reach the counties on administrative matters. In some states the assistant director performs the duties of the county agent leader and has additional coordination duties relating to all three lines of work. In other states there are two assistant directors, one in charge of agricultural work and one in charge of home economics work. Occasionally there is an assistant director in charge of 4-H Club and youth work.

In most states the supervisors of county agent work, home demonstration work, and 4-H Club work function as a team much like the county agents in the counties. Often one member serves as a sort of chairman for the team. Sometimes this person, usually the agricultural agent, carries additional responsibilities with respect to finances, official relations with appropriating bodies, and over-all program

⁵K. Knaus, Extension History, Objectives, and Class Functions, United States Department of Agriculture, p. 3.

coordination.

All states have a group of subject matter specialists. The specialists serve a staff function. Specialists usually are responsible directly to the extension director. Many states now have a program leader to whom the specialists are responsible for their field work. This latter type of organization is designed to help coordinate the work of specialists so that a farm unit approach can be made to the problems of farm people. Almost universally the departments of the college or university assist in selecting specialists, and the specialists are responsible to their respective subject matter departments for the subject matter they disseminate through bulletins, in meetings, over the radio or television.

All states have a fiscal section which keeps the financial records, does the accounting, keeps the personnel records, and prepares the budget. This is a service group. They advise the director concerning the legality of proposed expenditures but are not otherwise concerned with program operations.

As the Cooperative Extension Service operations have become more complex, the requirements for training have changed. It is no longer enough to have a group of articulate farmers who depend on their ability to demonstrate good agricultural practices as the only teaching method.

No one training course can fit so many diverse operations. It will always be necessary to employ some people who are specialists in a particular field, but would it not be worth considering that these people also need to know the basic techniques of teaching, and of human relations, and the sociological implications of the present agricultural revolution? Another factor to consider is that many

specialists, supervisors, and administrators come up through the ranks after proving themselves capable as county workers.

Extension organization within the county is quite uniform throughout the United States. A few states have a county manager or county executive. This is not common, but, as the county staff becomes larger, county administration becomes more important. In many states one of the agents, usually the agricultural agent, carries certain administrative responsibilities delegated by the state director, such as overall county program coordination and administration of the county budget. The county workers can usually be characterized as a team carrying on a program.

For a number of years the writer has wondered why there is so much difference in the relationship existing between the Extension Service and the rest of the land grant system in different states. For example, in Oklahoma all state level administrators and all full time extension subject matter specialists are housed together in one building. In Texas and Michigan, subject matter specialists are housed with resident instructors and experiment station personnel in subject matter units. Extension administrators are housed separately and have little, if any, effective control over the specialists in matters of travel, subject matter taught, or salaries paid. In the state of Arkansas, a large body of the extension specialists have offices in the city of Little Rock which is more than 100 miles from the land grant university where the rest of the subject matter people and the extension administrators are housed. In California many of the specialists have their offices in the individual counties and rarely see members of the administrative staff. In some of the states named, extension personnel actually draw

Highly questionable information

part of their salaries from land grant teaching funds and/or experiment station monies. They spend a specified percentage of their time in teaching and experimental work while others who are full time members of the teaching faculty do some extension teaching. In Oklahoma the only people paid from more than one source are the heads of the agricultural departments who draw one-third of their salaries from cooperative extension funds.

There is a wide difference of opinion as to which method of procedure is more effective. The writer of this paper has discussed this matter with many extension workers, including both administrators and specialists, from a number of states. The question has been put to heads of departments and teaching and research staff members in the poultry field at several land grant colleges and universities. The answer to this question is never simple or clear cut. There are specific advantages in control when all extension personnel on the state level are housed together. This also tends to increase the "esprit de corps" of the entire extension organization. There are many times when it is necessary for specialists in different subject matter fields to check with each other on programs, and this is easier if they are housed together. The present emphasis on the unit approach to farm and home development programs tends to point up this need. It is also possible to effect some saving in travel funds if state workers are able to travel together on some trips. It is quite true, on the other hand, that something is lost if the extension specialists are housed separately from their colleagues in the teaching and research fields.

In the limited survey carried out, the trend appears to be that

administrators both in the teaching field and in the extension division seem to prefer the type of organization that their particular state has at present. Most specialists asked were of the opinion that the extension program was more effective when all extension division personnel were housed together. In most states there is now a very effective working agreement between subject matter specialists and teaching and research personnel. There seems to be little indication from any state checked that changes from one system to the other were being seriously considered.

Laws Governing the Extension Service

A study of the laws establishing land grant institutions gives us some indication of why organization varies so widely between States. The first Morrill Act, passed in 1862, established the right for states and territories to set up land grant institutions for "education of the industrial classes, including military training, and liberal and practical education."⁶ These institutions got the name "Land Grant" because each state or territory was given 30,000 acres of land for each Senator and Representative according to the census of 1860. They were allowed to sell the land and were then required to invest the principal in United States or state bonds yielding no less than five per cent as a permanent endowment for the college or university. Only ten per cent of the principal could be spent to acquire lands and buildings. It is interesting to note that Oklahoma never received this original land

⁶Miscellaneous Publication No. 285, United States Department of Agriculture, p. 8.

grant. Oklahoma's institutions of higher learning are financed in part by some direct grants of money to land grant colleges made by later Congressional acts and in part by the thirteenth section of land from each 36-section township in the state. Oklahoma State University receives nine-tenths of one-third of the income of the school lands of Oklahoma.

The second Morrill Act was passed in 1890. It provided payments of \$15,000 with yearly increments of \$1,000 for a period of ten years to help run the land grant institutions. This 1890 law acknowledged the doctrine of separate but equal land grant institutions for white and colored for those states that wished to have them. The Nelson amendment to the Morrill Act was passed in 1908 and it allocated \$5,000 to endow further land grant institutions. This amendment was the first to mention that part of the monies could be used to pay for training agricultural teachers.⁷

The Smith-Lever Act of 1914 established the Cooperative Extension Service. This act stated that "the Extension Service may be carried on in cooperation with the United States Department of Agriculture at either one or several land grant institutions in a given state as that state's legislature may decide."⁸ One can see here that a very wide degree of freedom was allowed the states in the first law that set up the Extension Service. However, section 2 of this law states "that cooperative agricultural extension work shall not consist of the giving of instructions and practical demonstrations in agriculture and home

⁷Ibid., p. 8.

⁸Ibid., p. 8.

economics to persons attending or resident in said colleges in the several communities."⁹ It is difficult to reconcile this statement with the fact that in some states extension specialists are required to teach classes in the subject matter department.

The Act goes on to state that the Extension Service shall be carried on "in such manner as may be mutually agreed upon by the Secretary of Agriculture and the state agricultural commission and colleges receiving the benefits of this Act."¹⁰

This Act first allocated each state \$10,000 annually. Starting in 1915, the total Extension Service was to receive the sum of \$600,000 with yearly increments of \$500,000 until a total of \$4,100,000 annually was received. This money was to be appropriated to each state on the basis of the percentage of its rural population to the total rural population of the United States. This money must all be matched by state funds except for the first \$10,000 of each annual appropriation. The law specified that none of this federal money might be spent for land, buildings, college teaching, lecturers, or in any project not specified by the Act. Since it was mandatory for the states to match the funds, they found it necessary to use these matching funds for land and buildings and they probably decided that part of each worker's time which was paid for by state funds might well be spent in any manner that the state decided. This, then, does give a basis for the use of extension personnel in teaching or research at the land grant college or university which is cooperating with the United States Department of

⁹Ibid., p. 8.

¹⁰Ibid., p. 9.

Agriculture in implementing the Smith-Lever Act.

The method of paying county and state workers differs among the states. Many of these differences can be accounted for by the wide latitude given each state in the legislation mentioned above. Since states and counties vary widely in ability to pay, these great differences are to be expected. In Oklahoma each county bears part of the expense for agents' salaries and travel. In the state of Michigan all county extension salaries are paid by the state, and travel expenses and salaries of office and secretarial help are paid by the county. This may seem to be a minor difference, but in the matter of sabbatical leave for additional training at the college level, the difference becomes significant. Agents in Michigan, for example, can take sabbatical leave and draw one-half of their total pay, while agents in Oklahoma may draw one-half only of that portion of their salary not paid by the county. This is probably the main reason why over 90 per cent of the county workers in Michigan have M.S. degrees, while only 30 per cent of the county workers in Oklahoma have such advanced training. In Michigan and some other states large endowments from the Ford and the Kellogg Foundations have also served to increase agent's salaries and to make available additional county workers. In Oklahoma the very limited funds allowed by some counties for this program allow for one man and one woman worker per county. In Texas and some other western states, scarcely populated areas may have only two agents for three or four counties, while in California and Michigan numerous counties have twenty or more extension personnel.

There is justification in law for the widely different relationships between the Extension Service in the land grant institutions of

the various states. The Smith-Lever Act and various amendments have outlined the following documentary basis for cooperation between the land grant institutions and the United States Department of Agriculture to carry on extension work.

During the period 1903-1909, a type of demonstration work was being developed both in the South and in the North under the leadership of such men as Dr. Seaman A. Knapp, Dr. W. J. Spillman, Mr. Perry G. Holden, and others. Work with boys and girls was developing in the form of nature study clubs in New York, Experimental Clubs in Ohio, Corn Clubs in Illinois and Iowa, and canning and garden clubs in the South. Doctors Knapp and Spillman worked for the United States Department of Agriculture.¹¹

In 1907 the Land Grant College Association appointed an extension committee headed by Dr. Kenyon L. Butterfield of Massachusetts. This committee reported to the Association in November, 1908. In recommending an extension service, the report said, in part

"There is little chance of arguments upon the propositions that the organization of resident instruction in agriculture through the Morrill and Nelson Acts and the organization of research in experiment stations through the Hatch and Adams Acts are chiefly responsible for the progress in agricultural education that has been made during the past few decades. We can think of no argument that is ever applied or does not apply to federal appropriations for agricultural colleges and experiment stations that does not equally apply to extension work, which is organic and vital to the development of the functions of the institutions which we represent."¹²

The first extension bill was introduced into Congress in 1909 by Congressman J. C. McLaughlin of Michigan and Senator J. P. Dolliver of

¹¹Joseph C. Bailey, Seaman A. Knapp, School Master of American Agriculture (New York, 1931), p. 16.

¹²A. C. True, A History of Agricultural Extension Work, U.S.D.A. Misc. Pub. No. 15 (Washington, D.C.), p. 7.

Iowa. About the same time a strong movement supported by the National Society for Industrial Education and the American Federation of Labor had developed for vocational education in agriculture, trades and industry, and home economics in secondary schools using federal aid. The committee combined the vocational and the extension bills. Due to the minor consideration given extension, the combined bill was received unfavorably by the Association of Land Grant Colleges.

In 1912 Congressman A. F. Lever of South Carolina and Senator Hoke Smith of Georgia became chairman of the agricultural committees in the House and Senate respectively, and the Smith-Lever Bill was drawn and introduced. The vocational bill was referred to a commission for study. This left the way open for the passage of the Smith-Lever Bill on May 8, 1914.¹³

Among the principles established by the Smith-Lever Act which still are important in extension work are the following:¹⁴

1. It establishes cooperative work between the United States Department of Agriculture and the state land grant college.
2. It provides a basis for work with farmers, with boys and girls, and with homemakers.
3. It provides a basis for work both in the production and marketing of farm products.
4. It emphasizes the demonstration method of teaching.
5. It provides for cooperative financing by both state and federal governments.
6. It provides the basis for the Memorandum of Under-

¹³Ibid., p. 9.

¹⁴Ibid., p. 10.

standing between the State College of Agriculture and the United States Department of Agriculture which sets out the method of administering extension work.

The resume of the laws governing the Cooperative Extension Service has served to show the wide difference in organization and administration in the several states. The main point shown, however, is that all the differences are internal only, and the real purpose of extending education to the people remains the same. The individual state differences in administration are legal and reflect only differences of opinion as to how best to go about the job of interpreting research findings to the people who can use these facts. A highly competent extension worker in one State would probably be highly competent in any other State.

Present Training System in Oklahoma

Oklahoma is most fortunate in that a professional improvement program has both formal and informal legitimation. Dr. A. E. Darlow, Vice President and Dean of Agriculture, states that the county extension office is the front door of Oklahoma State University and the extension agents enjoy all of the privileges extended to the academic employees on the campus. Director L. H. Brannon states that the success of the future of our organization depends to a large degree upon the quality of the training program. Although there had been a training program of some kind since the beginning of extension work, the real need for an adequate professional improvement program was not visualized until 1952 when Director Brannon, who was at the that time assistant director and in charge of personnel, made an intensive survey into the train-

ing of our extension agents. This survey was a source of a part of the data used in his thesis for his DPA degree at Harvard University.¹⁵ This survey revealed the fact that, in general, the agents were well trained in technical subject matter, but a large percentage of them had not had an opportunity while doing undergraduate work to take courses in the field of the social sciences and related subjects, such as methods of teaching, program development, program evaluation, and basic, oral and written communications.

Following this study, under the direction of Dr. Brannon, the three-week summer school was established in 1952. At the time this school was organized the administration of Oklahoma State University approved a policy granting the extension employees three weeks of educational leave each year. The administration also approved the necessary expenses for conducting the school, including subsistence for the agents attending. This first extension summer school was established to meet a definite need of the agents, since it was obvious that only a small number would ever take advantage of the regular regional extension summer schools. These schools have been continued each year since 1952 with the exception of 1957. The following courses have been offered: Extension Teaching Methods, Extension Information, Psychology, Farm and Ranch Management, Program Development, Evaluation in Extension, Communications in Extension, Group Dynamics, Home Management, and History, Functions and Objectives of the Extension Service. This school was patterned

¹⁵Brannon, L. H. Oklahoma Agricultural County Program Development (an unpublished thesis presented at Harvard University, 1950), 381 pages.

after the regular regional extension summer schools for the different regions. The policy established as to who could attend, was to permit one-half of the extension agents to attend each year. This was worked out by the district supervisors and it was understood that only one-half of the agents in each county could attend each year. This plan allowed service to be maintained in each county and permitted each agent to attend every other year. Each course offered carried graduate credit of one and one-half hours and each agent was enrolled in two courses of this choice. Although these courses were approved by the graduate school, the first year a number of agents did not request credit for the work completed. Each year there has been an increase in the graduate work, and in 1958 all of the 155 agents attending took the work for graduate credits.

It is realized that professional improvement is more than graduate study and advanced degrees. The major objective of any training program must always be to equip agents to do a more efficient and effective job of teaching. The extension program can grow only to the extent that it serves the people in all of the 77 counties of Oklahoma. A program must be developed based on the needs of all personnel. The program must take into consideration the basic differences of employees, such as age, tenure, knowledge, interests, attitudes, skills, prejudices, and goals.

Early in 1957 Director Brannon appointed a committee composed of seven members of the central office staff to develop and establish a long-time professional improvement program. This committee recognized in the beginning that technical subject matter had to be a part of the over-all training work. Based on past experiences, they appreciated

the fact that giving out wrong information was worse than giving out no information, so subject matter training must continue as an integral part of the program.

The following professional improvement plan is in effect in Oklahoma for our extension employees:

1. Three weeks of educational leave may be granted all professional workers for professional improvement each year. This may be for study at Oklahoma State University or at some other school selected by the individual.

2. Extension agents are eligible to participate in the sabbatical leave plan granted to the regular academic staff on the campus. This is for one-half of base pay for not more than one year.

3. The three-week extension summer school on the campus of Oklahoma State University offering selected courses at the graduate level will be continued.

4. Orientation and training of new workers will be continued. Each new worker will be given two weeks of induction training at the central office before he is assigned to a county. The present plan is to have all new employees spend a minimum of three months after the induction training in a special county on an acting basis before he or she is assigned to the county in which he is to work.

5. The Cooperative Extension Service shall continue working with the Dean of Resident Instruction in Agriculture and the Dean of Home Economics and the department heads in providing courses on the graduate level in graduate centers over the state. These courses are those needed by the agents to help equip them to do a more effective job of teaching and serving the people. Some of these will be in the field of

technical subject matter.

6. In-Service training must be continued. This will include special short courses, conferences, field days and training in communications. Since the communications training program started, the agents have been given ten days training in district or area meetings. Plans call for continuation of this work, including written communications. It is also the plan to give all new agents employed each year a minimum of one week of training in communications on the campus of Oklahoma State University.

X // Dr. L. H. Brannon in his thesis¹⁶ analyzes the curriculum taken by all Oklahoma Extension workers who were employed up to 1949. His analysis showed that these people spent about 47 per cent of their training in the field of technical agriculture, 11 per cent in biological sciences, 11 per cent in chemistry, and $2\frac{1}{2}$ per cent in mathematics. They had devoted only $1\frac{1}{2}$ per cent of their course work to the field of rural sociology, 2 per cent in the combined fields of education, philosophy, and psychology, and $7\frac{1}{2}$ per cent in the entire field of communications, including the required course in English. Dr. Brannon pointed out that this was a case of overspecialization in technical fields which change rapidly. In the broader field of human relations where changes are more gradual there is an apparent lack of background. Dr. Brannon stated that most of the failures among Extension workers are due to a lack of human understanding rather than a lack of technical knowledge. It is his very positive feeling that more work in other fields is necessary for the future. He thinks that

¹⁶Ibid., p. 181.

training in how to teach is at least as important as what to teach. He also believes that some general courses in psychology, philosophy, and rural sociology would be of benefit to Extension workers. His paper included interviews with a number of county Extension workers and, without exception, they stated that they would be better prepared for the problems they faced if they had taken more work in the humanities while in college.

In looking into this problem the author has contacted several persons in the federal office and those in charge of extension training in other States. The replies always come back in a similar vein. They think it is a good idea to investigate the problem but no one has done much on it.

The training program now in effect in the Oklahoma Extension Service has been built on study and experience. Further study should help to improve the future training program and thereby help the total extension program.

CHAPTER III

PROCEDURE

The purpose of this chapter is to outline and justify the methodology used in investigating this problem. The author considered many possibilities which might provide some insight as to what training factors were associated with successful careers in the Cooperative Extension Service. The objective evaluation of any type of educational process is exceedingly difficult, but some method of choosing a group of workers considered outstanding and a group considered unsatisfactory was essential.

Countless variations of problem design were considered and discussed with leaders, both formal and informal, in the field of education. The possibility of studying the success or failure of extension workers classified first by the curriculum they had taken in college was discarded because many people left the Cooperative Extension Service and went on to great success in other fields. Since the purpose of this study was to locate factors that could be associated with positive success in the extension field, a method of selecting demonstrable success or failure in this area alone was required.

Another possible line of attack, and incidentally one worthy of a more complete study, would be to classify all requests for information coming into the extension offices in the State. This study, if broad enough in scope, would indicate what subject matter areas

should receive more attention in the training of extension workers.

This author did read and classify some two thousand such questions and mention was made of the broad trends in an earlier chapter. The conclusion was forced upon the writer, however, that such a study did not answer the basic question as to how well the total formal training prepared the different workers because:

1. Most questions concerned the two areas of ornamental horticulture and entomology.
2. Many agents without formal training in the particular areas were able to look up current information and supply answers readily because of communicative skill rather than technological skill.
3. The group of questions submitted to the state office is not a true cross section of all questions being asked and answered.

The design finally evolved for this study was a comparison of two groups of male extension workers classified as highly successful or unsuccessful. The comparison between the two groups of people was based on a study of the formal preparation they had received in college. At the time the study was begun there were two-hundred and thirty-five male employees in the educational section of the Oklahoma Extension Service. This experiment was designed to identify fifteen per cent of the highly successful individuals and a similar number who were unsuccessful, or two groups of thirty-five men in each category.

The personal qualities of the persons involved in any group is always a variable. Any classification of exact traits required for any particular job is vague and tenuous. This writer chose to ignore

completely the personal characteristics of all members of the population from which the successful and unsuccessful extension workers were to be chosen and have the men classified by those persons who must finally judge the promotions, salary increments, retention or expulsion, and indeed the success or failure of all Cooperative Extension Service employees.

The task of classifying was quite complex since the Oklahoma Extension Service presently has no objective standard for evaluating personnel. It was decided that those persons placed in the highly successful group must have at least five years of service and that they further must have been given merit increases in salary and promotions. Persons considered unsuccessful were either those who had been discharged, forced to resign, or after a minimum of five years of service were still considered as not meeting the accepted standard of performance on the job.

Those men charged with administrative and/or supervisory responsibility were asked to identify the people who were successful and also people who were not. The list of names of all persons classified for use in the study was destroyed as soon as the transcripts were copied.

In selecting those considered unsuccessful, all those persons were placed in this category who had been discharged in the past ten years. The other persons so classified were those identified as unsuccessful by two or more supervisors and/or administrators. Since salaries and promotions are based on the judgment of these persons, this was thought to be the only practical way to arrive at a defensible classification.

Those persons placed in the highly successful group were chosen in the same manner by the same people. Here again at least two persons in separate interviews and without consultation with each other had to place the person in the outstanding group before he was thus classified.

After a sample of thirty-five men was identified for each group, all of the college transcripts for each man were secured and a complete analysis made under the following eleven classifications:

1. Technical Agriculture - All courses in Animal Husbandry, Agronomy, Agricultural Engineering, Poultry Husbandry, Dairy Husbandry, Entomology beyond the required courses, Agricultural Economics beyond the required courses for those persons who majored in Agricultural Economics.
2. Science - Chemistry, Physics, and required courses in Entomology, Botany and Zoology.
3. Mathematics.
4. Economics - Required courses in Agricultural Economics and other courses in Economics which were taken as electives.
5. Basic English - Only the required courses in English were listed here.
6. Communications - All elected courses in Speech, Journalism, and English.
7. Sociology - All courses taken in the Department of Sociology.
8. Education - All courses in Education, Philosophy and Psychology.
9. Military Science and Physical Education.
10. History - All History and Government courses.
11. Miscellaneous - Any course not classified in the above, such as Art, Wood Working, Religion, Music, for example.

The eleven subject matter areas were chosen after a preliminary look at a number of transcripts. These areas seemed to best locate the subjects of interest projected in the author's hypothesis. The

requirements for all degree programs in agriculture required about the same amount of basic English, history, mathematics, science, and economics. The amount of elective time spent in these and other areas was a desirable fact to have. The areas of sociology, education, and communications were of particular interest to the author because these three disciplines were central to the idea of human relations skills as compared to technological skills in agriculture. All courses in technical agriculture were put in one classification. It was in this area that the largest amount of variation in number of courses chosen as electives was found.

Practically all male extension workers in Oklahoma were found to be graduates of Land Grant colleges or universities who had majored in agriculture. A large number of them had majored in agronomy or animal husbandry, with agricultural education being the third most popular course of study. Some of the men had majored in dairy husbandry, agricultural economics, entomology, poultry husbandry, agricultural engineering, forestry, or general agriculture. The range of courses taken covered practically the entire spectrum of college curricula. Some were found to have changed to the college of agriculture after spending a year or more in other disciplines. Courses taken in more than twenty institutions in more than a dozen States were recorded on the transcripts analyzed in this study.

The choice of statistical treatment presented a problem. Commonly used mathematical formulas for analyzing data were tested, such as differences between averages and the Chi-square test, before the author decided on the use of analysis of variance. The graphic method was not used since it did not consider the large differences between

individuals within each group and compare them to the differences between groups.

The method of analysis of variance was chosen because it seemed the most useful tool by which such data as is here presented could be examined. The fact that the sums of squares, upon which variances are based, are always additive was another reason for choosing this method over standard deviations.¹⁷

The percentage figures for each subject matter area for the Bachelor of Science degree program only were put on I.B.M. cards for each person in the high and low divisions. Then the percentage figure for each subject matter area for the total program for each person were added to these cards, thus making eleven cards for each man. The entire 770 cards were sorted and run through the 650 computer twice to check analysis of variance for each subject matter area for the Bachelor of Science degree programs and for the total program.

A very real problem that arose was the possibility that readers would infer that this writer believed that a liberal arts education per se was of paramount importance to the success of persons in the extension field. This author's educational philosophy is definitely pragmatic. The real issue here is whether or not a broad curriculum for men extension workers is of more value than a narrow one, given the fact that competence in agricultural technology is a requisite.

The judgements expressed by those who named the persons in the

¹⁷Garrett, H. E. Statistics in Psychology and Education. 1948 Longmans, Green and Co., New York. p. 254.

highly successful group would definitely indicate that the amount and kind of technical agriculture courses required in these agriculture colleges were sufficient to prepare competent agricultural workers. In very few cases was a person judged incompetent because of lack of training in agriculture.

Summary

The design of this study includes a penetrating examination of the differences in subject matter chosen during the formal training period by the two groups of people. These two groups represented on the one hand those who had proven over at least a period of five years that they were the type of extension workers that the service requires, and the other group had proven themselves to be poorly suited to the tasks in the extension field. Significant differences between the courses of study selected should indicate a basis for improvement in the training program.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

In any group of more than two hundred men there are bound to be differences in degree of competence. The design of this study was evolved to ascertain if there is a definite relationship between facets of formal training and success in the Cooperative Extension Service. Many administrators in this field have declared it to be their opinion that most workers are competent in the field of agriculture if they pass the requirements for employment. These same administrators have further stated that they believed their workers would be more valuable if they were more skilled in human relations and communications.

A complete record of all college training taken by the successful and unsuccessful male extension workers was taken from their transcripts. The total number of semester hours of credit earned by each person in all undergraduate and graduate courses was added up and divided into the number of hours taken in each of the eleven classifications. (see Table I) This gave a percentage figure for each classification. The percentage for each of the thirty-five persons was then added and divided by thirty-five to arrive at the average percentages shown in Table I. This procedure was followed to allow for the large number of hours taken by some individuals in this group as compared to others. The table, therefore, presents

the average percentage formal training devoted to each of the eleven categories for the thirty-five persons considered most successful and by the thirty-five considered unsuccessful.

TABLE I
AVERAGE PERCENTAGE OF COLLEGE TRAINING IN EACH OF
ELEVEN MAJOR CATEGORIES TAKEN BY SUCCESSFUL
AND UNSUCCESSFUL EXTENSION WORKERS

		Successful	Unsuccessful
1.	Technical Agriculture	33.44	54.91
2.	Science	22.81	19.66
3.	Mathematics	3.72	.69
4.	Economics	8.00	6.35
5.	Basic English	4.16	4.31
6.	Communications	4.97	1.42
7.	Sociology	3.94	1.07
8.	Education	8.29	2.35
9.	Military Science and Physical Education	4.55	3.54
10.	History	2.78	2.86
11.	Miscellaneous	3.34	2.84
		<u>100.00</u>	<u>100.00</u>

Since the most successful persons averaged 174.6 hours of college work each as compared to an average of 139.0 hours for the unsuccessful group, it was thought that a comparison based on Bachelors degrees only might be of value. Table II was compiled in the same way as Table I with the exception that only those courses taken for the Bachelors degree were included. This eliminated undue consideration of the large amount of graduate work taken by the more successful employees.

TABLE II

AVERAGE PERCENTAGE OF COLLEGE TRAINING IN EACH OF ELEVEN
MAJOR CATEGORIES TAKEN BY SUCCESSFUL AND UNSUCCESSFUL
EXTENSION WORKERS - BACHELORS DEGREE ONLY

		Successful	Unsuccessful
1.	Technical Agriculture	37.48	51.92
2.	Science	23.01	22.83
3.	Mathematics	1.87	.54
4.	Economics	8.20	6.85
5.	Basic English	5.66	5.60
6.	Communications	3.92	1.36
7.	Sociology	2.84	.81
8.	Education	6.12	.67
9.	Military Science and Physical Education	4.97	3.91
10.	History	2.91	2.90
11.	Miscellaneous	<u>3.02</u>	<u>2.61</u>
		100.00	100.00

The above tables present an interesting comparison, but a more discriminating analysis is needed. The data in both tables were examined statistically by the method of analysis of variance, Snedecor (1956).

The statistical analysis presented here will critically examine each area of study and attempt to draw conclusions about the significance, or lack of it, between the courses of study elected by the two groups of people. The following tables present a statistical analysis of the curriculum taken by the successful and unsuccessful groups in receiving their Bachelor of Science degrees. In each subject matter area there is one degree of freedom between the two groups and sixty-

eight degrees of freedom within groups since there are thirty-five people in each of two groups.

TABLE III

TABLE OF ANALYSIS OF VARIANCE BETWEEN TWO GROUPS OF COOPERATIVE EXTENSION WORKERS IN FORMAL PREPARATION IN THE AREA OF TECHNICAL AGRICULTURE - BACHELORS DEGREE ONLY

Subject Matter Area	Mean Squares		Calculated F Value
	Between Groups	Within Groups	
Technical Agriculture	4166.94	45.69	91.20

Note: The F values for one and five percent levels of significance where $F_{\frac{1}{68}}$ are, respectively, 7.01 and 3.98.

The value for F in the field of technical agriculture indicates a significantly smaller amount of course work taken in this area by the highly successful workers as compared to the unsuccessful. In all other subject matter areas the significant values for F indicate a greater amount of course work in each subject for the successful men.

The F value for technical agriculture is significant at the one percent level. This result bears out the statements by Dr. Brannon and others mentioned in the first chapter of this paper, that lack of training in technical agriculture is not presently a weakness in the field. Since the people with smaller numbers of credit hours in this area are still judged competent in agricultural practices, perhaps more time could be spent in other disciplines. The conclusion seems inescapable that persons in the Cooperative Extension Service could well spend more of their training time in fields other than technical agriculture.

TABLE IV

TABLE OF ANALYSIS OF VARIANCE BETWEEN TWO GROUPS OF COOPERATIVE
EXTENSION WORKERS IN FORMAL PREPARATION IN TEN
MAJOR AREAS - BACHELORS DEGREE ONLY

Subject Matter Area	Mean Squares		Calculated F Value
	Between Groups	Within Groups	
Science	.81	24.92	.03
Mathematics	32.30	3.23	9.72*
Economics	31.90	5.86	5.44**
Basic English	.07	2.37	.003
Communications	115.71	1.99	58.10*
Sociology	73.37	6.36	11.53*
Education	519.79	16.14	32.20*
Military Science and Physical Education	41.11	9.72	4.22**
History	.06	1.03	.05
Miscellaneous	.73	7.37	.09

*Significant at one percent level

**Significant at five percent level

Note: The F values for one and five percent levels of significance where $F_{\frac{1}{68}}$ are, respectively, 7.01 and 3.98.

The value for F in the field of science indicates there is no significant difference between the two groups. In the prescribed curriculum for Bachelor of Science in agriculture the sciences requirements are quite high and few persons elect additional courses in this field before obtaining the Bachelor of Science degree.

The F value in mathematics is significant at the one percent level. The amount of mathematics taken by students in the field of

agriculture is usually quite small, since no mathematics was required at the time most of the persons involved in this study were undergraduates. The study does indicate that those persons who elected to take mathematics courses were more likely to be successful Cooperative Extension workers than were those who did not. Most of the mathematics recorded on the transcripts were in the field of statistics and practically all of the persons taking such courses later enrolled in the graduate school.

The value for F in economics is significant at the five percent level. Most persons whose transcripts were studied took the required amount of agricultural economics and a few took electives in this field or in economics outside of the field of agriculture.

The requirements for basic English were so constant that no significant differences were shown here nor were any expected. There is some variation in the requirements in different institutions but the over-all average was approximately six credit hours for a Bachelor of Science degree in Agriculture.

The F value in communications is the second highest in the eleven areas under consideration and is significant at the one percent level. Almost without exception the thirty-five persons who were highly successful in Cooperative Extension work were people who elected to take courses in speech, journalism and advanced English over and above the required. For people in educational work this area would be expected to be quite important and the figures certainly bear out this assumption.

In the subject of sociology again we have a field of study in which the difference is significant at the one percent level. There

was a wider variation of the amount taken by individuals within groups than in the case of communications, but the people who later became successful were much more likely to have elective courses in this field.

The value for F in education indicates a significant difference at the one percent level. A number of the persons in the highly successful group majored in Agricultural Education and in some cases taught Vocational Agriculture for several years before entering the Cooperative Extension Service. Some others were graduates of colleges of education and taught school before joining the organization. In other cases courses in teaching methods were chosen as electives by persons in various fields of technical agriculture.

The F value for military science and physical education was significant at the five percent level. It was observed that a number of the persons in the highly successful group took advanced military science or lettered in sports. There was a great deal of variation in this area between persons since some took no military science at all and others received as high as twelve hours credit in this field.

There is no significant difference to the F value for history. The requirements for history are much the same in practically all institutions and in all courses of study taken by the people involved in this study. Very few persons elected any history courses outside the requirements.

The F value for the miscellaneous category again indicates no significant difference. Courses in this category were those that could not be classified in the other ten areas listed.

Total Formal Education Program

The next two tables indicate the analysis of variance between the highly successful and unsuccessful Cooperative Extension workers based on their entire curriculum up until June 1, 1959. The group classified as highly successful had an average of 174.6 college credits per man with a range from 130 hours to 260 hours. That group classified as unsuccessful had taken an average of 139 hours per man or approximately nine hours in graduate school as compared to forty-four hours for the group considered successful.

The training program now under way in Oklahoma was largely responsible for about nine hours of graduate work per person since 1952. Each employee had been allowed to take three hours of graduate credit in alternating summer sessions during this period. Practically all persons had taken this work since they were given educational leave and their expenses were paid. Much of the work was in the fields of Extension Philosophy, Psychology, Communications and Agricultural Economics.

TABLE V

TABLE OF ANALYSIS OF VARIANCE BETWEEN TWO GROUPS OF COOPERATIVE EXTENSION WORKERS IN FORMAL PREPARATION IN THE AREA OF TECHNICAL AGRICULTURE

Subject Matter Area	Mean Squares		Calculated F Value
	Between Groups	Within Groups	
Technical Agriculture	7548.33	37.84	199.49

Note: The F values for one and five percent levels of significance where $F \frac{1}{68}$ are, respectively, 7.01 and 3.98.

The F value here shows again a significantly smaller amount of

preparation in technical agriculture for the most successful group of people as compared to the unsuccessful.

The F value for technical agriculture is significant at the one percent level. It would be noticed that the F value is more than double the one shown for technical agriculture when Bachelor of Science degrees only were studied. Persons in the highly successful group who had taken a broader curriculum while working on a Bachelor of Science degree continued to elect courses in other fields in their graduate programs. A number of persons in the unsuccessful group who had taken graduate training had continued specializing in the technical agriculture field in which they had received their Bachelor of Science degree.

TABLE VI

TABLE OF ANALYSIS OF VARIANCE BETWEEN TWO GROUPS OF COOPERATIVE EXTENSION WORKERS IN FORMAL PREPARATION IN TEN AREAS

Subject Matter Area	Mean Squares		Calculated F Value
	Between Groups	Within Groups	
Science	167.71	9.46	17.69
Mathematics	160.72	4.11	39.10
Economics	47.47	2.68	17.71
Basic English	.16	.41	.39
Communications	227.73	3.12	72.99
Sociology	133.50	4.01	33.29
Education	617.46	4.29	143.93
Military Science and Physical Education	19.89	7.42	2.68
History	5.91	7.95	.75
Miscellaneous	.10	.27	.37

Note: The F values for one and five percent levels of significance where $F_{\frac{1}{68}}$ are, respectively, 7.01 and 3.98.

The F value for science is significant at the one percent level in this part of the study. In this subject matter area there was no significant difference between two groups under observation when working on their Bachelor of Science degree. The figures obtained here indicate that the successful persons had devoted a considerably higher portion of their graduate study to the field of science.

There is an extremely high F value in mathematics when graduate work is considered, and it is significant at the one percent level. Many of the persons observed have taken six or more hours of statistics in their graduate program while the unsuccessful persons have taken little if any mathematics of any sort. The fact that statistics is required in most graduate programs probably accounts for much of the difference here.

Difference between the two groups in electing courses in economics is significant at the one percent level whereas it was only significant at five percent when the persons involved were working on Bachelor of Science degrees. Most persons who have carried on graduate programs, leading to a Masters or Doctors degree, have elected to take a number of courses in agricultural economics and in the economics department in the College of Business.

As would be expected the F value for basic English is still not significant since it represents required courses and no additional requirements were made in graduate school.

The F value for communications is still significant at the one percent level just as it was in the undergraduate training program. Those persons considered most successful are still much more likely to elect courses in journalism, speech and advanced English as compared

to those persons unsuccessful within the scope of this study.

The value for F in sociology is about three times as great as it was in the comparison on persons getting their Bachelor of Science degrees, and is still significant at the one percent level. The successful group spent a great deal more time in study in the field of sociology in their graduate training than they did when they were undergraduates. The unsuccessful persons also are more likely to get sociology as graduate students but not at the rate of their more successful co-workers.

The F value found for education is the second highest of all in that portion of the study based on the total curriculum. Almost every person in the highly successful group had taken one or more courses in this field as a graduate student. In most cases these courses were electives rather than required.

The difference between groups in military science and physical education is found to be not significant when the total program was studied. The much larger number of hours taken by the successful person in their graduate program lowered the percentage of their total time which was devoted to these fields since no military science or physical education was taken by either group as graduate students. Fewer number of hours recorded in the unsuccessful group as compared to the successful made the difference less. Whereas the difference was significant at the five percent level on the Bachelor of Science degree programs only, there is no significant difference when the total is studied.

The F value for history is not significant. Very few persons took history or government courses in their graduate program.

The F value for miscellaneous again indicates there is no significant difference between the two groups in the courses which the author is unable to classify into the ten areas.

Summary

The figures shown above show quite positively that there is a wide difference in the type of training selected by successful Cooperative Extension workers as compared to unsuccessful workers in the same field. The research findings reported here bear out the writer's hypothesis that a broad curriculum in the formal training is more likely to be associated with success. The fact that the unsuccessful persons spend most of their elective time in the field of technical agriculture in both undergraduate and graduate programs is particularly significant. This means that they do not have time to select courses in the social sciences or communicative skills.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

An analysis was made of the formal preparation of thirty-five highly successful and thirty-five unsuccessful male Cooperative Extension workers in Oklahoma. This study included only those with at least five years of well above average work attainment during the period from 1954 to 1959 inclusive or those persons who had failed to meet acceptable performance standards since 1951.

The college transcripts of the seventy persons chosen were collected and studied. The percentages of their training in each of eleven major areas were computed and listed on I.B.M. cards. The data were subjected to an analysis of variance test which indicated definite relationships between a broad curriculum, including communication skills, sociology, education and mathematics, and success; and a correspondingly definite relationship between a more narrow specialization in technical agriculture and failure on the job as a Cooperative Extension worker.

Conclusions

One broad overriding conclusion must be drawn from the study of the data presented in this thesis. In the Oklahoma Cooperative Extension

sion Service those persons considered to be most successful, at the present time, undertook a much broader field of study in their undergraduate and graduate programs than did those persons who were considered unsuccessful. It may well be that people who are the type that select the broad curriculum are more fitted to be successful workers in the Extension Service because of personality or other factors. It is quite possible, on the other hand, that a broader curriculum is instrumental in making these people more valuable to the organization in which they are employed. This thesis does not attempt to answer this question. For which ever reason, the conclusion seems to be quite valid that those persons who have spent part of their training period in the social sciences have a better chance of making successful careers in the Cooperative Extension Service.

The extremely high F values observed in such fields as education, communications, and sociology bear out the contention that human relation skills are more important for people in this line of work than exclusive emphasis on agricultural technology. It does not matter how much knowledge a person has in a given technical area if this person cannot interpret and communicate this knowledge to persons who can benefit from it. The fact that the difference between the successful and unsuccessful practitioners of the art of extension teaching is weighted so heavily in favor of those who chose a broad curriculum is even more significant than the F values obtained.

Since technical advances are coming at such a tremendous rate in the field of agriculture, that person who is highly competent today may be hopelessly lost and out of date within five years if he is not able to communicate with those people discovering the new techniques

and new applications. The Cooperative Extension Service must continue to have certain staff members who are specialized in each of the fields of technical agriculture, and to locate and employ persons who can perform staff functions in other areas since the administration must of necessity become more and more complex. This thesis does not argue the point that all Cooperative Extension Service employees must have a general education, but that those people who are directly concerned with the interpretation and dissemination of technical knowledge must have human relations skills as well as technical facts and skills.

Recommendations

The significant differences observed in the average training of the two types of Extension workers discussed in this study are worthy of consideration. Further study in other states would be of value. If the figures found here are substantiated by further research, the training program for extension employees should be re-oriented towards a broader and more general curriculum.

The recent preliminary census figures released for the State of Oklahoma underscore dramatically the changing public with which the Cooperative Extension Service must deal. Not only must the successful worker keep abreast of new developments in the field of agriculture but he must also be alert to new possibilities of serving the people in ways and in subjects once thought entirely foreign to this organization. This author submits that only those persons who are highly skilled in human relations can continue to be effective.

The ever widening scope of a forward looking Cooperative Extension program will call for competencies not previously considered germane.

The extension worker of tomorrow must be able to communicate to a larger and radically reoriented audience. The overwhelming increase in the total sum of human knowledge presents a challenge to all. Some specialists will need to become more and more specialized in technical fields, but the men and women in the county offices who are the real shock troops of this branch of education must have a broader and necessarily more general type of training.

Land Grant colleges and universities have long been reluctant to set up four year programs leading to proficiency in extension work because of the implication that persons so trained must be employed by the Cooperative Extension Service. This writer suggests that a training program that would be excellent preparation for a county agent would also be excellent preparation for many of the jobs in foreign service, farm management, or sales or service work in that large area called "Agri-business." A broad limit curriculum for extension type workers in the field of agriculture would fill a crying need.

In the absence of a definite undergraduate training program for extension employees, those charged with in-service training leadership might well consider the findings of this study. Graduate courses in the areas which are significantly allied to success could easily be instigated. Informal types of training could readily draw upon the many fine resources of Land Grant colleges and universities to implement the total training needs.

The Cooperative Extension Service must truly extend educational experiences within as well as without the organization.

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Thesis: A STUDY OF SOME TRAINING FACTORS ASSOCIATED WITH THE SUCCESS OR FAILURE OF COOPERATIVE EXTENSION WORKERS

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Professional experience: Taught Poultry Husbandry at the Agricultural and Mechanical College of Texas in 1941-42; entered United States Marine Corps in December 1942, discharged in 1945; Assistant Professor Poultry Husbandry, University of Georgia, 1945-46; Coordinator of Vocational Education, Wise county Vocational School, Decatur, Texas, in 1946-50; Extension Poultry Specialist, Oklahoma State University, 1951 to present.