

WHAT IS OUR NEXT STEP IN RESEARCH?

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A new era is beginning to unfold in research in agricultural education. We have passed through the first stage of learning how to walk and now are ready to take steps which will enable us to look deeper into the problems which are before us. This new era is providing opportunities for researchers to identify the causes rather than symptoms.

The basic descriptive research performed in the past in agricultural education presented an overall view of the problems of the profession. It is now important that we make use of this descriptive work to aid in the identification of specific areas which will aid in finding answers to more basic problems. In the last few issues of Summaries of Studies in Agricultural Education more studies of advanced design have been reported, however the large majority are still descriptive in nature. One hundred and six studies were reported in Supplement number 14. Only two of these were experimental and 15 were comparative-causal in nature and used statistical treatments in the analysis. Supplement number 15 contained summaries of 100 studies. One was experimental and 19 comparative-causal. The remainder were either descriptive or sampling survey type studies.

Importance of Design

Research workers in Agricultural Education need to be more aware of the basic types of design which apply to research in education. If we are to perform experimental and comparative-causal types of research in addition to the descriptive it is important that we have a knowledge of the designs which make this type of research possible. Descriptive studies can be made much more valuable by making use of simple classification within the population. With little additional expense or time involved the researcher may discover basic differences that may exist. He may find differences within the population which would not have been found if no classification had been made. A few extra hours spent in designing a study will often make the results much more valuable.

We now need to look for relationships, causes and effects. We need to be concerned with the differences or similarities of criterion measures being studied. Effective controls must be built into the basic designs, before the study begins rather than as an after thought.

There are various types of controls that can be built into experimental research designs. The first is concerned with the variables being studied in order to determine their effect upon the desired outcomes. The second is controlling outside variables that may have an effect upon those being studied. Classification of certain characteristics within the population tend to act as a control when the effect of these characteristics can be measured. A control or no-treatment group may also be employed to compare with those groups where special treatments have been introduced. Certain statistical procedures are also very helpful in controlling the influences of certain variables. Analysis of covariance techniques enable the researcher to determine and thus control the influence of variables which can be measured quantitatively. Multiple regression analysis aids in determining the influence or relationship of variables which occur simultaneously and whose relationships may be different when occurring by themselves. Analysis of variance aids us in determining interaction of different variables or classifications in a research problem. More research workers in agricultural education now have training in statistical techniques than previously. This better prepares us to make proper use of statistical treatments in research studies and thereby perform more effective research.

Additional Tools and Funds

Another extremely important tool which is now available to research workers is high speed electronic computers. These machines make it possible to not only do computation faster but also make a more complete analysis of data than was before possible. Nearly all universities now have computers and personnel available to help in using them if we will but work with them and design studies which can be programmed.

New sources of funds for financing research are available. In some institutions staff members of the Department of Agricultural Education are recognized as members of the agricultural experiment station staff, and research studies in agricultural education are given financial support from station funds. Research grants from the Department of Health, Education and Welfare and from various foundations are also available on a limited scale. It is our responsibility to select and design studies which are worthy of consideration.

Group Effort Effective

Team research methods are now beginning to be employed. Persons in education are conducting research with the assistance of those in the subject matter fields. Problems are being attacked by groups of graduate students each seeking answers to special aspects of the major problem. With much of the research being accomplished on the masters level this would provide for more efficient use of their time. The master's problems could be coordinated into the more comprehensive staff or departmental research program.

The time for decision is here! Are we going to continue to do surveys that are only "descriptive" in nature or are we going to progress forward and take advantage of the different methods and tools which are available for our use?