Agricultural educators time usage in different quality programs in seven western states
by Randall Dean Violett

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Agricultural Education
Montana State University

Abstract:
The purpose of the study was to determine how secondary agricultural educators in seven western states utilize their time during the instructional day and its comparison to the perceived quality of the agricultural education program.

This casual, comparative research method identified the high and low quality secondary agricultural education programs in the following states: Arizona, Colorado, Idaho, Montana, Nevada, Utah, and Wyoming. These states were selected as a stratum of the agricultural education profession because of their similarities in number of programs, number of instructors in each program, type of agriculture employed in the state, and their general location to each other. The sampling population of various quality programs was determined by matching the selections of two experts in each state. The experts used for this study were the state supervisor and the past president of the teachers association.

Once the population was identified and mailed instruments, the responses from the demographic survey and the time log were entered into a spreadsheet file using Microsoft Excel (1994). This was accomplished for later frequency analysis of the data. The data was then imported into SPSS-X (1995) for the analysis of variance using a One-Way ANOVA at a 0.05 level for significant nominal differences.

The data from this study revealed several factors which could impact the agricultural education profession in a very positive manner. The use of a time log to document the various quality programs so a comparison of time utilization can be determined is the most far reaching impact resolved from this study. If the profession utilizes this research method more frequently, the participants will learn where their time is being spent and how to change the utilization of time. This will make the profession stronger by providing information on the time requirements of operating a successful program.

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APPROVAL

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Randall Dean Violett

This thesis has been read by each member of the graduate committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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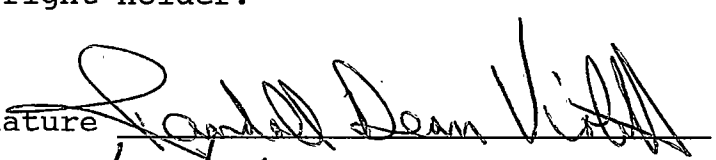
Signature 

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ABSTRACT

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CHAPTER 1

THE PROBLEM AND ITS SETTING

Introduction

Education is a very unforgiving profession when it comes to being prepared for the daily lessons. There is no faster way for a teacher to experience discipline, attitude, morale, and even performance problems than by being caught unprepared. Students recognize unpreparedness and are very critical of the teacher and take advantage of the situation. It is a position of helplessness and nobody can take the blame except the unprepared teacher. Blame is not the issue nor should it be. The issue is how to prevent the teacher from feeling helpless.

There are many reasons why a teacher may not be prepared for instruction. However, a 1994 report from the National Education Commission on Time and Learning reported:

> Time is the missing element in our great national debate about learning and the need for higher standards for all students. Our schools and the people involved with them--students, teachers, administrators, parents, and staff--are prisoners of time. (p. 1)

Time is the one thing we all seem to be short of no matter what our profession. It is no secret that the management of time and stress in the work place has become a

major concern of industry and education today. Huffstutter and Smith (1989) wrote, "This true 'Worker's Dilemma' has definitely not bypassed the schools" (p. 314). This is true in all facets of education and is not specific to any one discipline. However, a discipline such as agricultural education requires even more time of the teacher. This is evident due to the extended contract agricultural education programs commonly have in place from the teacher. The different subject areas taught, such as leadership, animal science, plant science, and welding, are examples of the knowledge base expected of an agricultural education instructor. These subjects are covered in the typical agricultural program in a year-long grade level type of course. This requires the instructor to prepare for at least four separate courses offering different levels of a diverse curriculum.

The fact that there are more requirements placed on the agriculture teacher also becomes apparent when consideration of the Supervised Agricultural Experience Program (SAEP) and the FFA portions of the agricultural education program is thrown into the equation. The SAEP and the FFA organization are the two major reasons extended contracts are offered to agricultural education teachers.

In 1988 the National Research Council reported that "the science, technology, and business of agriculture are growing rapidly in complexity" (p. 39), thus challenging the

agricultural education profession to keep up and remain current in the science and technology of the industry. This challenge makes preparation time for classroom instruction by the agricultural education instructor that much more valuable to the success of the total program. With the additional aspects of an agricultural education program that extend past the classroom, the use of preparation time is very valuable. Very few professions are faced with the challenge of keeping up with the science and technology of an industry as diverse as agriculture. In addition, the educator must stay abreast of the most current teaching methods to remain an active participant in the education profession. Nothing could be more exciting to a professional than to be challenged to this degree.

However, there are some discomforting drawbacks that come with a profession that has so many challenges. The most noticeable of these drawbacks is the frustration of determining what, when, and how some new technology should be taught. When, in an already massive curriculum, should the new information and technology be introduced to the students? The time requirement in preparing for a class when the majority of the material is new to the instructor is overwhelming. Instructors with many years of experience are feeling like beginning instructors because of the fast development of new information and technology. Preparation time begins to consume any extra time the instructor would

have to take advantage of other professional development opportunities such as attending workshops. It soon becomes a matter of choice for the instructor. An instructor must choose between staying in a comfort zone and teaching outdated material or spending endless hours in preparing to teach an up-to-date program. It is apparent that instructors, in up-to-date programs, must seriously consider how they manage their time on a daily basis. It is the tenuous situation of a devoted, proactive instructor that is the impetus for this study.

The Purpose of the Study

The purpose of the study was to determine how secondary agricultural educators in seven western states utilize their time during the instructional day and its comparison to the perceived quality of the agricultural education program.

Need for the Study

The agricultural education program is a very complex model of education. The three major components of the program are classroom instruction, Supervised Agricultural Experience (SAE), and the FFA. Besides the traditional classroom, agricultural education uses the school, home, and work-place as "classrooms" for teaching students about agriculture. It is complex because it is difficult to measure where the student learned a specific skill in a

program that promotes learning outside of the classroom. One of the findings of the 1988 National Research Council stated, "Vocational agriculture programs are uneven in quality" (p. 3). This is true because the three components are prioritized differently by the instructors across the nation. However, this does not make the classroom instruction any less important than if it were a traditional core program.

The three program components, SAE, FFA, and classroom instruction, make it difficult for the instructor to determine how to prioritize his/her time. There is simply more of a demand for the agricultural education instructor's time than there is time in a day. Dr. Jamie Cano (1992) wrote in an issue of the Agricultural Education Magazine, "Teaching is tough, and that is why agriculture teachers have so many legitimate concerns and problems. One fact which is undeniable, however, is that the cornerstone of the agriculture program is and must be the teacher" (p. 4).

Studies have shown that the large time requirement for agricultural educators is among the top reasons why teachers leave the profession. Moore and Camp (1979) stated that "the highest ranking factor given by former teachers as to why they left teaching was long hours" (p. 12).

The priorities in terms of use of time has also gained researchers' attention and has been studied. Warren and Flowers (1992) found that North Carolina agriculture teachers spent a total of 3.21 hours per week on Supervised

Agriculture Experience Programs (SAEP), suggesting there are higher priorities during the week. However, the time spent preparing for instruction within the agricultural education profession has not yet received that much attention from researchers.

Preparation time is becoming an important issue because the advancement of technology and rapid growth of the information age makes it more difficult for agricultural education teachers to keep current. Warren and Flowers' (1992) research showed where there was an increase in time invested in the SAE program by the instructor, the quality of the SAE program was higher. Is there a similar relationship with instruction and the overall program? The National Research Council suggest that the profession identify and define the problems and causes of program quality.

Where do agricultural educators draw the line and say that there is not enough time in a day to stay abreast of technology and incorporate it into their curriculum? This adds a new level of frustration for educators, but especially for the agricultural educator who monitors the three components of the program.

Objectives

To meet the purpose of this study, the following objectives were identified:

1. To determine how secondary agricultural education teachers utilize their time.
2. To determine the relationship between time spent on instructional preparation and program quality.

Assumptions

The following assumptions were made concerning this study:

1. The state supervisor and past president of the state agriculture teachers association can identify the high and low quality programs within their state by using specific criteria.
2. Time requirements are not as much a factor in multi-teacher departments as they are in single-teacher programs.
3. Single-teacher programs are still the norm for agricultural education in the country.
4. Increasing the quality of time spent in preparing for instruction will result in improved educational programs.

Limitations

The study was conducted in a manner such that the selection of quality programs placed limitations on the study in the following ways:

1. The study took place during the 1995-96 academic school year with the time use data collected May 6 through May 12, 1996.
2. The time of year in reference to the academics and activities being supervised by the instructor.
3. The level of knowledge the state supervisor and past president have about different programs may affect their ability to select excellent and poor quality programs.
4. The study was limited to single-teacher programs, with three or more years teaching experience, from the following states: Arizona, Colorado, Idaho, Montana, Nevada, Utah, and Wyoming.

Definitions

Agricultural Education Instructor: The person who is responsible for the daily instruction of agricultural concepts and is the FFA advisor.

Classroom Instruction: The period of time within the structure of the school day that the instructor considers instructional contract time.

Excellent Quality Program: A program that was selected by both experts as being of excellent quality based on the following six criteria:

(1) Instructional techniques - The instructor uses effective and different methods of instruction;

(2) Technologically advanced - The instructor uses or has access to technical equipment;

(3) Instructional methodology - The instructor uses several styles of instruction;

(4) Current and up-to-date - The instructor maintains a current curriculum;

(5) Leadership and awards - The instructor has been recognized by an educational or agricultural organization as being outstanding; and

(6) FFA and SAE instruction - The instructor incorporates FFA and SAE into daily instruction.

Fair Quality Program: A program selected by only one of the experts as qualifying for a poor quality program. The other expert did not select the program as either excellent or poor. This level of quality was used to increase the population size of this study.

FFA: The national youth organization that is an integral part of the agricultural education program.

Past President: The individual who served as President of the States Agriculture Teachers Association during the 1994-1995 academic year.

Personal Time: The time committed by the instructor that is not outlined within a contract.

Poor Quality Program: A poor quality program is one that was selected by both of the experts as a program having the following six criteria:

(1) Instructional techniques - The instructor does not use different methods of instruction;

(2) Technologically advanced - The instructor does not use new technology as it becomes available;

(3) Instructional methodology - The instructor only uses traditional lecture style of instruction;

(4) Current and up-to-date - The instructor does not attend Up-Date Conferences nor uses current curriculum material;

(5) Leadership and awards - The instructor has not received any awards for being outstanding; and

(6) FFA and SAE instruction - The instructor does not incorporate FFA and SAE into daily instruction.

Preparation Period: The time that is scheduled within the instructional day that the instructor has to prepare for instruction.

Program Evaluation Instrument: The instrument compiled by the author to assist the state supervisor and past president in selecting excellent, fair, and poor quality programs within their respective states.

SAE: Supervised Agricultural Experience is the portion of the agricultural education program that is conducted outside of the class setting where students apply the knowledge, skills, and attitudes that have been learned in the instructional program.

State Supervisor: The individual at the State Office of Education or at the State University who is responsible for agricultural education and reports to the National FFA office.

Time Log: Instrument used to keep track of seven consecutive days to determine the time spent within a day by the instructor. This was to include a weekend to help determine the amount of personal time used by the instructor in preparing for instruction.

CHAPTER 2

REVIEW OF LITERATURE

The review of literature covered five sections: (1) introduction; (2) time utilization; (3) measuring quality of programs; (4) agricultural education experts; and (5) daily time log. The five sections laid the basis of the study, supporting the need for the study.

Introduction

Public Law 102-62 (The Education Council Act of 1991) called for the creation of the National Education Commission on Time and Learning to serve as an advisory body for the review of the relationship between time and learning in the nation's schools. This nine-member commission spent two years traveling throughout the United States visiting school administrators, teachers, students, parents, and other experts in education. They visited schools in Japan and Germany on a fact-finding mission. The findings of this commission set the foundation for this study.

One of the five recommendations mentioned in the findings of the commission was "give teachers the time they need. We recommend that teachers be provided with the professional time and opportunities they need to do their

jobs" (National Education Commission on Time and Learning, p. 1). This recommendation was of extreme importance to this study, for it explained the lack of time for preparation, planning, cooperation, or professional development provided to American teachers. "The commission believed that time for planning and professional development is urgently needed; not as a frill or an add-on, but as a major aspect of the agreement between teachers and districts" (p. 1). This concept is taking place in most agricultural education programs with the use of extended contracts.

However, along with the extended contract comes additional duties associated with SAE and FFA programs. It is a fact that teachers need time to develop effective lessons and to assist students individually. The commission reported, "According to a RAND study, new teaching strategies can require as much as 50 hours of instruction, practice and coaching before teachers become comfortable with them" (National Education Commission on Time and Learning, p. 4). It is also recognized that some teachers are more effective with the time that is available. According to a video by Brian Tracy (1990), the individual's success in life and career depends solely on the effectiveness of that individual's ability to manage time, thus bringing to the forefront the topic of time management in the education profession.

Time Utilization

Huffstutter and Smith (1982) proclaimed that time and stress management are one and the same and time cannot be separated from stress. In the agricultural education profession time/stress has been blamed for causing teacher burnout. Osborne (1992) wrote: "The stress, heavy workload, and constant pressure to be better has resulted in a profession that literally devours its young and forces them to look elsewhere for professional and personal satisfaction" (p. 3). This is a common occurrence and has affected the profession in a very dramatic fashion. Johnson, Lindhardt and Stewart (1989) stated, "The priorities which agriculture teachers set for the use of their time have been studied by agricultural educators" (p. 55). The studies which are referred to primarily consider how the instructor devotes his/her time to the three components: SAE, FFA, and classroom instruction. Warren and Flowers (1992) wrote:

> Increased demands on instructor time may be contributing to the decline in SAE participation and the teacher involvement. Cole (1981) reported average work weeks of between 45 and 65 hours for the agricultural education instructors. With the push for more comprehensive agriculture programs, increased student-to-teacher ratios and a high demand on accountability, instructor work-loads have become more time consuming. This increased consumption of instructor time may be contributing to the decline in SAE participation. (p. 29)

This shows that the prioritizing of agricultural educator's time is primarily between the SAE and everyday instructional

demands. The researcher found no literature related to how the agricultural education instructor prioritized his/her time within the instructional day for preparation of instruction.

Quality of Programs

Excellence in education is a constant concern of the American society, and "Goals 2000" is the most recent educational reform act to strive for excellence in American schools. Vocational education is a part of the educational system and it too strives for excellence. This call for excellence has come at a time of rapid social and technological growth coupled with fierce demands for public funding. Since agricultural education is considered one of the areas within vocational education, the concerns for excellence in agricultural education are just as important. The National Research Council on Agricultural Education (1988) reported:

> Excellent programs need to be sustained and built upon. Some programs warrant in-depth study and replication as model programs. Those that do not meet educational needs should be upgraded, consolidated, or, as a last resort, phased out. (p. 3)

In the state of Montana, agricultural education has responded to this reform movement by addressing the recommendations from the governor-appointed Leadership Council for Agricultural Education (1990). One of the

recommendations was to develop learner outcomes and then a modern curriculum based around the learner outcomes. From this, a Montana State University (1994) publication, Montana Agriculture Education Curriculum, states: "The Montana Curriculum has been prepared to assist teachers and administrators in secondary public schools to improve the quality of their educational program in agriculture" (p. iv).

Straquadine (1988) suggested that there are many factors to consider when evaluating program quality in secondary agricultural education programs. Those factors included teacher characteristics, funding levels, school characteristics, and the level of state leadership. Phipps and Osborne (1988) suggested evaluation of the agriculture education program will reveal the strengths and weaknesses of the program, along with the effectiveness of the individual teachers' activities. This study considers teacher characteristics and activities as they are perceived by the state leadership.

Agricultural Education Experts

There are many key professionals among the agricultural education ranks who can accurately identify quality programs. State supervisors, school administrators, teacher educators, and fellow colleagues are all examples of experts. A study on first-year teacher competencies using a population of

these four groups of experts arrived at some interesting results. Mundt and Nichols (1993) found:

> One half of the competencies were perceived differently based upon the type of position held. When significant differences between positions resulted, it was most likely to be between teacher educators and the beginning teacher and his/her principal. This finding is somewhat alarming as teacher educators are those who are preparing the first-year teacher for his/her entry into the profession. This study indicates that teacher educators are at greatest odds with other educators as to which is a critical competency and what is a secondary competency. (p. 231)

Research such as this has also led to an increase in mentoring, induction, and peer-coaching programs within the profession. The rationale for such programs is that experience is the best teacher and experienced teachers have an understanding of how the first-year teacher feels. Mundt and Nichols (1993) also presented evidence that the state supervisors have a better understanding of what first-year teacher needs are, when compared to teacher educators. This made the state supervisor a logical choice as an expert over the teacher educators for this study.

Using experienced teachers as mentors is honorable and appears to have significance and worth (Mundt & Nichols, 1993). This concept could easily be followed by identifying a group of experienced teachers in each state who could be used as experts. The fact that it takes at least five years to become a state president of the state Agricultural Teachers Association makes the past president an identifiable

expert. Another possible expert to consider would be the administrator of the school in which a program exists. However, Lierman and Riesenberg (1988) found that administrators have different perceptions about agricultural education than do agricultural education instructors.

> Administrators and instructors should investigate the reason their perceptions of the limiting effect of six of the thirteen factors, scheduling conflicts, academically oriented students guided away from vocational agriculture, inadequate/ inaccurate student knowledge/image of vocational agriculture, student participation in sports, vocational agriculture used as a dumping ground, and students living in an urban area, are so drastically different. It would seem reasonable to expect an administrator and an instructor from the same school having the same perception of the limiting effect of those particular factors. (p. 8)

This evidence kept the researcher from involving administrators as experts for the selection of the population for this study.

Daily Time Log

The use of time logs to accurately keep track of one's time is a common recommendation by most time management consultants. It is also recommended that this daily log be kept for at least a week (Huffstutter & Smith, 1989). The kind of log used is not important. It is the accuracy of the documentation that is important. A video on time management by Brian Tracy explains the options of keeping a time log. He states, "You can track fifteen-minute segments, one-hour

segments, or simply note the time whenever you change activities." For the purpose of this study, a developed and systematic time log would have to be used. Huffstutter and Smith (1987) suggested a grid type of design that was developed by Larry Stevens that would allow for daily activities to be checked or numbers entered as codes for activities. This information along with an already developed instrument from Dr. Van Shelhamer, Montana State University--Bozeman was used in preparing a time log for this study.

CHAPTER 3

METHODOLOGY

This chapter describes the procedures that were used in completing this study and is organized into five sections: (1) population selection, (2) instrument design, (3) data collection, (4) data analysis, and (5) summary.

Population Selection

This casual, comparative research method identified the high and low quality secondary agricultural education programs in the following states: Arizona, Colorado, Idaho, Montana, Nevada, Utah, and Wyoming. These states were selected as a stratum of the agricultural education profession because of their similarities in number of programs, number of instructors in each program, type of agriculture employed in the state, and their general location to each other. The review of the National Study of the Supply and Demand for Teachers of Agricultural Education (1994) showed the similarities of these seven states to be as far-reaching as the number of graduates from their respective land grant university teacher-training programs. Compared to other regions in the country, there is a significant similarity. All of the states were similar in the structure

of the state education office and the organization of the teachers association. Wyoming was somewhat different than the rest of the population in that the agricultural education supervisor is not housed in the State Department of Education. However, the state supervisor was housed at a state college and was interviewed to determine if he would qualify as an expert for this study. It was determined by the researcher that the Wyoming state supervisor did qualify as an expert for the study, thus adding credence to the use of these states as a stratum population.

The non-probability sampling method was of a purposive nature because it purposefully selected the excellent and poor quality programs within each of the seven states. Using the 1995 Agricultural Education Directory, state supervisors were contacted in each of the seven western states. Using the State and National Association Directory of Officers, 1995-96 (National Vocational Agriculture Teachers Association, 1995), past presidents from each of the seven states were identified and asked to serve as experts along with the state supervisors. They were asked to use the criteria-based instrument developed by the researcher to identify the excellent and poor quality agricultural education programs within their state. These programs selected were single-teacher departments that had been functioning for at least three years, and the instructor must have at least three years experience and be employed with a full-time contract. This qualifying criteria was

established after reviewing the Understanding Agriculture, New Directions for Education document published by the National Research Council (1988) from the findings of the Committee on Agricultural Education in Secondary Schools, Board on Agriculture. This committee revealed that the normal agricultural education program was one with a full-time, single-teacher department, in a general high school setting, teaching mostly production agriculture. The requirement of at least three years of experience was developed by the researcher during an interview with a state supervisor. This interview, along with a literature review on program quality, established a set of criteria that helped assist the state supervisors and past presidents to identify the qualifying population.

The interpretation of the criteria was left to the experts as it may have differed from state to state. The criteria were listed in order of preference by the researcher and were provided to assist the experts in identifying the excellent and poor quality programs within the state. The criteria (Appendix A) were also outlined as part of the definition of an excellent and poor quality program in the definition pages in Chapter 1 of this document.

The criteria sheet was mailed out March 27, 1996, along with two highlighter pens, one blue and one yellow, along with a one-page list of single-teacher programs identified in random order. The state supervisors and past presidents were

instructed to read the criteria and then highlight all of the programs they felt met the criteria with the yellow highlighter. They were then instructed to highlight the programs that did not meet the criteria with the blue highlighter. This process took approximately ten minutes for the experts to complete. They were instructed to return the instrument in the self-addressed, stamped envelope before April 11, 1996.

Because there were only 16 experts, a 100% return rate was expected. Follow-up was conducted through a telephone call with two non-respondents from the same state on April 12, 1996. One of the non-respondents was a state supervisor, and he informed the researcher he would not participate in the study. To the surprise of the researcher, this eliminated the state from participating in the study and explains why some of the material in the appendices mentions eight states as opposed to the seven that did participate.

Once the lists of highlighted programs were returned from the experts, the matching of the colors was accomplished by comparing the state supervisors' highlighted list with the past presidents' highlighted list. All of the programs highlighted blue by both experts were considered poor quality and all of the programs highlighted yellow were considered excellent quality. The programs not highlighted by either expert were considered as not meeting the criteria of three years or more of experience.

The state supervisors, for the most part, identified the programs with less than three years of experience on their list. If the past president selected a program that the state supervisor had identified as not meeting the three year requirement, then the program was not considered as part of the population.

The use of one expert's selection over the other in this situation is justifiable because part of the state supervisor's job is to keep track of years of service for the national organizations. The programs that were selected poor by one expert and not at all by the other expert were considered to be fair programs. These programs rating fair were used in states that had very few poor quality programs that matched between the experts. The states with a 20% match or greater on the poor quality programs had less than a 10% match on the fair programs. In the interest of internal validity, the fair group was not utilized in a state until the poor group reached below 20% of the population for that state.

The state supervisors were asked to return four copies of mailing labels to assist in the mailing of the survey and time log. These were received and the matching of the quality of programs was accomplished on April 17, 1996.

The data arranged in Table 1 show the rate at which the experts agreed on the quality of each eligible program. The total qualifying population was established from this

Table 1. Matching of programs by the experts.

State	N=Eligible Programs	n=Agreed Match	% Match
Arizona	35	27	77.0
Colorado	52	20	38.4
Idaho	34	25	73.5
Nevada	19	16	84.2
Montana	44	22	50.0
Utah	40	16	40.0
Wyoming	28	14	50.0
Total	252	140	55.6

information at N=252. The matched population which qualifies as the sample population for this study was established at n=140. Therefore, the sample population represented 55.6% of the total qualifying population.

Two of the states, Colorado and Wyoming, did not have a large enough population of poor quality programs that were matched by the experts. In order to sample a larger percentage of the population in each of those states, the fair group was brought into the sampling procedure. This increased the sample size for Colorado from 20 to 32 programs and for Wyoming from 14 to 22 programs. The sampling population then became (n=160, 63.4%) due to use of the fair group for the two states. For the remainder of the study the sampling population was n=160. The fair group was kept

separate from the poor group until it could be statistically tested for differences.

The researcher's concern of a large enough population from each state was addressed by comparing the number of the eligible programs, that is, the programs that have existed for at least three years and the teacher having at least three years of experience, to the identified matched population. The objective of a 40% representation of the eligible programs ending up in the sampling population was accomplished. Arizona had 35 programs that met the minimum qualifications and was represented by 27 programs in the study for a 77% coverage of the state. Colorado had 52 single-teacher programs that were eligible and was represented by 32 programs for a 61.5% coverage of the state. Idaho had 34 programs that were eligible and was represented by 25 programs in the study for a 73.5% coverage of the state. Nevada had 19 programs that met the minimum qualifications and was represented by 16 programs in the study for a 84.2% coverage of the state. Montana had 44 potential participants in the study, but the experts matched 22 for a coverage of 50% of the single-teacher programs with three or more years of experience. Utah had 40 qualifying programs with 16 of them matching, giving the state a minimum 40% representation. Wyoming had 28 eligible programs and was represented by 22 programs with a coverage of 78.5% of the state.

Instrument Design

The first instrument designed was the evaluation criteria (Appendix A) which was sent to the experts. However, the first consideration had to be the selection of the experts. As discussed in the review of literature in Chapter 2 of this document, some research has indicated that state supervisors and fellow colleagues have a better understanding of what is taking place out in the field than do the university teacher trainers. After interviewing a state supervisor, it was apparent that most state supervisors would be able to rank the programs within their states from best to worst without any assistance from a list of criteria. Past presidents were selected as experts because of their leadership and past experience in working with the majority of the teachers in their state. This group was easy to identify in a directory, and for the majority of the states involved in the study the individuals were known by the researcher. This assisted in assuring a high return on this portion of the research. However, when involving more than one evaluator, a set of criteria needed to be utilized to assist in the evaluation process. To assure that the four evaluation criteria (utility, feasibility, propriety, and accuracy) were present in the evaluation study, a list of criteria was developed to assist in the evaluation process (Borg & Gall, 1989).

After the population was discovered, then the development of the survey and the time log became the researcher's priority. The first instrument developed was the survey. The instrument consisted of three sections (Appendix C).

The first section involved five questions that were demographic in nature and were used to determine years of experience, marital status, number and age of children, time management training, and number of student teachers supervised.

The next section dealt with six questions on a Likert-type scale from 0-7. The first of these questions had the participants rate themselves as teachers on the following scale: 1 = poor, 3 = fair, 5 = good, and 7 = master, with 2, 4, and 6 falling between each rating. The next question asked the participants to rate how rewarding the agricultural education profession was on the following scale: 0 and 1 = not at all; 3 and 4 = somewhat; and 6 and 7 = very rewarding, with 2 and 5 falling between each rating. The next three questions dealt with developing and planning of lessons and units using the following scale: 0 and 1 = not at all; 2, 3, and 4 = most of the time; and 5, 6, and 7 = all of the time. The last of the Likert-type questions dealt with the frequency of in-service training on delivery systems using the following scale: 0 and 1 = not at all; 3 and 4 = not very

often; and 7 and 7 = frequently; with 2 and 5 falling between each rating.

The third section of the instrument was a series of nine short-answer, open-ended questions that were used to determine frequency of common answers among states and levels of quality. The survey instrument was reviewed by the researcher's graduate committee and then administered to eight pre-service teachers who had recently finished their student teaching experience. The pre-service teachers were asked to complete the instrument to arrive at a completion time and to check for clarity of the questions. From this pilot test, it was determined that it should take the participant approximately 10 minutes to complete the survey.

The time log (Appendix B) was developed from an instrument that Dr. Van Shelhamer administers in a course taught at Montana State University--Bozeman. With his permission, the researcher changed the instrument to record information for an entire week and to account for every hour. Instructions were developed to explain how to use the time log and what type of information should be recorded. At the bottom of the instruction page (Appendix B), a series of codes were developed to assist in a timely completion of the time log. The use of the codes also made the time log much neater and reading of the data easier for the researcher. The code list was divided into six major categories. The researcher applied his nine years of teaching experience in

developing the major categories of personal, student assistance, communication, preparation, advising, and instruction. Each one of these categories had a series of numbered activities below them from which the participant could select. If the activity was not listed, there were additional codes so that the participant could customize his/her time log. Participants were asked to keep entries to the nearest half hour for the entire week.

Data Collection

Once the 160 programs were identified by the experts, then a cover letter, demographic survey, instructions for the time log, and the time log were mailed out. This mailing took place April 30, 1996, in a departmental envelope with an adhesive stamp for postage. The cover letter was written on Agricultural and Technology Department letterhead bearing the signatures of Dr. Van Shelhamer, Associate Professor of Agricultural Education, and the researcher. The survey and time logs were identical in content for each group, but were color-coded for the purpose of identifying which group the program was representing. A departmental, postage-paid return envelope with a numerical code on it was provided with this first mailing as well. The numerical code was for follow-up purposes only.

The experts' ranking of the program in terms of quality remained confidential throughout the study. A reminder

mailing, in the form of a letter (Appendix D), was sent out to the population three days before they were to start keeping track of their time on the time log. This letter was accompanied by a stick of chewing gum and another departmental, postage paid, return envelope with the same numerical code on it as on the first return envelope mailed. It too was written on Agricultural and Technology Department letterhead bearing the signature of the researcher only, in hope of adding to the personal appeal. The intent of this mailing was to remind the selected participants of the importance of the time log and that they fill out the time log during the week of May 6, 1996. The third mailing was a follow-up letter (Appendix E) on Agricultural and Technology Department letterhead reminding the participant to return the already completed time log. This follow-up was mailed May 28, 1996, and was only sent to those instructors who had not returned the instrument as of that day.

There were 51 excellent quality programs, 12 fair quality programs, and 38 poor quality programs that were sent follow-up letters. Any returned instruments after the May 28 date were considered to be late responders and were statistically analyzed for differences from the early responders. The return rate from the follow-up was very low due to the nature of the time log and the specific date it had to be filled out. There were 5 (9.8%) returns from excellent quality programs, 1 (8.3%) return from fair quality programs

and 2 (5.2%) returns from the poor quality programs. On June 15, 1996, the data collecting was completed and the data from the time log and the survey were compiled into Microsoft Excel spreadsheets and statistically analyzed using the Statistical Package for the Social Sciences (SPSS-X) (1995).

Data Analysis

Responses from the survey were entered into a spreadsheet file using Microsoft Excel (1994). During the entry of the data into the spreadsheet, the researcher categorized the quantitative data into qualitative data by assigning a number code to a common response. This was accomplished for later frequency analysis of these data.

The data were then imported into SPSS-X for the analysis of variance using a One-Way ANOVA. The variables on early versus late responders, between states, poor quality versus fair quality group, and excellent quality versus poor quality (including fair group as low) were then analyzed for significant nominal differences using a 0.05 level.

There were no significant differences between early and late responders and, therefore, they can be grouped together for the remainder of the analysis. When analyzing the variables from the demographic survey between states there were no significant differences and, therefore, the data can be compared across states for both excellent and poor quality programs. The poor quality programs were significantly

different in two of the variables when analyzed with the fair group (selected by only one expert as poor). One variable was that of the frequency of in-service training. The fair group had a mean score of 4.27 and the poor quality group had a mean score of 2.43 with 7.00 being the maximum possible. The other variable was that of belonging to the state and national teachers association. The fair group had a mean score of 2.72 and the poor quality group had a mean score of 1.18 with 3.00 being the maximum possible score.

When the fair group was combined with the poor quality group and analyzed with the excellent quality group there were three variables that were significantly different. The first one was the same variable that was significant among the fair and poor quality groups in the previous analysis, the variable of belonging to the state and national teachers association. For the variable of teachers association, the excellent group had a mean of 2.8 and the poor had a mean of 1.81 with 3.00 being the highest possible score. The second variable with a significant difference between these two groups was the number of student teachers supervised. The excellent quality group had a mean 4.00 and the poor quality group had a mean of .74 with no known maximum score. The last variable with a significant difference between these two groups was the interpretation of how rewarding the teacher perceives the profession. The excellent quality group had a mean score of 5.67 and the poor quality group had a mean

score of 5.03 with 7.00 being the highest possible score. There are levels of significant differences among all three groups; in the interest of internal validity the groups are presented separately in the results, Chapter 4. The data were then analyzed for frequency based on the three groups of excellent, fair, and poor quality programs.

The time log data were entered into a spreadsheet file using Microsoft Excel (1994). The frequency of each time code was analyzed for excellent, fair, and poor quality programs. The frequency that a time log code appeared on the spreadsheet represented one-half hour. The average for each code in half hours was tabulated and then converted to hours for the week. From these data, the standard deviation was calculated for each of the time log codes. The spreadsheet was then transferred into SPSS-X for an One-Way ANOVA analysis to determine significant differences among the three quality groups. The results were then compiled into comparative tables for more accurate reporting and to show the F-Ratio and the P-Value for each time log entry.

Summary

This was a causal comparative study that focused on how perceived excellent quality secondary agricultural education program instructors utilized their time preparing for instruction. The study also compared the perceived poor quality secondary agricultural education program instructors

and how they utilized their time preparing for instruction. The demographic survey assisted in the test for significant differences and contributed a great deal to the study. The time log was the major instrument in the study to compare the levels of quality among programs. The experts' selection of programs was statistically sound between states, adding external validity to this study. The population size and response rate concerns were addressed and the 64 useable returns represent 25.4% of the originally defined population of 252, which adds to the study's validity. The various levels of quality programs were satisfactorily represented in the returned responses with excellent programs having 38 useable returns (43.1%), fair programs having 10 useable returns (50.0%), and poor programs having 16 useable returns (30.7%).

CHAPTER 4

RESULTS OF THE STUDY

The study was designed to determine if instructors of high quality programs prepared for instruction more or differently than those instructors of low quality programs. The results of this study are presented in three sections: (1) response rates, (2) demographic data, and (3) time log data.

Response Rates

The experts selected the sampling population of 160 programs in seven states as well as identifying the original qualifying population of 252 programs. The data in Table 2 reveal the response rate from all three of the quality groups as they occurred by state. The (N) represents the total number of matched programs as they occurred by state and by quality. The percent return was based on the useable returned surveys and time logs. One poor quality program in Idaho returned a non-useable survey because the time log was missing. Wyoming had two excellent quality programs return non-useable instruments because they were missing the demographic survey. Colorado had one fair quality program return a completed instrument, but it could not be used