THE EFFECT OF LIVESTOCK JUDGING ON

CRITICAL OBSERVATION

By

DONALD GENE STAIGER

Bachelor of Science

Oklahoma State University

Stillwater, Oklahoma

1967

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
MASTER OF SCIENCE
July, 1970

THE EFFECT OF LIVESTOCK JUDGING ON

CRITICAL OBSERVATION

Thesis Approved:

Robert R. Price
Thesis Adviser

Jack Pritchard

D. Durham
Dean of the Graduate College

764211

ii

ACKNOWLEDGMENT

The writer wishes to acknowledge several persons who were helpful in making the completion of this study possible.

The author wishes to express his sincerest appreciation to Dr. Jack Pritchard, major adviser, whose untiring interest and guidance were instrumental in the development of this thesis.

Appreciation is also extended to Dr. Robert R. Price, Head, Department of Agricultural Education, Dr. Robert Terry, and Dr. James P. Key of the Agricultural Education staff for their encouragement and assistance throughout the writing of this thesis.

Indebtedness is acknowledged to the vocational agriculture teachers and the high school students who cooperated in this study.

Acknowledgments would not be complete without my sincerest thanks to my parents, Mr. and Mrs. Arlie A. Staiger for their support and encouragement throughout my college career.

To my wife, Jacqueline, without whose assistance this study could not have been completed, this work is dedicated.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

The practical value of student participation in livestock judging contests from the standpoint of basic educational value continues to be questioned by some individuals. Oklahoma has traditionally been recognized as one of the leading states in this endeavor, particularly due to extensive activities of the Future Farmers of America.

It has been generally accepted in agricultural circles that participation in livestock judging contests is practical from the standpoint of developing critical observation among those students participating. It is a purpose of this study to discover or determine more precisely the effect livestock judging has had on the individual high school student in terms of possible association with a more adequate ability to make critical observations.

If participating in livestock judging does indeed tend to develop the students' achievement as measured in terms of critical observation it must follow that the concentrated efforts put out by a number of vocational agriculture teachers in this area may have considerable merit. It is a somewhat widespread concept among many critics that livestock judging teaches the students little of value and it is often employed largely as a means to the students and teachers to miss school. As Staten and Jones (1) on page 4 stated, "recently considerable argument has been presented voicing objection to the time spent in the laboratory,

1

training students to be good judges of crops or livestock." If livestock judging has had no significant effect on the development of critical observation among FFA members, this feeling may be justified. If so, a plan should be inaugurated to lessen the degree of participation now being expended by FFA members and endorsed and promoted by a large number of vocational agriculture teachers. Staten and Jones (1) on page 6, summed this up quite well,

> After a young man has worked hard, made a college team, be it football, basketball, livestock, or crops and has traveled into other states and completed, he gains self-expression and self-confidence that leave an everlasting stamp on him. It can be sensed by the grip of his handshake or the twinkle in his eye. In many instances his whole life may be changed through these experiences.

Problem

To identify certain observed effects of student participation in livestock judging on the students ability to make critical observations.

Significance and Purpose

With more and more of the students of vocational agriculture coming from a non-rural background, the vocational agriculture instructor needs to know whether the time and money spent for livestock judging is worthwhile. If this endeavor is not helping to develop and maintain certain observable characteristics, critical observation, being one among those students participating in livestock judging, it is the feeling of the researcher that revisions of this type program need to be made.

It is the purpose of this study to determine if livestock judging helps those students participating in it maintain keener critical observations based on his ability to analyze and make correct decisions while under pressure and when time is a factor.

Definition of Terms

There are certain terms that need to be defined as the way they will be used in this study. They are:

Critical Observation - is the skill that has been developed in livestock judges to think clearly and logically while under pressure and forced to perform adequately in a limited amount of time.

Livestock Judge - any person enrolled in vocational agriculture at the high school level that selects (or judges) livestock in a contest beyond the local and county level.

Non-livestock Judge - any person enrolled in high school and/or vocational agriculture that has chosen not to participate in any judging contest at the county level, through the state level or above.

Eidetic Imagery - unusually sharp, clear, or vivid memory; especially the memory or form, pictures, nonwritten material by whole format.

Multiple Aptitude Tests - a battery of tests used to: (1) understand individual's relative strength and weaknesses through a differential analysis of his test results, (2) learn the extent of the individual's aptitudes in comparison with aptitudes of other persons, (3) provide data for counseling services established to achieve greater success and better adjustment for students both in school and in later vocational life.

Spatial Visualization - is the understanding of the principles by which machines function and the ability to visualize objects in the disassembled form.

Differential Analysis - is the close analysis of the various factors within the test and their correlation.

CHAPTER II

REVIEW OF LITERATURE

Hoar (2) on page 91 emphasizes that, "the type of supervised farming training program the teacher of vocational agriculture encourages has great influence on the FFA member, his interest and leadership, and his establishment in farming." Livestock judging is certainly closely related to many areas of the total supervised agricultural training program. Educators in the agricultural field are concerned with the extent to which participation in these contests may affect the scholastic achievement of student participation. Lefores (3) on page 31 stated, "It is found that participation in livestock contests does not adversely affect the scholastic achievement of those students studied, but it appears to motivate them to do better in terms of accomplishment.

Even more true with expanded trends toward urbanization today, Norby, Beeson, and Fourt (4) on page 7 stated, "Many students who have the desire to learn livestock judging have not previously had much opportunity to experience valuable lessons gained through a long period of daily contact with livestock." Lest we are tempted to lose sight of the educational value as well as the practical value of livestock judging we need to realize that it has long been the practice that whenever any species of livestock ceases to be of practical value it also ceases to have a major place in livestock selection and hence, be of real educational value.

4

Up to this point we have been looking strictly at the educational

value of livestock judging. Let us now look at ways in which it helps

the student perceive objects and values in livestock. For the student

to be able to perceive those objects and values, he must, "convert and

discipline his attitude to such an extent that the problem of livestock

judging becomes a real and living task, rather than a means of attempting

to merely place for himself animals in the rank order in which he ex-

pects an official judge to place them. The desire to determine intrinsic

values in and about specific individual livestock specimens puts the

mind in a very receptive state for the most effective learning of live-

stock selection (4)." After the mind is receptive, "A mental image of

the ideal type must be developed, in which a keen power of observation

must also be developed." Norby, Beeson, and Fourt (4) and Jansch (5)

reported that,

> Imagery of exceptional clearness in about sixty-five
> percent of normal children and very few adults. This
> he called eidetic imagery. He indicated that children
> were predominant in this unusually clear visual memory
> and noted that the ability tends to decline beyond age
> fifteen or thereabouts. Many people retain images of
> things they have learned. Some are images of people
> or objects; others are images of pictures or printed
> pages. Most of these images, however, are incomplete,
> faint or blurred.
>
> People differ a great deal in the content, vividness,
> and variety of their imagery. For example some of us
> have been able to imagine vividly a number of different
> sensory aspects of the experience, whereas others were
> limited to one or a few at most. As in other extremes
> of performance, persons with eidetic imagery simply
> differ in degree from other persons in the vividness
> of their visual imagery and perception (6).

For purposes of this study the term perception is defined as "The

awareness of those things which stimulate the sense organs (7)." After

there is an awareness in the sense organs of the stimulus we come up

with perceptual constancy or "The tendency to perceive learned objects in the same way, even with variation in sensory stimulation by which they are received. Swift (7)"

As previously stated there are many factors influencing perception. "The way in which we perceive is determined not only by the nature of the stimulus but also by personal factors (6)." Reinforcing this concept, Johnson (8) on page 79 concludes, "The mental age appears to be of more value in predicting learning successes than does either chronological age or the presence or absence of perceptual disorders."

Basically the brief discussion above has, in a limited manner, shown what perception and imagery are and what factors affect them. Now, let us look at some of the needs of the students and means by which they may be accomplished. Thomason (9) on page 5 stated,

> A boy between the ages of 14 and 20 has many things on his mind. The normal boy wants to be active, he likes glamour, he wants praise. He likes to be cheered for carrying the ball, hitting a home run, or making a goal. If not kept busy you may find him at teen-age hangouts, pool halls, or honky-tonks. If a community program of vocational agriculture is to be successful, it must be as interesting to the student as the activities mentioned above. Here is when a very active FFA chapter comes in. I doubt that any program of vocational agriculture will be very successful without a good active FFA chapter. In our state we have found that fairs, stock shows, and contests perform a major part in creating interest among our FFA members. Boys like competition, they like recognition, and they like the praise and publicity that goes with success.

If vocational agriculture teachers use shows and contests for the development of perception and imagery, we also need to look at what scientific concepts are being taught and the way they are taught. In a study by DeVaughn, Jr. (10) on page 38, he stated "The largest percent of teachers are teaching scientific concepts in the various areas of

agriculture subjects; this on a moderate basis." In keeping with the attempt to not lose sight of the educational value of contests, the following statement is appropriate for the teacher of vocational agriculture, "each contest in which participation is anticipated should be evaluated to determine whether it develops desirable or undesirable attitudes or interests. All awards and contests should be checked to see whether they have become ends instead of means. Phipps (11) on page 260."

After fulfilling the other objectives of livestock judging let us keep in mind what Norby, Beeson, and Fourt (4) said, "The student should be mindful of the fact that ability he has acquired by showing good judgment in this field will serve him fully as well in other lines of endeavor as though he had developed this ability in other courses." Along this same line, McFate (12) on page 27 stated, "That leaders in education need to redouble their efforts to close the gap between the use of physical science and social science in education. When these sciences reach an equilibrium, education will start and training will end." DeVaughn (10) recommended that,

> (1) The vocational agriculture teacher should make
> an evaluation of his present program with respect
> to scientific concepts which should be taught.
> (2) The teacher of vocational agriculture should
> continue teaching concepts with a constant re-eval-
> uation of the program determining which concepts
> should be taught which would most nearly meet the
> needs of the students and the community.

In summary we would point up the conclusion of Baker (13), "That teachers of vocational agriculture and their students are justified in participating in fairs and livestock shows and contests if they use these experiences as the means to an end and not the end itself."

CHAPTER III

DESIGN OF STUDY

Instrument Selection

A portion of the "Multiple Aptitude Tests," 1959 Edition, by Segel
and Raskin was selected as the instrument for attempting measuring criti-
cal observation of the population in the study. Further, Factor IV of
this test was the portion selected. This consists of three tests, (a)
Applied Science and Mechanics, (b) Two Dimensional Spatial Relations,
and (c) Three Dimensional Spatial Relations. This test and the portion
used was selected largely on the basis of reviews in Buros, The Fifth
Mental Measurements Yearbook.

In a review of this test Benjamin Fruchter (14) stated that, "One
advantage of this type test battery over the more conventional intelli-
gence test is that it yields differential information in several areas
of ability." He further states,

> This battery of differential aptitude tests is designed
> for use with secondary level students to aid in counsel-
> ing them concerning the choice of appropriate school
> curricula, to give them some information concerning
> their relative strengths and weaknesses in four schol-
> astic aptitude areas, and to yield information on how
> they compare with other students in these areas. It
> (the test) is based, as are a number of other differ-
> ential aptitude tests batteries, on the results of the
> extensive factor analytic studies of intellectual abi-
> lities, and aptitudes that have been carried out during
> the past 20 years (14).

Hypotheses

The following hypotheses were formulated for this study:

1. It is hypothesized that students participating in livestock judging contests have significantly higher grade point averages than those not participating.

2. It is hypothesized that a high level of student participation in livestock judging is significantly associated with achievement of relatively higher scores on tests designed to measure critical observation than is true for non-participants.

Scope and Limitations

The study will be confined to those vocational agriculture departments in schools located within the Alva Professional Improvement group. This group includes Woods, Alfalfa and Major counties located in Northwest Oklahoma. The study will be limited in the following ways:

1. To male students enrolled in high school and/or vocational agriculture.

2. To students falling within the designated groups and selected at random.

Population

The population of the study consisted of the following samples of Oklahoma vocational agriculture students:

1. Students enrolled in the schools in the Alva Professional Improvement group in Northwest Oklahoma.

2. A stratified random sample of junior and/or senior vocational agriculture students who did participate in one or more state livestock

judging contests, taken from schools in the Alva Professional Improvement group[a]. (Subgroup a)

3. A stratified random sample of junior and/or senior vocational agriculture students who did not participate in any state livestock judging contests, taken from schools in the Alva Professional Improvement group[b]. (Subgroup b)

A list of currently active vocational agriculture departments in this Professional Improvement group was consulted and it was verified that twelve departments were located within the designated boundaries.

From these twelve selected schools the students that participated were randomized by means of drawing their names out of a hat. There were three students selected from each school except in the case of one school which had only one student currently enrolled who had previously participated.

The non-participating group was selected from the same twelve schools as the participating group. These students were also randomized by means of drawing their names out of a hat. This group consisted of three students from each school except in the case of one school where only one student was used.

<div align="center">Method of Collecting Data</div>

On the twelfth of February, packets were delivered and distributed to the vocational agriculture instructors in the Alva Professional Im-

---

[a]Hereafter those students used in the study who participated in livestock judging contests will be referred to as Group A.

[b]Hereafter those students used in the study that did not participate in livestock judging contests will be referred to as Group B.

provement group. Included in these packets were: (1) cover letter to the teacher, (2) instructions to the questionnaire, (3) questionnaire, and (4) self-addressed stamped envelope.

The cover letter and procedure was checked and approved by Dr. Jack W. Pritchard of the Agricultural Education staff.

During the next week in February responses to the questionnaire started coming back. The investigator, during the fourth week of March, mailed out phase two packets consisting of: (1) a cover letter to the teacher, (2) instructions to the questionnaire, (3) the questionnaire, and (4) a self-addressed stamped envelope.

After the students for the study were selected the investigator traveled to each of the twelve schools to administer the test.

There were a total of sixty-eight students involved in the study. This was due to the fact that one school had only one student qualifying for each group.

Processing the Data

Answer sheets were graded by hand by the use of an overlay scoring key. Scores were then converted to percentiles.

Raw scores were added up for each of the three sections, as well as the total scores on all sections of the tests.

Means of the score and percentile rank for each group as well as the scores on the tests were determined for each of the following groups:

1. Students participating in livestock judging used in the study.

2. Students not participating in livestock judging used in the study.

Also the grade point averages were totaled for each group and the

means were determined.

From the means of each group for each section of the test the mean of the sample was determined. The means of each sample for each section of the test and the grade point averages were subjected to treatment statistically by the use of the t test.

For purposes of this study there were certain criteria used in categorizing the degree of contest participation, the test scores, and the grade point averages for the students and schools involved in this study. They were grouped into the following categories. First let us look at the grade point averages, which were grouped into four categories. They are: Superior being from a 3.0 to a 4.0, with Good ranging from 2.0 to 2.9, Adequate from .99 to a 1.9, and Minimum was .98 or below. Then the tests were grouped into three categories (High, Medium, and Low). The following percentiles were used for each group: High, 85.0 - 99.0, Medium, 17.0 - 84.0, and Low 1.0 - 16.0. The degree of contest participation was also grouped into three categories, High, Medium, and Low. The criteria used in this study for grouping these was as follows: High, 9 - 12 contests, Medium, 5 - 8 contests, and Low, 1 - 4 contests. These were used throughout the study to facilitate the handling of the data used in the study.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Data presented in this chapter represents the scores of sixty-eight high school vocational agriculture students on the "Factor IV of the Multiple Aptitude Tests." These students were selected from twelve schools in Northwest Oklahoma[1]. There was a one hundred percent return on the questionnaires mailed out.

The students in the study were divided into two groups as follows:

1. Group A - Those students who qualified and participated in one or more state livestock judging contests, as specified on page nine of this study.

2. Group B - Those students who did not qualify and did not participate in any livestock judging contests at the state level as specified on page ten.

It is the purpose of this chapter to present and analyze test scores to determine if there is any appreciable difference in the two groups. This was statistically analyzed by the use of the t.test.

The students' answer sheets were scored and tabulated for each section of the test[2]. The school mean on each section of the test was determined for each of the three sections as well as the whole Factor

---

[1]List of schools which participated in this study are found in Appendix D.

[2]Scores on each section are presented as follows: Group A, Appendix E; Group B, Appendix F.

IV for each of the two groups of students. From these school means the group means were determined and compared among the two groups.

The grade point averages of each student in Group B was subtracted from the corresponding student in Group A. These differences were then added together and the mean for this group was found. The t test for equal groups was applied to the student scores. The formula being:

$$t = \frac{\overline{Y}-0}{\sqrt{\dfrac{s^2}{N}}}$$

(15) Refer to Appendix K for the computation of t by this method. After the statistical measure was applied, it was found there was no significant difference in the grade point averages between Group A and Group B.

Table I shows the comparison of group means for all sections of the Factor IV of the Multiple Aptitude Test used in the study between the participating and non-participating students who were from schools which were represented in the study. The difference in the mean scores between Group A and Group B is indicated for each section of the Multiple Aptitude Test. The significance of the difference was determined by the use of the t test, with the value given in Table I (15).

The data in Table I indicated that for all sections of the tests, the mean scores of Group A were higher than the mean scores of Group B; however, these differences were not significant at the .05 level. The greatest difference of mean scores was on Tests 2 and 3. Spatial Relations in Second and Third Dimension. It is quite interesting to note that the mean scores of Group A and Group B for Test 2 and Test 3 were

---

[1]School means on each section of the test are presented as follows: Group A, Appendix Q; Group B, Appendix R.

practically the same.

TABLE I

COMPARISON OF MEAN TEST SCORES IN PERCENT OF
GROUP A AND GROUP B[a]

| Group | Means of Test Scores[f] | | | |
	Test 1[b]	Test 2[c]	Test 3[d]	Total[e]
A	87.21	56.41	45.32	73.12
B	83.29	44.82	33.57	65.94
Difference	3.92	11.59	11.81	7.18
t Value	1.1208	1.0304	1.0123	1.0065

[a]Groups A and B defined in Appendices E and F.
[b]Test 1 - Applied Science and Mechanics.
[c]Test 2 - Spatial Relations - Two Dimensions.
[d]Test 3 - Spatial Relations - Three Dimensions.
[e]Total - Total of all tests. (Factor IV)
[f]Refer to Appendices E and F for the students' scores in the study.

Table II presents the comparison of the mean scores on all sections of the Factor IV of the Multiple Aptitude Test between participating and non-participating juniors. The differences in the mean scores between Group A and Group B is indicated in Table II for each section of the Multiple Aptitude Test. The level of significance for mean score difference was checked by the used of the t test, with the values given in Table II (15).

The data presented in Table II indicated that the mean scores for Group A on Test 1 and Test 2 were higher than Group B. However, the

opposite was true for Test 3, and the whole Factor with Group B having higher mean scores than Group A. Even though there was some difference in the two groups there was no significant difference at the .05 level. It is interesting to note the widespread difference of the mean scores within the two groups on the three tests, with Group A ranging from 88.15 to 40.50 and Factor IV being 71.40 and Group B ranging from 64.79 to 44.19 and the whole Factor IV being 81.57. Test 2 and Test 3, Spatial Relations, Two Dimensional, and Three Dimensional respectively had the smallest range of scores within their respective groups. It is also interesting to note that mean scores of the Group B juniors were higher on the Three Dimensional Spatial Relations and the whole Factor IV. Even though this was a negative difference it was not significant at the .05 level.

TABLE II

COMPARISON OF SCORES ON ALL TESTS BETWEEN JUNIORS THAT
PARTICIPATED AND JUNIORS THAT DID NOT PARTICIPATE

Group	Means of Test Scores[d]			
	Test 1[a]	Test 2[a]	Test 3[a]	Factor IV[a]
A[b]	88.15	53.70	40.50	71.40
B[c]	64.79	34.21	44.79	81.57
Difference	23.36	19.49	-4.29	-11.17
t Value	.04406	.03407	.2686	.0855

[a]Tests identified in Table I.
[b]Group A defined in Appendix E.
[c]Group B defined in Appendix F.
[d]Refer to Appendices L and M for the scores of the Juniors in the study.

Table III is quite similar to Table I and Table II in that it repre-
sents the mean scores of students that participated in the study. This
table represents a comparison of scores on all sections of each test and
the whole Factor IV of seniors who participated and those who did not
participate. The difference in the mean scores on all sections of the
Factor IV of the Multiple Aptitude Test is indicated. The significance
level was determined by the use of the $\underline{t}$ test, with the values given in
Table III on page 17 (15).

TABLE III

COMPARISON OF SCORES ON ALL TESTS BETWEEN SENIORS THAT
PARTICIPATED AND SENIORS THAT DID NOT PARTICIPATE

Group	Means of Test Scores[d]			
	Test 1[a]	Test 2[a]	Test 3[a]	Factor IV[a]
A[b]	85.86	61.14	52.35	75.57
B[c]	79.80	44.75	46.80	58.70
Difference	6.06	6.39	5.55	16.97
$\underline{t}$ Value	.9632	.9835	.0851	.2057

[a]Test identified in Table I.
[b]Group A defined in Appendix E.
[c]Group B defined in Appendix F.
[d]Refer to Appendices N and O for the scores of the seniors in the
study.

The data represented in Table III indicated the mean scores of
Group A were higher than means of Group B, however, these differences
were not significant at the .05 level. The greatest difference in the

two groups was on Test 1, Applied Science and Mechanics, and Test 3,

Spatial Relations Three Dimensional, and the whole Factor IV with the

smallest difference being on Test 2 with a difference of 1.21. It is

quite interesting to note the mean scores of Group B on Test 2 and the

whole Factor IV were practically the same. Also, the fact that the

differences in the two groups on Test 1 and Test 3 are almost the same

is rather interesting. The wide ranges of scores within each group on

each section of the test seem to have importance. Even though there

appears to be considerable difference in the mean scores on Test 1,

Applied Science and Mechanics, Test 3, Spatial Relations Three Dimen-

sional, and Factor IV, the total of all tests, these differences were

not significant at the .05 level of significance.

The comparison of the distribution of scores by percent between the

Group A and Group B students is presented in Table IV.

Table IV indicates the percent of both Group A and Group B students

within each of the three categories was approximately the same for Tests

2 and 3. On Test 1 70.59 percent of the students in Group A scored high

compared to 55.88 percent of the Group B students; however, a higher

percent of the Group B students score high on Test 3 than the Group A

students, 2.94 percent of the Group B students scored high on Test 3,

Spatial Relations, Three Dimensional, while no students in Group A

scored high on this particular test. However, it is interesting to note

the same percent, 82.35, of students in both Groups scored in the med-

ium range. Also interesting to note is that 47.06 percent of the stu-

dents in Group A scored high on the overall Factor IV score, while only

26.47 percent of the Group B students scored high on this particular

area.

TABLE IV

COMPARISON OF DISTRIBUTION OF SCORES IN PERCENTILE RANK BETWEEN
GROUP A[b] AND GROUP B[b] FOR EACH OF THE TESTS

Test	Groups	N[d]	Range of Scores in Percent[c]		
			High	Medium	Low
One	A	34	24-70.59	10-29.41	0-0.00
	B	34	19-55.88	14-41.18	1- 2.94
Two	A	34	6-17.65	25-73.53	3- 8.82
	B	34	4-11.76	26-76.47	4-11.76
Three	A	34	0-00.00	28-82.35	6-17.65
	B	34	1- 2.94	28-82.35	5-14.71
Factor IV	A	34	16-47.06	17-50.00	1- 2.94
	B	34	9-26.47	23-67.65	2- 5.88

[a]Test identified in Table I.
[b]Group A and B are defined in Appendices E and F.
[c]Refer to page 12 for the criteria for ranking the test scores.
[d]N - Number of students in each group.

This table seems to indicate that there were two tests, Test 2 and Test 3 where both groups had either the same number of students or almost the same number of students in the medium category. It was also noted that both groups had almost the same total percent (for all sections of the tests) of students in the low category, with Group B having the highest percent in the low rank. Group A's total percent in the low category was 29.41 percent, while Group B's total percent in the category was 35.29.

Table V illustrates the comparison between the distribution of mean grade point averages for the schools by percent between Group A

and Group B.

Table V indicates that the percent of both Group A and Group B were quite different for each of the four categories.

It is also shown in Table V that Group A has a higher percentage of the schools in the superior and good categories than Group B. Group A has 41.67 percent in the superior group, while Group B only has 8.33 in this category. However, Group B has a greater percentage of the schools of this group ranked in the good category than Group A. Group B has 66.67 percent in this category and Group A has 58.33 percent. Group A doesn't have schools with mean grade points in the adequate or minimum category while Group B had 25.00 percent of its schools with mean grade points in the adequate category. Group B did not have any school to show in the minimum range category.

Table VI shows the distribution for the number of times the students in Group A participated in state livestock judging contests. This is shown by percent in three categories; high, medium, and low.

It is interesting to note that three students or 8.8 percent ranked in the high category of participation in contests while twenty-seven students or 79.4 percent ranked in the low level of participation. It is quite easy to see then that only about one-fifth of the students in this group participated in enough state level livestock judging contests to rank in the high or medium categories.

TABLE V

COMPARISON OF THE DISTRIBUTION OF MEAN GRADE POINT AVERAGE
OF THE SCHOOLS[a] IN GROUP A AND B BY PERCENT

| Group N | Ranges in Grade Points[c] | | | |
	Superior	Good	Adequate	Minimum
A[b] - 12	5-42.67	7-58.33	0-00.00	0-00.00
B[b] - 12	1- 8.33	8-66.67	3-25.00	0-00.00

[a]Schools identified in Appendix D.
[b]Groups are defined in Appendices E and F.
[c]Refer to page 12 for the ranking of the grade point averages.
[d]N - Number of schools in group.

TABLE VI

DISTRIBUTION OF CONTEST PARTICIPATION OF GROUP A[c]

Rank of Participation	N[a]	Percent[b]
High	3	8.8
Medium	4	11.8
Low	27	79.4

[a]N - Number of students in category.
[b]Percent - Percent of total students in Group.
[c]Group A is defined in Appendix E.
[d]Refer to page 12 for ranking of the level of participation in
contests.

In Table VII we find a comparison of the extent of contest partici-
pation to the tests scores for each section of Group A. This is shown
in the percent of students in each level of participation in various

categories listed for each section of the Multiple Aptitude Test.

Findings presented in Table VII reveal three students who ranked high in contest participation, 66.67 percent ranked high on Test 1, Applied Science and Mechanics and 33.33 percent ranked high on the overall Factor IV. Also, from data presented in Table VII, it is interesting to note that 100 percent (3) of the students in the high level of contest participation ranked in the medium category on Test 2, Spatial Relations - Two Dimensional, and Test 3, Spatial Relations - Three Dimensional, while 66.67 percent of the students ranked in the medium category on the overall Factor IV. No students who ranked high in the level of contest participation was categorized in the low range of test scores on any section.

The data in Table VII revealed that in the medium level category of contest participation there were four students or 75.00 percent which ranked high on Test 1, and 25.00 percent that ranked high on Test 2. It was just the opposite for medium score range on the tests with 25.00 percent of the students ranking medium on Test 1 and 75.00 percent of them ranking medium on Test 2, with 100 percent of them ranking medium on Test 3. It is quite interesting to note that on the overall Factor IV for medium level of participation, the number of students in the high and medium rank were equal, having 50.00 percent of the students in each.

In examining Table VII, it was found that in the low level category of contest participation, 70.4 percent ranked high on Test 1 and 18.5 percent of the students ranked high on Test 2. Also, 37.0 percent of the students in this group ranked high in the overall Factor IV. The data in this table revealed Test 1 as the only one in this group that

did not have students who ranked in the low category. Test 2 had 11.1 percent of the students in this score range with Test 3 having twice as many as Test 2, (22.2 percent). In this group for the overall Factor IV there was one student, or 3.7 percent, who ranked low. Along this same line, Table VII revealed that 29.6 percent of the students in this group ranked medium while 70.4 percent ranked medium on Test 2 and 77.8 percent of them on Test 3. On the overall Factor IV, 59.3 percent of the students were ranked in the medium category.

Further study of Table VII revealed that even though there was a relatively small difference in percent from high to low, (75.00 - 66.67), there was a remarkable difference when comparing each of the tests within each individual level of contest participation. This is also true when percents for the total were figured for Group A. On Test 1 there were 70.6 percent of the students in the high, while on Test 2 there were only 17.6 percent and on Factor IV there were 38.2 percent of the students in the high category. No students ranked in the high range of scores on Test 3. Test 3 had the highest percent of students in the medium category with 82.4 percent, followed closely by Test 2 with 73.5 percent. Factor IV had 58.8 percent of students in the medium score. Test 1 had the lowest number of students in this range with 29.4 percent of the total students. Also, it was noted that Test 1 was the only test that did not have any students in the low score range. Factor IV had the lowest percentage of the tests having students in the low score range with 2.9 percent and Test 3 had the highest percent of the students with 17.6 percent of the total number being in the low score range. Test 2 was almost midway between Test 3 and Factor IV with 8.8 percent of students in the low score range.

TABLE VII

COMPARISON OF EXTENT OF CONTEST PARTICIPATION TO ALL TEST SCORES OF GROUP A[a]

Extent of Contest Participation[b]		Total[c]	Test 1[d] Range of Scores[g]			Test 2[d] Range of Scores[g]			Test 3[d] Range of Scores[g]			Factor IV[d] Range of Scores[g]		
			High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low
High	N[e]	3	2	1	0	0	3	0	0	3	0	1	2	0
	%[f]	100	66.67	33.33	0	0	100.0	0	0	100.0	0	33.33	66.67	0
Medium	N	4	3	1	0	1	3	0	0	4	0	2	2	0
	%	100	75.00	25.00	0	25.0	75.0	0	0	100.0	0	50.00	50.00	0
Low	N	27	19	8	0	5	19	3	0	21	6	10	16	1
	%	100	70.4	29.6	0	18.5	70.4	11.1	0	77.8	22.2	37.0	59.3	3.7
TOTALS	N	34	24	10	0	6	25	3	0	28	6	13	20	1
	%	100	70.6	29.4	0	17.6	73.5	8.8	0	82.4	17.6	38.2	58.8	2.9

[a]Group A is defined in Appendix E.
[b]Refer to page 13 in the Design of Study for breakdown on contest participation.
[c]Total – Total number of students in each group as broken down according to participation.
[d]Tests are defined in Table I.
[e]N – Number in each group.
[f]% – Percent of students in each group.
[g]Refer to page 13 in Design of Study for the breakdown of tests scores.

In Table VII it was found that there was very little percentage difference within each range of scores on each test for each level of contest participation. This was exemplified by the fact that the range of percents for Test 1 in the high category was from 66.67 percent for high level of participation, 75.00 percent for medium level of participation, and 70.4 percent for the level. In the medium score range the percentages range from 33.33 percent for the high level, 25.00 percent for medium level and 29.6 percent for low level of participation. Test 2 had a somewhat wider range of percent in the high range of scores with the high level of participation having 0.00 percent, the medium level having 25.00 percent, and the low level having 18.5 percent. It is interesting to note that 100.0 percent of the high level of participation students scored in the medium score range while 75.00 percent medium level and 70.4 percent of the low level of participation scored in medium score range. There was only one level of participation group that scored in the low score range. This being the low level participation group, which had 11.1 percent of its total students in this category. None of the students in any of the three levels of contest participation scored in the high score range. Table VII indicates that on Test 3, 100.0 percent of the students in the high and medium level of contests ranked in the medium score range, while only 77.8 percent of low level of participation ranked in medium score range. The study showed no student in the high and medium level of participation scored in the low score range on Test 3. However, it is interesting to note that twice as many low level contest participants scored in the low range on Test 3 as scored in the low score range on Test 2.

Each level of contest participation had students who ranked in the

high score range on the overall Factor IV. The high level group had
33.3 percent of its students in high score range, while the medium level
group had 50.00 percent of its students in this score range and low
level had 37.0 percent of its group in this score range. It is inter-
esting to note that the high level of participation category had the
highest percentage of the students in the medium score range. There
were 66.67 percent of the students in the high level of participation
in the medium score range. It was revealed from further study of Table
VII that the medium and low participants had almost the same percent of
students in medium score range. The medium level of participation group
had 50.00 percent of its students in this score range and the low level
of contest participation had 59.3 percent of its students in this score
range. None of the high or medium level participation group scored in
the low score range but there was one student or 3.7 percent in the low
level of participation that scored in the low score range on Factor IV.

Table VIII shows a comparison between the number of students Group
A and Group B had in each score range of the three score ranges on the
Multiple Aptitude Test. This is shown in percent figures for the total
each Group has in the high, medium, and low score ranges for each test
and Factor IV.

Data in Table VIII represents the percent of thirty-four students
of Group A and Group B on Test 1, Test 2, Test 3, and Factor IV in each
of the score ranges for each of the tests. Group A had 14.7 percent
more students in the high score range than Group B on Test 1. The evi-
dence shows that on Test 1, Group A had 24 students or 70.6 percent in
the high score range while Group B had only 19 students or 55.9 percent
in this score range. In the medium score range the opposite was true.

TABLE VIII

COMPARISON OF TEST SCORES OF GROUP A AND GROUP B IN PERCENT

Group[a]		Total	Test 1[b] Range of Scores[c]			Test 2[b] Range of Scores[c]			Test 3[b] Range of Scores[c]			Factor IV[b] Range of Scores[c]		
			High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low
A	N[d]	34	24	10	0	6	25	3	0	28	6	13	20	1
	%[e]	100	70.6	29.4	0	17.6	73.6	8.8	0	82.4	17.6	38.2	58.8	2.9
B	N	34	19	14	1	4	4	26	1	5	28	9	23	2
	%	100	55.9	41.2	2.9	11.8	11.8	76.5	2.9	14.7	82.4	26.5	67.6	5.9
Difference	N		5	-4	-1	2	21	-23	-1	23	-22	4	-3	-1
	%		14.7	-11.8	-2.9	5.8	61.8	-67.7	-2.9	67.7	-64.8	11.7	-8.8	-3.0

[a]Groups are defined in Appendices E and F.
[b]Tests are identified in Table I.
[c]Refer to page 13 in Design in Study for the breakdown of scores.
[d]N – Total number in each group given the test.
[e]% – Percent of each group in each rank.

This is quite clearly shown by the fact that Group B had the highest

percentage of students in this score range with 41.2 percent, while

Group A only had 29.4 percent. It is interesting to note that Group A

didn't have any student in low score range on Test 1 while Group B had

only one student or 2.9 percent of the total in the low score range.

On Test 2 Group A also had the highest percent in the high score

range with 17.6 percent while Group B had only 11.8 percent. In addi-

tion to this, Group A produced the highest percent for the total group

in the medium score range with 73.6 percent. The data revealed that

Group B had the same percent of students, 11.8 percent, in both the

high and medium score range. The highest percent for Test 2 was

achieved by Group B in the low score range with 76.5 percent of the

students in this category. Group A had only 8.8 percent in the low

score range.

On Test 3 Group A didn't have any students that scored in the high

score range while Group B had one student or 2.9 percent that was in

this score range. In the medium score range there was a considerable

difference in the percentage of students each group had in this category.

This is exemplified by Group A, which had 82.4 percent and Group B had

only 14.7 percent in medium score range. Close examination of Table

VIII revealed that Group B had 64.8 percent more students in the low

score range than Group A.

Group A had the highest percent in the high score range on the

overall Factor IV with 38.2 percent, while Group B had only 26.5 percent

of the students in this score range. However, in medium score range

Group B had the highest percent with 67.6 and Group A with 58.8 percent.

For the low score range this was also true. Group B had the highest with

5.9 percent and Group A the lowest with 2.9 percent.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Purpose and Procedure of the Study

The primary concern of this study was to determine as accurately as possible, within the scope of this investigation, the effect of livestock judging on critical observation of high school vocational agriculture students.

Data presented in this study were obtained from questionnaires and a portion of the Multiple Aptitude Test. Questionnaires were completed and returned by fourteen vocational agriculture teachers in twelve schools in the Alva Professional Improvement group. The Multiple Aptitude Test was then administered to 68 high school junior and/or senior students.

1. Group A - Those students who qualified and participated in one or more state level livestock judging contests.

2. Group B - Those students who did not qualify and did not participate in any state level livestock judging contests.

Summary of Findings

Data were statistically examined after the responses were scored, grouped and recorded in an attempt to answer the questions pertinent to this study. The hypotheses were then tested and the following is a summary of the findings.

The first hypothesis to be tested was as follows:

Students participating in livestock judging contests have significantly higher grade point averages than those not participating in any livestock judging contests.

Although there was some difference in the grade point averages of the participants and non-participants from within schools and between schools, this difference was not significant at the .05 level; therefore, this hypothesis was rejected. It is interesting to note that the over-all grade point of Group A (the participants) was higher than the over-all grade point of Group B (non-participants). Some of the possible explanations for these differences might be:

1. Since these groups of students are from the same schools many of the students likely have been taught by the same teachers in courses other than vocational agriculture; therefore, students tend to have had the same opportunity to achieve a high grade point average, because of common variables.

2. The selection of students participating in livestock judging contests might and was probably influenced by factors other than the ability to perform the skills required to win the contests. Such factors as maturity, availability, participation in other contests, and dependability could have eliminated some of the more capable students from participating and put them in the non-participating group.

The second hypothesis was stated as follows:

A high level of student participation in livestock judging is significantly associated with achievement of relatively high scores on tests designed to measure critical observation than is true for non-participants.

The data supported the finding that there were no significant dif-

ferences at .05 level on all test scores between Group A and Group B; therefore, this hypothesis must be rejected. Group A had a higher mean score on each of the tests and the overall Factor IV than Group B. On test 1 there was a very small difference in the means of the two groups. Some possible explanations of this might be:

1. The students who did not participate in livestock judging might have been involved more in the agriculture mechanics and the science portion of the program rather than the contest portion.

2. No attempt was made to evaluate the extent that livestock judging was taught in the schools studied or the other courses that the students in the study were taking or had already completed.

When the mean scores of Group A junior were compared to the mean scores of Group B juniors, it was found there was no significant differ- ence at the .05 level. It is interesting to note that on Test 1 and Test 2 the mean score of Group A was higher than the mean score of Group B, while on Test 3 and the overall Factor IV the opposite was true. This comparison indicated Group B had the higher mean score. These differences might be explained in the following way:

1. The students in Group B that were not enrolled in vocational agriculture were possibly able to take the courses that enable them to do better on this section of the test.

When the mean scores of Group A were statistically compared to the mean scores of Group B there was no significant difference at the .05 level. A small difference was noted on Test 2 between the two groups.

From the data presented in Table VII it appears there was no sig- nificant difference in the percent of students that scored within a given score range for each level of participation. From this it appears

that the number of contests a student participates in has no effect on his test scores.

From the data presented in the study it appears that Group A and B scored higher on Test 1 and Test 2. Even though on Test 3 Group B had 2.9 percent of its students in the high score range, Group A had the largest percent in the medium score range. It appears then that Test 3 was also the easiest for more of the Group A students than for Group B. The percent of scores in each of the score ranges for Group A and Group B on the overall Factor IV indicated that the tests were somewhat easier for the Group A students than the Group B.

In summarizing, we find that even though Group A students scored higher on almost all aspects of Multiple Aptitude Tests given than the Group B students, there was no significant difference in the scores of the two groups. This was also true for the grade point averages of the two groups. Even though Group A had the highest grade point average there was no significant difference in the two groups. From data presented the level of contest participation appeared not to have any significant effect on the students' test scores.

Recommendations

The opinion of the writer is expressed in the following suggestions and recommendations, based on the data presented in this study for consideration by those involved in teaching vocational agriculture and training livestock judging teams.

1. Since there was no significant difference in the test scores and the level of participation groups, the writer feels that each teacher of vocational agriculture should decide for himself to what extent he

wishes for his students to participate in livestock juding.

2. Even though the students in Group A did not score significantly higher on the Multiple Aptitude Test, the writer feels that the teachers of vocational agriculture should not lessen or expand the degree of training in livestock based on the results of this study. The teachers should take into consideration many other factors such as the age at which training started, other contests participated in, and other courses enrolled in, before drawing a conclusion as to whether to expand or lessen the degree of training. Also, they must keep in mind that the Group A students scored slightly higher on the majority of the tests than Group B.

3. The study indicates the need for further investigation of factors relating to the effect that other contests have on students and how the age at which the students start training for judging contests might affect them.

SELECTED BIBLIOGRAPHY

1. Staten, H. W. and Melvin D. Jones. Farm Crops: Judging Identifi-
        cation and Grading. New York, Toronto, Philadelphia: The
        The Blakeston Company, 1951. pp. 4,6.

2. Hoar, Keith C. A Study of the Influence that Participation in
        Shows and Fairs has had on the Establishment of Purebred Herds
        of Livestock and Dairy Cattle Among Former Members of the FFA.
        (Unpublished M.S. Thesis, Oklahoma State University, 1950),
        p. 91.

3. Lefores, Neil. A Study of 250 Former Vocational Agriculture Pupils
        that Participated in the Muskogee Junior Livestock Show Between
        1941 and 1965. (Unpublished M. S. Report, Oklahoma State
        University, 1965), p. 31.

4. Norby, Julius E., W. Beeson, and David L. Fourt. Livestock Judging
        Handbook. The Interstate Printers and Publishers, 1957), pp.
        7, 8, 11.

5. Jansch, E. R., 1920. General Psychology. W. Porter Swift, New
        York: McGraw-Hill Book Company, 1969, p. 206.

6. Sartin, Aaron Quinnn, Alvin John North, Jack Ray Strange, and Harold
        Martin. Psychology, Understanding Human Behavior. New York:
        McGraw-Hill Book Company, 1962.

7. Swift, W. Porter. General Psychology. New York: McGraw-Hill Book
        Company, 1969.

8. Johnson, Orvile G. Relationship Between Perception and Learning in
        the Mentally Retarded. (Published Non-Thesis Study, Syracuse
        University, 1965), p. 79.

9. Thomason, Benton F. Determining the Relationship of Shows and Fairs
        to Supervised Farm Training Program of Vocational Agriculture
        Students. (Unpublished Non-Thesis Study, Oklahoma State
        University, 1950), p. 5.

10. DeVaughn, Jr., Zed F. Scientific Concepts Taught Oklahoma Voca-
        tional Agriculture Students. (Unpublished M.S. Thesis, Okla-
        home State University, 1962), p. 38.

11. Phipps, Loyd J. Handbook on Agricultural Education in Public
        Schools. The Interstate Printers and Publishers Inc., 1966,
        p. 360.

12. McFate, Ralph Charles. <u>A Study of Selected Participants in Two State Junior Division Livestock Shows</u>. (Unpublished M.S. Report, Oklahoma State University, 1970), p. 27.

13. Baker, James Kenneth. <u>Differences in Selected Characteristics Between Departments of Vocational Agriculture that Exhibit Livestock on the State Level and Those that Do Not</u>. (Unpublished M.S. Thesis, Oklahoma State University, 1962), p. 31.

14. Fruchter, Benjamin. <u>The Fifth Mental Measurements Yearbook</u>. Ed. Oscar Krisen Burois. Highland Park, New Jersey: The Gryphon Press, 1939, p. 613.

15. Jerome, C. R. LI. <u>Statistical Inference I</u>. Corvallis, Oregon, Edwards Brothers, Inc., 1964 Ann Arbor, Michigan, pp. 109, 147, and 602.

APPENDIX A

112 E. 9th
Cherokee, Oklahoma 73728
February 12, 1970

Vocational Agriculture Instructor

Dear Sir:

The attached questionnaire is concerned with the number of times your
junior or senior students have participated in the state livestock
judging contests, and whether or not you have students in your school
who have not participated in or had training in any contests. This
material will be used in my report for the Master's degree.

It will be appreciated if you will complete the questionnaire and return
it at your earliest convenience in the self-addressed, stamped envelope
I am enclosing. Your prompt attention to this matter will be greatly
appreciated as I do need your response.

Thank you in advance for your prompt attention to this matter. The
information you provide will be held in strict confidence.

                              Sincerely,

                              Donald Staiger
                              Graduate Student
                              Agricultural Education
                              Oklahoma State University

DS:js

Enclosures

APPENDIX B

INSTRUCTIONS FOR QUESTIONNAIRE

1. Please list those junior or senior students who have participated in one or more of the following contests.

2. Use only junior and/or senior students enrolled in vocational agriculture for those students who participated.

3. Please list those junior or senior students who have not participated in or had training in any judging contest.

4. Use only junior and/or senior students (do not have to be enrolled in vocational agriculture) for those that did not participate in or had training in any judging contest.

5. Please list the number of times each student participated in each of the contests.

6. Please list the overall grade point average and I.Q. score for each student.

QUESTIONNAIRE

PARTICIPATED IN ONE OR MORE OF THE FOLLOWING
LIVESTOCK JUDGING CONTESTS

SCHOOL

Name of Student	I.Q. Score	Tulsa State Fair	Grade Point Average	Oklahoma State Fair	Interscholastics at Stillwater	Did Not Participate in Any Contests

APPENDIX C

112 East 9th
Cherokee, Oklahoma 73728
March 23, 1970

Vocational Agriculture Instructor

Dear Sir:

I am sure with your busy schedule you have forgotten the questionnaire
I handed you at the February P. I. meeting. I am enclosing another one
and would greatly appreciate your prompt attention to this matter as I
do need your reply as soon as possible.

Also, I would appreciate it if you would indicate on the questionnaire
a day and time that I might get these students together to give a test.
I will need about an hour.

Thank you in advance for your prompt attention to this matter.

                                        Sincerely,

                                        Donald Staiger
                                        Graduate Student
                                        Agricultural Education
                                        Oklahoma State University

DS:nj

Enclosures

APPENDIX D

Sample of Oklahoma Schools in Study

Participating Schools[a]	Non-Participating Schools[b]
Aline-Cleo	Aline-Cleo
Alva	Alva
Ames	Ames
Burlington	Burlington
Carmen-Dacoma	Carmen-Dacoma
Cherokee	Cherokee
Fairview	Fairview
Freedom	Freedom
Helena-Goltry	Helena-Goltry
Jet-Nash	Jet-Nash
Ringwood	Ringwood
Waynoka	Waynoka

[a]Those schools having students who participated in livestock judging at the state level.

[b]Those schools who had students that had not participated in livestock judging at the state level.

APPENDIX E

SCORES FOR ALL SECTIONS OF THE FACTOR IV OF THE MULTIPLE
APTITUDE TEST FOR GROUP A[a]

Student Number	Test 1[b] Raw Score	%	Test 2[b] Raw Score	%	Test 3[b] Raw Score	%	Total[b] Raw Score	%
1	41.33	97	24.67	99	15.67	72	81.67	96
2	44.00	99	15.67	56	15.67	73	75.33	95
3	36.00	93	15.67	56	13.00	58	64.67	79
4	40.00	96	22.33	94	14.00	58	76.33	89
5	36.00	93	19.33	79	15.33	70	71.00	92
6	37.33	92	19.67	80	13.00	46	70.00	84
7	32.00	79	10.33	24	14.33	59	56.67	75
8	30.67	71	2.33	2	6.33	13	39.33	15
9	30.67	77	14.33	52	7.67	17	52.67	59
10	26.67	56	14.33	50	7.67	15	48.67	38
11	38.67	96	11.67	30	6.33	12	56.67	58
12	36.00	93	6.33	12	4.67	6	47.00	38
13	33.67	83	11.67	32	14.33	51	59.67	83
14	36.00	93	17.00	66	9.00	24	62.00	73
15	41.33	98	23.67	98	14.33	62	79.33	97
16	38.33	96	14.33	50	17.00	82	69.67	88
17	40.00	98	10.33	27	10.33	30	60.67	73
18	33.33	88	19.67	80	15.67	73	68.67	87
19	30.67	83	14.33	50	5.00	8	50.00	42
20	32.00	79	15.67	59	11.67	32	59.34	62
21	37.33	95	18.33	73	14.33	62	70.00	98
22	36.00	93	11.67	31	11.67	38	59.33	67
23	45.33	99	14.33	50	9.00	24	68.67	86
24	20.67	28	50.00	50	5.00	8	40.00	18
25	40.00	98	10.33	27	15.67	68	66.00	82
26	44.00	99	15.67	55	13.00	58	72.67	92
27	34.67	91	15.67	55	10.33	31	60.67	71
28	38.67	96	18.33	74	11.67	39	68.67	87
29	34.67	85	5.00	10	13.00	46	52.67	43
30	30.67	94	14.33	47	17.00	76	70.00	84
31	33.33	82	22.33	95	17.00	76	72.67	99
32	26.67	52	18.33	71	9.00	21	54.00	46
33	50.33	99	23.67	98	14.33	62	88.33	99
34	38.67	94	21.00	86	15.67	71	75.67	91
TOTAL	1225.68	2965	545.65	1918	407.67	1541	2167.71	2468
MEAN	36.06	87.21	16.05	56.41	11.99	45.32	63.76	73.12

[a]Those students who qualified and participated in one or more state livestock judging contests.

[b]Tests are identified in Table I.

APPENDIX F

SCORES FOR ALL SECTIONS OF THE FACTOR IV OF THE
MULTIPLE APTITUDE TEST FOR GROUP B[a]

| | Scores | | | | | | | |
| | Test 1[b] | | Test 2[b] | | Test 3[b] | | Total[b] | |
Student Number	Raw Score	%	Raw Score	%	Raw Score	%	Raw Score	%
1	32.00	79	17.00	66	15.67	70	64.33	73
2	30.33	71	7.67	17	7.67	17	45.67	32
3	37.33	92	17.00	66	17.00	76	71.67	86
4	33.00	82	14.33	48	15.67	60	63.00	62
5	45.33	99	14.33	47	17.00	76	76.67	92
6	26.67	53	11.67	27	10.33	25	48.67	32
7	40.00	96	13.00	42	19.67	90	72.67	87
8	34.67	90	15.67	59	13.00	58	63.33	70
9	34.67	90	21.00	90	9.00	24	64.67	73
10	25.33	46	14.33	51	3.67	5	43.33	24
11	31.67	82	5.33	1	13.00	43	50.00	38
12	42.67	98	9.00	21	9.00	21	60.67	63
13	31.67	77	5.33	11	13.00	46	47.00	50
14	33.33	88	15.67	58	10.33	30	59.33	66
15	32.00	86	17.00	66	14.33	62	63.33	76
16	10.00	96	17.00	66	14.33	66	71.33	86
17	37.33	92	15.67	59	5.00	8	58.00	58
18	33.33	82	22.33	93	13.00	46	68.67	82
19	32.00	86	21.00	90	13.00	58	66.00	82
20	20.67	77	0.00	1	1.00	1	31.00	7
21	28.00	66	17.00	66	9.00	24	54.00	54
22	34.67	96	15.67	55	9.00	24	69.33	88
23	38.67	94	17.00	66	7.67	15	63.34	90
24	45.33	99	13.00	42	15.67	71	74.00	90
25	42.67	98	9.00	21	15.67	72	67.33	96
26	38.67	94	9.00	21	9.00	21	56.23	74
27	26.00	54	9.00	21	7.67	15	42.67	23
28	28.00	66	13.00	42	11.67	39	54.67	54
29	28.67	77	10.33	27	13.00	42	52.00	58
30	32.00	90	11.67	30	11.67	38	55.33	54
31	37.33	95	13.00	42	10.33	37	60.67	85
32	16.00	10	0.00	1	10.33	27	26.33	2
33	38.67	94	10.33	25	17.00	76	66.00	76
34	25.33	43	21.00	86	10.33	28	56.67	74
TOTAL	1075.34	2832	443.33	1524	392.68	1411	1988.21	2242
MEAN	31.62	83.29	13.04	44.82	11.55	33.57	58.48	65.94

[a]Those students who did not qualify and did not participate in any livestock judging contests.

[b]Identification of tests in Table I.

APPENDIX G

SCHOOL MEANS FOR ALL SECTIONS OF THE FACTOR IV OF THE
MULTIPLE APTITUDE TEST FOR GROUP A[b]

	Scores							
	Test 1[a]		Test 2[a]		Test 3[a]		Total[a]	
School[c]	Raw Score	%	Raw Score	%	Raw Score	%	Raw Score	%
A	40.44	96.33	18.67	70.33	14.78	67.67	73.78	90.00
B	37.78	93.67	20.44	84.33	14.22	58.00	72.44	88.33
C	31.11	75.67	9.00	26.00	9.44	29.67	49.56	49.67
D	33.78	81.67	10.78	30.67	6.22	11.00	50.79	44.67
E	33.67	83.00	11.67	32.00	14.33	51.00	59.67	83.00
F	38.55	95.67	18.33	71.33	13.44	56.00	70.33	86.00
G	34.67	89.33	14.78	52.33	10.33	37.00	59.78	67.33
H	35.11	90.33	15.22	54.33	12.56	44.00	62.89	75.67
I	35.33	75.00	24.89	42.33	9.89	33.33	58.22	62.00
J	39.11	95.33	16.56	61.33	11.67	42.67	67.33	83.33
K	35.56	87.00	13.89	50.67	15.67	66.00	65.11	75.33
L	38.56	81.66	21.00	85.00	13.00	51.33	72.67	78.67

[a]Identification of tests in Appendix E.
[b]Group A defined in Appendix E.
[c]Identification of schools in study in Appendix D.

APPENDIX H

SCHOOL MEANS FOR ALL SECTIONS OF THE FACTOR IV OF THE
MULTIPLE APTITUDE TEST FOR GROUP B[b]

	Scores							
	Test 1[a]		Test 2[a]		Test 3[a]		Total[a]	
School[c]	Raw Score	%	Raw Score	%	Raw Score	%	Raw Score	%
A	33.22	80.67	13.78	49.67	13.45	54.33	60.44	63.67
B	35.00	78.00	13.44	40.67	14.33	53.67	62.78	62.00
C	36.44	92.00	16.56	63.67	13.89	57.33	66.89	76.67
D	33.22	75.33	9.55	24.33	8.56	23.00	51.33	41.67
E	33.33	77.00	1.00	11.00	12.67	46.00	47.00	41.67
F	35.11	90.00	16.56	63.33	13.00	52.67	64.66	76.00
G	34.22	86.67	19.67	80.67	10.33	37.33	64.22	74.00
H	31.11	79.67	10.89	40.67	6.33	16.33	51.44	49.67
I	41.89	97.00	13.00	43.00	13.03	52.67	68.22	92.00
J	20.89	71.33	10.33	28.00	9.45	29.00	51.34	50.33
K	32.67	87.33	11.67	33.00	11.67	39.00	55.89	65.67
L	26.67	47.00	10.44	37.33	12.55	43.67	49.67	50.67

[a]Identification of tests in Appendix E.
[b]Group B defined in Appendix F.
[c]Identification of schools in Appendix D.

APPENDIX I

MEANS OF SCHOOLS GRADE POINT AVERAGE FOR
EACH SCHOOL FOR GROUPS A AND B

| School[a] | Grade Points | |
	Group A[b]	Group B[c]
A	3.03	2.07
B	2.89	2.01
C	2.56	2.50
D	2.74	1.87
E	3.38	2.50
F	2.25	1.79
G	2.48	2.79
H	3.23	1.66
I	2.40	3.23
J	3.02	2.06
K	2.77	2.63
L	3.20	2.03

[a]Identification of schools in study in Appendix D.
[b]Identification of Group A in Appendix E.
[c]Identification of Group B in Appendix F.

APPENDIX J

GRADE POINT AVERAGES OF STUDENTS WHO PARTICIPATED
IN STUDY OF GROUPS A AND B[a]

Student	Grade Point Averages of Group A	Grade Point Averages of Group B
1	3.40	2.50
2	3.40	1.90
3	2.30	1.80
4	2.50	1.56
5	3.68	2.80
6	3.40	1.68
7	2.71	3.20
8	1.80	2.60
9	3.16	1.70
10	2.04	2.03
11	3.16	2.31
12	3.03	1.26
13	3.38	2.50
14	1.92	2.04
15	2.76	1.63
16	2.08	1.69
17	3.08	2.37
18	2.56	2.60
19	1.80	3.40
20	3.04	.94
21	3.30	2.00
22	3.36	2.04
23	2.50	2.90
24	2.00	3.80
25	2.70	3.00
26	2.76	1.87
27	2.35	2.40
28	3.96	1.92
29	2.30	2.48
30	3.20	2.50
31	2.80	2.90
32	2.68	1.65
33	3.79	1.79
34	3.13	2.65
TOTAL	96.03	76.41
MEAN	2.8244	2.2474

[a]Groups A and B are defined in Appendices E and F.

APPENDIX K

CALCULATED DIFFERENCES IN GRADE POINT AVERAGES
OF GROUP A AND GROUP B

Student	Group A[a]	Group B[b]	A-B Differs
1	3.4	2.5	.9
2	3.4	1.9	1.5
3	2.3	1.8	.5
4	2.5	1.56	.94
5	3.68	2.8	.88
6	3.40	1.68	1.72
7	2.71	3.2	- .49
8	1.80	2.6	- .8
9	3.16	1.7	-1.46
10	2.04	2.03	.01
11	3.16	2.13	.85
12	3.03	1.26	1.77
13	3.38	2.5	.88
14	1.92	2.04	- .12
15	2.76	1.63	1.13
16	2.08	1.69	.39
17	3.08	2.37	.71
18	2.56	2.6	- .04
19	1.80	3.4	-1.6
20	3.04	.94	2.1
21	3.3	2.0	1.3
22	3.36	2.04	1.32
23	2.50	2.9	- .4
24	2.0	3.8	-1.8
25	2.7	3.0	- .3
26	2.76	1.87	.89
27	2.35	2.4	- .05
28	3.96	1.92	2.04
29	2.30	2.48	- .18
30	3.20	2.50	.7
31	2.80	2.9	- .1
32	2.68	1.65	1.03
33	3.79	1.79	2.0
34	3.13	2.65	.48
TOTALS	96.03	76.41	19.92

NOTE: Formula for computation of t

$$t = \frac{\bar{Y} - 0}{\sqrt{\frac{s^2}{N}}}$$

[a]Group A defined in Appendix E.
[b]Group B defined in Appendix F.

APPENDIX L

SCORE OF GROUP A[b] JUNIORS IN STUDY ON ALL TESTS

Student Number[c]	Scores							
	Test 1[a]		Test 2[a]		Test 3[a]		Factor IVa	
	Raw Score	%	Raw Score	%	Raw Score	%	Raw Score	%
2	44.00	99	15.67	56	15.67	73	75.34	95
3	36.00	93	15.67	56	13.00	58	64.67	79
5	36.00	93	19.33	79	15.67	73	71.00	92
9	30.67	77	14.33	52	7.67	17	52.67	59
10	26.67	56	14.33	52	7.67	17	48.67	38
11	38.67	96	11.67	30	6.33	12	56.67	58
12	36.00	93	6.33	12	4.67	6	47.00	38
14	36.00	93	17.00	66	9.00	24	62.00	73
15	41.33	98	23.67	98	14.33	62	79.33	97
16	38.33	96	14.33	50	17.00	82	69.67	88
17	40.00	98	10.33	27	10.33	30	60.67	73
18	33.33	88	19.67	80	15.67	73	68.67	87
19	30.67	83	14.33	52	5.00	8	50.00	42
21	37.33	95	18.33	73	14.33	62	70.00	98
22	36.00	93	11.67	31	11.67	38	59.33	67
23	45.33	99	14.33	52	9.00	24	68.67	86
24	20.67	28	14.33	52	5.00	8	40.00	18
25	40.00	98	10.33	27	15.67	73	66.00	82
27	34.67	91	15.67	55	10.33	31	60.67	71
28	38.67	96	18.33	74	11.67	39	68.67	87
TOTAL	720.34	1763	335.32	1074	219.68	810	1239.70	1428
MEAN	36.02	88.15	16.77	53.70	10.98	40.50	61.99	71.4

[a]Tests are identified in Table I.
[b]Group A is defined in Appendix E.
[c]Refer to Appendix E for student number.

APPENDIX M

SCORE OF GROUP B JUNIORS ON ALL TESTS[a]

Student Number	Test 1[b] Raw Score	%	Test 2[b] Raw Score	%	Test 3[b] Raw Score	%	Factor IV[b] Raw Score	%
8	34.67	90	15.67	59	13.00	58	63.33	70
9	34.67	90	21.00	90	9.00	24	64.67	73
11	31.67	82	5.33	1	13.00	43	50.00	38
14	33.33	88	15.67	58	10.33	30	59.33	60
15	32.00	86	17.00	66	14.33	62	63.33	76
19	32.00	86	21.00	90	13.00	58	66.00	82
20	30.67	77	0.00	1	1.00	1	31.00	7
21	28.00	66	17.00	66	9.00	24	54.00	54
22	34.67	96	15.67	55	9.00	24	69.37	88
26	38.67	94	9.00	21	9.00	21	56.67	74
27	26.00	54	9.00	21	7.67	15	42.67	23
28	28.00	66	13.00	42	11.67	39	54.67	54
29	28.67	77	10.33	27	13.00	42	52.00	58
30	32.00	90	11.67	30	11.67	38	55.33	54
TOTAL	445.02	907	181.34	479	144.67	627	782.33	1142
MEAN	31.79	64.79	12.95	34.21	10.33	44.79	55.88	81.57

[a]Group B is identified in Appendix F.
[b]Tests are identified in Table I.

APPENDIX N

SCORE OF GROUP A SENIORS IN STUDY ON ALL TESTS[a]

	Scores							
	Test 1[b]		Test 2[b]		Test 3[b]		Factor IV[b]	
Student Number	Raw Score	%	Raw Score	%	Raw Score	%	Raw Score	%
1	44.33	97	24.67	99	15.67	72	81.67	96
4	40.00	96	22.33	94	14.00	58	76.33	89
6	37.33	92	19.67	80	13.00	46	70.00	84
7	32.00	79	10.33	24	14.33	59	56.67	75
8	30.67	71	2.33	2	6.33	13	39.33	15
13	33.67	83	11.67	32	14.33	58	59.67	83
20	32.00	79	15.67	59	11.67	32	59.33	62
26	44.00	99	15.67	59	13.00	46	72.67	92
29	34.67	85	5.00	10	13.00	46	52.67	43
30	38.67	94	14.33	47	17.00	76	70.00	84
31	33.33	82	22.33	95	17.00	76	72.66	99
32	26.67	52	18.33	71	9.00	21	54.00	46
33	50.33	99	23.67	98	14.33	58	88.33	99
34	38.67	94	21.00	86	15.67	72	75.33	91
TOTAL	516.34	1202	227.00	856	188.33	733	928.66	1058
MEAN	36.88	85.86	16.21	61.14	13.45	52.35	66.33	75.57

[a]Group A is defined in Appendix E.
[b]Tests are identified in Table I.

APPENDIX O

SCORES OF GROUP B SENIORS IN STUDY ON ALL TESTS[a]

				Scores				
	Test 1[b]		Test 2[b]		Test 3[b]		Factor IV[b]	
Student Number	Raw Score	%	Raw Score	%	Raw Score	%	Raw Score	%
1	32.00	79	17.00	66	15.67	70	64.67	73
2	30.33	71	7.67	17	7.67	17	45.67	32
3	37.33	92	17.00	66	17.00	76	71.33	86
4	33.00	82	14.33	48	15.67	70	63.00	62
5	45.33	99	14.33	48	17.00	76	76.67	92
6	26.67	53	11.67	27	10.33	25	48.67	32
7	40.00	96	13.00	42	19.67	90	72.67	87
10	25.33	46	14.33	48	3.67	5	43.33	24
12	42.67	98	9.00	21	9.00	21	60.67	63
13	31.33	77	5.33	11	13.67	45	50.00	50
16	40.00	96	17.00	66	14.33	66	71.33	86
17	37.33	92	15.67	59	5.00	8	58.00	58
18	33.33	82	22.33	93	13.00	46	68.67	82
23	38.67	94	17.00	66	7.67	15	63.33	90
24	45.33	99	13.00	42	15.67	70	74.00	90
25	42.67	98	9.00	21	15.67	70	67.33	96
31	37.33	95	13.00	42	10.33	37	60.67	85
32	16.00	10	0.00	1	10.33	27	26.33	2
33	38.67	94	10.33	25	17.00	76	66.00	76
34	25.33	43	21.00	86	10.33	28	56.66	74
TOTAL	668.65	1596	261.99	895	248.68	938	1209.00	1174
MEAN	33.43	79.8	13.10	44.75	12.43	46.8	60.45	58.7

[a]Group B is defined in Appendix F.
[b]Tests are identified in Table I.

APPENDIX P

CONTEST PARTICIPATION OF STUDENTS IN STUDY

Student	Group A[a]	Group B[b]
1	8	0
2	4	0
3	4	0
4	2	0
5	2	0
6	2	0
7	1	0
8	1	0
9	2	0
10	3	0
11	3	0
12	2	0
13	8	0
14	4	0
15	4	0
16	4	0
17	2	0
18	2	0
19	2	0
20	12	0
21	11	0
22	12	0
23	1	0
24	1	0
25	1	0
26	3	0
27	5	0
28	7	0
29	2	0
30	3	0
31	2	0
32	1	0
33	1	0
34	2	0

[a]Group A is defined in Appendix E.
[b]Group B is defined in Appendix F.

APPENDIX Q

MEANS OF EACH TEST FOR THE SCHOOLS IN GROUP A[c]

	Scores							
	Test 1[b]		Test 2[b]		Test 3[b]		Factor IV[b]	
School[a]	Raw Score	%	Raw Score	%	Raw Score	%	Raw Score	%
A	40.44	96.33	18.67	70.33	14.78	67.67	73.89	90.00
B	37.78	93.67	20.44	84.33	14.22	58.00	72.44	88.33
C	31.11	75.67	9.00	26.00	9.44	29.66	49.56	49.67
D	33.78	81.67	10.78	30.66	6.22	11.00	50.78	44.67
E	33.67	83.00	11.67	32.00	14.33	51.00	59.67	83.00
F	38.55	95.67	18.33	71.33	13.44	56.00	70.33	86.00
G	34.67	89.67	14.78	52.33	10.33	36.67	59.78	67.33
H	35.11	89.00	15.22	54.33	13.44	44.00	62.89	75.67
I	35.33	75.00	24.89	42.33	9.89	33.33	58.22	62.00
J	39.11	95.33	16.56	61.33	11.67	42.67	67.34	83.33
K	35.56	87.00	13.89	50.67	15.67	66.00	65.11	75.33
L	38.56	81.67	21.00	81.67	13.00	51.33	72.44	75.33

[a]Schools in Group A are identified in Appendix D.
[b]Tests defined in Table I.
[c]Group A defined in Appendix E.

APPENDIX R

MEANS OF EACH TEST FOR THE SCHOOLS IN GROUP B[c]

School	Test 1[b] Raw Score	%	Test 2[b] Raw Score	%	Test 3[b] Raw Score	%	Factor IV[b] Raw Score	%
A	33.22	80.67	13.89	49.67	13.45	54.33	60.55	63.67
B	35.00	78.00	13.44	40.66	14.33	53.67	62.78	62.00
C	36.45	91.00	16.56	63.67	13.89	57.33	66.89	76.67
D	33.22	75.33	9.55	24.33	8.56	22.66	51.33	41.67
E	31.67	77.00	5.33	11.00	13.00	46.00	50.00	50.00
F	35.11	90.00	16.56	83.33	13.00	52.67	64.66	76.00
G	34.22	86.67	19.67	80.67	10.33	37.33	64.22	74.00
H	31.11	79.67	10.67	40.67	16.33	16.33	51.44	49.67
I	42.33	97.00	13.00	43.00	13.00	52.67	68.33	92.00
J	30.89	71.33	10.33	28.00	9.45	25.00	51.34	50.33
K	32.67	87.33	11.67	33.00	11.67	39.00	56.00	65.67
L	26.67	49.00	10.44	37.33	12.55	47.00	49.67	50.67

[a]Schools in Group B are identified in Appendix D.
[b]Tests defined in Table I.
[c]Group B defined in Appendix F.

VITA

Donald Gene Staiger

Candidate for the Degree of

Master of Science

Thesis: THE EFFECT OF LIVESTOCK JUDGING ON CRITICAL OBSERVATION

Major Field: Agricultural Education

Biographical:

Personal Data: Born at Cherokee, Oklahoma, October 17, 1944, the
    son of Arlie A. and Isabell M. Staiger.

Education: Attended grade school at Burlington, Oklahoma; com-
    pleted high school at Burlington, Oklahoma in May, 1962;
    received the Bachelor of Science degree from Oklahoma State
    University, with a major in Agricultural Education, in May,
    1967; completed requirements for Master of Science degree in
    Agricultural Education at Oklahoma State University in July,
    1970.

Professional Experience: Completed practice teaching at Wyandotte,
    Oklahoma, in January, 1967; employed as vocational agriculture
    instructor at Delaware, Oklahoma in the spring of 1967; as the
    vocational agriculture instructor at Lembert, Oklahoma in the
    fall of 1967 and the spring of 1968; and as a graduate assis-
    tant at Northwestern State College, at Alva, Oklahoma for the
    fall of 1968 and the spring of 1969. Presently I am not em-
    ployed as a teacher.

Organizations: The writer is a former member of the Collegiate FFA,
    the Aggie Club, and the Burlington Lions Club. The writer
    is presently a member of the OSU chapter of the Phi Delta
    Kappa Honorary Educational Fraternity.