

AN EXAMINATION OF ACADEMIC LEARNING
OUTCOMES IN A NON-FORMAL LEARNING
ENVIRONMENT: A STUDY OF OKLAHOMA FFA
ALUMNI LEADERSHIP CAMP

By

NICHOLAS R. BROWN

Bachelor of Science in Agricultural Education
Oklahoma State University
Stillwater, Oklahoma
2002

Master of Public Administration
The University of Oklahoma
Norman, Oklahoma
2008

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Dissertation Approved:

Dr. Robert Terry, Jr.

Dissertation Adviser

Dr. Kathleen D. Kelsey

Dr. J. Shane Robinson

Dr. Dale Fuqua

Outside Committee Member

Dr. Sheryl A. Tucker

Dean of the Graduate College

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
Background.....	1
Statement of the Problem.....	5
Purpose.....	5
Objectives	6
Hypotheses.....	7
Scope of the Study	8
Assumptions.....	9
Delimitations of the Study	9
Limitations of the Study.....	9
Significance of the Study.....	10
Operational Definitions of Terms.....	12
II. REVIEW OF LITERATURE.....	15
Introduction.....	15
School-based Agricultural Education – An Overview.....	15
Agriculture as Context	16
Agriculture as Content.....	19
Agricultural Education – Content and Context.....	19
Learning Environments.....	21

Chapter	Page
Formal Learning Environment	21
Informal Learning Environment	22
Non-formal Learning Environment	23
Learning Styles	25
Learning Style Inventories	25
Learning Style Research in Agricultural Education	28
Learning Style Research in Other Disciplines	30
Personal Characteristics and Academic Characteristics as Factors in Learning...	31
Theoretical Framework	34
Vygotsky’s Sociocultural Theory	35
Jung’s Psychological Trait Theory	37
Summary	40
III. METHODOLOGY	43
Introduction.....	43
Purpose.....	43
Population	44
Sampling Procedures	44
Research Design.....	45
Variables of Investigation.....	47
Data Collection	48
Instrumentation	48
Procedures.....	54

Chapter	Page
Control Factors.....	57
Internal Validity	57
External Validity.....	61
Fidelity of the Study	64
Analysis of Data.....	64
Primary Data Analysis Procedures	64
Secondary Data Analysis Procedures	66
Methods for Determining Effect Sizes	66
IV. FINDINGS.....	68
Introduction.....	68
Findings	68
Findings Associated with Objective One.....	68
Findings Associated with Objective Two.....	73
Findings Associated with Objective Three.....	74
Findings Associated with Objective Four.....	77
Findings Associated with Objective Five	79
Findings Associated with Objective Six.....	81
Findings Associated with Objective Seven.....	82
Findings Associated with Objective Eight.....	83
Findings Associated with Objective Nine.....	88
V. CONCLUSION.....	94
Introduction.....	94

Chapter	Page
Purpose.....	94
Objectives	94
Hypotheses.....	96
Summary of the Study Findings with Conclusions, Implications, and Recommendations.....	97
Objective One – Student Camper Personal Characteristics.....	97
Objective Two – Camper Learning Styles.....	99
Objective Three – Knowledge Gained.....	100
Objective Four – Knowledge Retained.....	104
Objective Five – Learning Style Effect on Knowledge Gained	106
Objective Six – Learning Style Effect on Knowledge Retained.....	108
Objective Seven – Camper Attitudes.....	109
Objective Eight – Relationships Between Campers’ Posttest Scores and Personal Characteristics.....	110
Objective Nine – Relationships Between Campers’ Delayed Posttest Scores and Personal Characteristics.....	114
Summary of Conclusions.....	116
REFERENCES	119
APPENDICES	136
Appendix A: Institutional Review Board Approval Form.....	136
Appendix B: Letter to Parents of Study Participants	138
Appendix C: Parent/Guardian Permission Form	140
Appendix D: Student Assent Form.....	143
Appendix E: Pretest Instrument.....	145

Chapter	Page
Appendix F: Posttest Instrument.....	157
Appendix G: Delayed Posttest Instrument	162
Appendix H: Delayed Posttest Data Collection Materials	167
Appendix I: PLSI Scorecard	172
Appendix J: PLSI Interpretive Materials	174
Appendix K: Oklahoma FFA Alumni Leadership Camp Student Guide	187

LIST OF TABLES

Table	Page
1. Quasi-Experimental Study Design.....	47
2. List of Pairs of Polar Adjectives Utilized for the Development of Alumni Camp Attitude Assessment (ACAS) Semantic Differential	54
3. Frequency of Campers' Personal Characteristics	70
4. Frequency of Campers' Academic Characteristics.....	72
5. Campers' Average Age and Grade Point Average	73
6. Mean Raw Pretest and Posttest Scores and Percentages that were Correct by the Treatment Group	75
7. Mean Raw Pretest, Posttest, and Delayed Posttest Scores and Percentages that were Correct the by Treatment Group	78
8. Comparative Analysis of Camper Pretest and Posttest Scores by Treatment Group Mean: A Split-Plot Factorial 4x2 Repeated Measures ANOVA Summary Table	81
9. Comparative Analysis of Camper Pretest, Posttest, and Delayed Posttest Scores by Treatment Group Mean: A Split-Plot Factorial 4x3 Repeated Measures ANOVA.....	82
10. Mean Camper Attitude Score.....	83
11. Camper Posttest Scores: Contrasts of Males versus Females.....	84
12. Comparative Analysis of Camper Posttest Scores by Race.....	84
13. Correlation Between Camper Personal Characteristics (Age and GPA) and Posttest Scores	85
14. Comparative Analysis of Camper Posttest Scores by Grade Level.....	85

Table	Page
15. Camper Posttest Scores: Contrast of Campers Who Receive Free or Reduced Lunches at School versus Campers Who Do Not Receive Free or Reduced Lunches at School.....	86
16. Comparative Analysis of Camper Posttest Scores by Number of Times the Camper has Attended Camp	87
17. Camper Posttest Scores: Contrast of Campers Who Are FFA Chapter Officers versus Campers Who Are Not FFA Chapter Officers	87
18. Correlation Between Camper Attitude Scores and Posttest Scores	88
19. Camper Delayed Posttest Scores: Contrasts of Males versus Females.....	89
20. Comparative Analysis of Camper Delayed Posttest Scores by Race	89
21. Correlation Between Camper Personal Characteristics (Age and GPA) and Delayed Posttest Scores	90
22. Comparative Analysis of Camper Delayed Posttest Scores by Grade Level.....	90
23. Camper Delayed Posttest Scores: Contrast of Campers Who Receive Free or Reduced Lunches at School versus Campers Who Do Not Receive Free or Reduced Lunches at School	91
24. Comparative Analysis of Camper Delayed Posttest Scores by Number of Times the Camper has Attended Camp	92
25. Camper Delayed Posttest Scores: Contrasts of Campers Who Are FFA Chapter Officers versus Campers Who Are Not FFA Chapter Officers	92
26. Correlation Between Camper Attitude Scores and Delayed Posttest Scores.....	93

LIST OF FIGURES

Figure	Page
1. The Three-Circle Model of School-Based Agricultural Education	2
2. Conceptual Model for Agricultural Subject Matter as a Content and Context for Teaching (Roberts & Ball, 2009)	20
3. Learning Profiles of each of the Four Academic Types – IS, IN, ES, EN	40
4. Camper Learning Style	74
5. Mean Raw Pretest and Posttest Scores by Treatment Group.....	76
6. Mean Raw Pretest, Posttest, and Delayed Posttest Scores by Treatment Group	79

CHAPTER I

INTRODUCTION

Background

School-based agricultural education is uniquely structured in that it consists of three distinct learning components: (a) classroom and laboratory instruction, (b) Supervised Agricultural Experience (SAE), and (c) The National FFA Organization (FFA) (see Figure 1) (National FFA Organization, 2008). Each component carries with it a different purpose, each of which is critical to the dynamic infrastructure typical of agricultural education (Croom, 2008). When used properly, each component provides a variety of teaching environments (Dailey, Conroy, & Shelley-Tolbort, 2001; Dormody & Seevers, 1994; Robinson & Haynes, 2011; Rutherford, Townsend, Briers, Cummins, & Conrad, 2002; Thoron & Myers, 2011). The successful agricultural education program requires instructors to commit to effective delivery of each of the three components to facilitate student learning in all environments (Croom, 2008) and the development of “transferable academic skills so as to prepare them to achieve in other courses” (Dailey et al., 2001, p. 18).

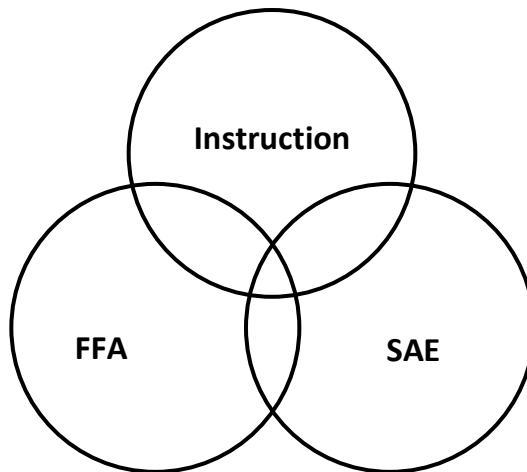


Figure 1. The Three-Circle Model of School-Based Agricultural Education (National FFA Organization, 2008).

The classroom and laboratory instruction component of the total agricultural education program includes formal educational experiences within the school classroom (Croom, 2008; Phipps & Osborne, 1988). These experiences, planned and designed by the agricultural education teacher, include classroom lectures, simulations, demonstrations, and teacher-led discussions (Croom, 2008). For example, Thoron and Myers (2011) examined the effects of subject matter learning and inquiry-based learning in the agricultural education classroom and found students gained agricultural content knowledge when taught by either methodological approach.

The SAE component functions as an independent learning opportunity for students (Retallick, 2003). Students select an agricultural career pathway and develop an educational plan together with their teachers, parents, and employers, if necessary (Croom, 2008). SAEs are completed outside of the formal classroom environment but provide an environment where both formal and informal instruction can occur (Retallick,

2003). According to Robinson and Haynes (2011), SAEs can be used to develop critical thinking skills among students, which can then be transferred to enriched classroom discussions.

The FFA component complements both the classroom instruction and SAE components by encouraging overall personal development, life skills development and career development (Brown, 2011). This student leadership development organization encourages students to develop interests in agricultural careers through its career development events, contests and award programs, leadership development programs, and scholarships (Phipps & Osborne, 1988). Further, student leadership traits are enhanced as students increase their level of participation in FFA activities such as summer leadership camp (Dormody & Seevers, 1994; Rutherford, Townsend, Briers, Cummins, & Conrad, 2002).

Historically, FFA has been committed primarily to providing non-formal learning activities that focus largely on leadership education (Hoover, Scholl, Dunigan, & Mamontova, 2007). In fact, the mission of the FFA is to make “a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through agricultural education” (National FFA Organization, 2008, p. 5). Rutherford et al. (2002) posited that there is a “positive relationship between FFA participation and self-perceptions of leadership” (p. 30). FFA hosts numerous leadership conferences and experiences such as Washington Leadership Conference, National FFA Convention, and the 212 Degrees Conference (National FFA Organization, n.d.) that focus on delivering instruction about leadership and personal development that compliment what is taught in the classroom component (National FFA Organization,

n.d.). Twenty-four state FFA associations also offer summer FFA camps, which focus on personal development, leadership, and recreation (Connors, Falk, & Epps, 2010).

Connors et al. (2010) reported, “leadership development (at camps) played an important role in preparing FFA officers and members for future FFA chapter activities” (p. 39).

For more than 30 years, the Oklahoma FFA Alumni Association has hosted an annual camp for FFA members that focused on leadership and personal development (McCrea, 2011). Oklahoma FFA Alumni Leadership Camp is offered to members four times during the summer in three-and-one-half-day sessions during a two-week period (K. Boggs, personal communication, May 16, 2011). Approximately 350 FFA members attend each session for an approximate total of 1500 participants per summer (K. Boggs, personal communication, May 16, 2011). The only official qualifications for attending camp are that the FFA member must: (a) have completed at least one year of agricultural education coursework at the 8th grade level or higher, (b) have pre-enrolled in an agricultural education course for the following fall, and (c) have paid the camp fee. Typically, however, local FFA chapters develop additional guidelines and processes for members to earn the opportunity to attend the camp (Oklahoma FFA Association, n.d.).

In 2005, Oklahoma FFA camp planners consulted with an outside youth personal/leadership development specialist to evaluate and offer judgments of the camp structure and curriculum (K. Murray, personal communication, May 16, 2011). The consultant ultimately provided recommendations for ways to improve the program of the camp (K. Murray, personal communication, May 16, 2011). The consultant concluded that the camp experience could be enriched if measurable learning objectives were developed and used to write an academic curriculum to be taught to participants during

the camp (K. Murray, personal communication, May 16, 2011). In response, camp planners decided to utilize small group, breakout sessions to deliver academic leadership curriculum to campers similar to what may be taught in a formal classroom setting (K. Murray, personal communication, May 16, 2011) (see Appendix K).

Statement of the Problem

Although literature exists explaining the purposes and outlining the activities that occur at FFA camps (Comings, 1977; Connors, Falk, & Epps, 2010; Javornik, 1962; Keels, 2002; McCrea, 2011), there is a dearth of literature that reports the educational significance and learning outcomes of camp programs. Non-formal learning activities provided through FFA activities such as camps, conferences, and conventions, require significant investment of financial and human resources to plan and execute. In their 2012 research of small group leaders in the Oklahoma FFA leadership camp environment, Brown and Terry asserted, “further research is needed in the area of camper learning style and factors that contribute to cognitive gain in an FFA camp setting” (Conclusions, Implications, and Recommendations section, para. 5). Given these recommendations and the overall costs associated with the summer camp, it was important to determine the level of cognitive gain and the amount of information retained by students who received instruction in the non-formal learning environment that exists in the Oklahoma FFA Alumni Leadership Camp setting.

Purpose

The purpose of the study was to examine the academic learning outcomes of Oklahoma FFA Alumni Leadership Camp and to describe how learning styles, attitudes,

and other personal characteristics affect the learning outcomes and knowledge retention exhibited by camp attendees.

Objectives

The following objectives were formulated to accomplish the purpose of this study:

1. Describe selected personal characteristics (sex, race, age, grade level, socioeconomic status, years of Oklahoma FFA Alumni Leadership Camp attendance, chapter FFA officer status, grade point average) of FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.
2. Determine the pervasive, preferred learning style of FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.
3. Determine the amount of knowledge gained from the curriculum taught during small group sessions of the camp by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.
4. Determine the amount of knowledge retained from the curriculum taught during small group sessions of the camp after a 6-month period by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.

5. Determine if the preferred learning style of the campers affected, or had an effect on the attainment of knowledge associated with the curriculum taught during small group sessions of the camp.
6. Determine if the learning style of the campers affected or, had an affect on the retainment of knowledge associated with the curriculum taught during small group sessions of the camp.
7. Assess the attitude toward the Oklahoma FFA Alumni Leadership Camp of FFA members who attended the program during the summer of 2011.
8. Measure the relationship between posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011.
9. Measure the relationship between delayed posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011.

Hypotheses

The following hypotheses were formulated for objectives three, four, five, and six and guided the statistical analysis of the study:

Objective 3

H₀: No difference existed between Oklahoma FFA Alumni Leadership Camp attendees' pretest and posttest scores on a multiple-choice test linked with the small group curriculum taught during camp breakout sessions.

Objective 4

H₀: No difference existed between Oklahoma FFA Alumni Leadership Camp attendees' pretest and delayed posttest scores on a multiple-choice test linked with the small group curriculum taught during camp breakout sessions.

Objective 5

H₀: No difference existed between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles.

H₀: No interaction existed between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style.

Objective 6

H₀: No difference existed between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles.

H₀: No interaction existed between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style.

Scope of the Study

The study included FFA members from 149 local Oklahoma FFA chapters who attended camp during summer of 2011. The subjects had completed at least the eighth grade, but had not yet graduated from high school. In all, 344 campers participated and were divided into four groups based on their individual, preferred learning styles for data analysis.

Assumptions

The following assumptions were made for the purpose of the study:

1. The campers approached the pretest and posttests with sincerity and completed each test to the best of their ability.
2. The campers answered the learning style inventory and questionnaire truthfully.
3. The campers were not re-exposed to camp curriculum and materials after leaving camp, but before completing the delayed posttest.
4. The campers were engaged actively in the curriculum delivery during small group breakout sessions.

Delimitations of the Study

This study was delimited to 344 Oklahoma FFA members who attended camp during summer 2011 and were pre-enrolled in an agricultural education course in an Oklahoma high school for the 2011-2012 school year.

Limitations of the Study

The researcher recognized the following limitations:

1. The researcher was not in control of instruction during small group breakout sessions and thus depended on camp personnel to teach the curriculum.
2. This study was conducted during the camp experience, and careful attention was given to create minimal disruption during each camp session. Therefore,

it is possible that nuisance variables could exist that would have been eliminated if data were collected in a more controlled research environment.

3. The study employed a quasi-experimental design therefore certain threats to validity were inherent in the design and could not be avoided. Thorough discussions of all threats to internal and external validity are discussed in Chapter Three.
4. Pretest sensation (Gay, Mills, & Airasian, 2009) was a threat to internal validity and; therefore, was a limitation of the study. The duration of each Oklahoma FFA Alumni Camp session was only four days. Therefore, it was possible that pretest exposure increased posttest scores.

Significance of the Study

The study was conducted in response to a need for information and understanding of camper experiences by Oklahoma FFA Alumni Camp planners. The study was guided by the research of Connors et al. (2010) who posed several questions regarding FFA camps and Brown and Terry (2012) who studied learning styles of small group leaders and their effects on student knowledge attainment in a FFA leadership camp setting. Connors et al. (2010) asked the question, “How do camps add to the leadership development of FFA campers?” The results of the historical review (Connors et al., 2010) indicated that most literature pertaining to camps only recounted activities that occurred during the camp experience and identified the objectives of individual state camps. This extensive survey of agricultural education literature did not identify the existence of any quantitative research that measured the outcomes of camp purposes and objectives.

Therefore, the researcher chose to conduct the research reported here to add empirical data regarding the learning outcomes and defined personal characteristics of members who participated in a FFA camp environment. Since the addition of the academic curriculum to small group, breakout sessions during the camp experience, no research has been conducted to determine the learning outcomes of this significant change to the Oklahoma camp model (K. Boggs, personal communication, May 16, 2011).

In addition, Brown and Terry (2012) recommended that Oklahoma FFA Alumni Leadership Camp planners incorporate an assessment strategy related to camp learning outcomes.

If one of the goals of camp is to develop campers' knowledge of leadership and personal development, then outcomes and factors influencing it should be evaluated each year. Faculty members and research associates in the Department of Agricultural Education, Communications and Leadership at Oklahoma State University should be involved in designing and administering this evaluation plan. Data collected as a result of summative assessments will provide vital information for camp planners and curriculum directors who make budgetary and educational decisions. It is further recommended that camp planners establish learning standards and set camper learning achievement goals to serve as benchmarks to measure learning success in future camps. (Brown & Terry, 2012, Conclusions, Implications, and Recommendations section, para. 5)

The purpose, objectives, and design of this study were formulated in response to the findings of Connors et.al. (2010) and served to meet the research recommendations advanced by Brown and Terry (2012). The results of this study will be useful to Oklahoma FFA Association staff, Oklahoma agricultural education instructors, state agricultural education staff members, and other stakeholders who are interested in affecting program impact and improving agricultural education and FFA in Oklahoma. Camp planners can replicate this study on an annual basis in order to ensure that the camp is successfully meeting its predetermined objectives.

Operational Definitions of Terms

Camp – An annual leadership camp hosted by the Oklahoma FFA Alumni Association in cooperation with Oklahoma FFA state staff members. The four-day camp is offered four times during a two-week period every summer (Oklahoma FFA Association, n.d.).

Camper – An Oklahoma FFA member who attended Oklahoma FFA Alumni Leadership Camp during summer 2012.

Cognitive Gain – For the purpose of the study, the term cognitive gain referred to the increase in score as indicative of a camper’s increase in reasoning and understanding of the concepts contained in the academic curriculum pertinent to a comparison of his/her pretest and posttest score.

Cognitive Retention – The amount of information, as measured by a comparison of pretest and delayed posttest scores, an FFA member who attended Oklahoma FFA Alumni Leadership Camp retained from small group, breakout session camp curriculum six months following the camp experience.

Extravert – A person who exhibits a psychological type that learns best when completing a task, is comfortable and confident in social environments, develops ideas from the outside world (external stimuli), and is energized from the external environment (Jung, 1971; Shindler & Yang, 2003).

Formal Learning – A learning environment sanctioned by a school or institution that leads to a diploma, degree, or certificate (Kasworm, Rose, & Ross-Gordon, 2010).

Informal Learning – “A category that includes incidental learning, may occur in institutions, but it is not typically classroom-based or highly structured, and control of learning rests primarily in the hands of the learner” (Marsick & Watkins, 1990, p. 12).

Introvert – A person who exhibits a psychological preference for working alone or with one other person, prefers to watch before acting, develops ideas from an internal locus, appears deep and complicated to others, and sets their own personal standards (Jung, 1971; Shindler & Yang, 2003).

Intuitive –A person who exhibits a psychological preference for thinking abstractly and uses their imagination, works diligently in bursts, prefers to be challenged with new things, trusts their own intuition, and lives their life with his or future in mind (Jung, 1971; Shindler & Yang, 2003).

Learning Style – “The way people absorb, process, and retain information” (DeBello, 1990, p. 203). For the purpose of this study, learning style will be defined using two of Jung’s (1971) personality dimensions: extraversion versus introversion and sensation versus intuition.

National FFA Organization (FFA) – The national youth organization for middle school and high school students who are enrolled in agricultural education. The organization hosts non-formal youth development conferences on the local, state, and national level (National FFA Organization, 2008).

Non-formal Learning – An organized learning environment, such as a workshop or convention, that usually happens in relation to the workplace or within an organization but does not include formal grades or academic credits to be counted toward a diploma, degree, or certificate (Kasworm, Rose, & Ross-Gordon, 2010).

Sensate – A psychological type of person that is realistic, patient, and practical; prefers to develop routines; achieves success by employing experience and common sense; and searches for what is actual (Jung, 1971; Shindler & Yang, 2003).

CHAPTER II

REVIEW OF LITERATURE

Introduction

Chapter II is a review of relevant literature related to this study and the variables under examination. The chapter is organized into seven sections: purpose, overview of school-based agricultural education, learning environments, learning styles, personal characteristics and academic characteristics as factors in learning, theoretical framework, and a chapter summary. The review synthesizes the literature and describes broadly the general themes that emerge within the literature in agricultural education and other education disciplines. A description and discussion of the two learning theories that guided the selection of research variables, study design, and instrumentation process are also included in the chapter.

School-based Agricultural Education – An Overview

As the industrial revolution created rapid, technical growth and a greater need for skilled workers in the early 19th century, the United States experienced significant changes, which eventually resulted in the passage of the Smith Hughes Act of 1917 (Roberts, 1957). According to Roberts (1957), this new legislation created a dual

paradigm shift related to American education: education was to prepare students for careers, and the federal government would become involved in educating students not yet old enough to attend college. This shift paved the way for the birth of American vocational education (Roberts, 1957). Although most educators agreed that the need for vocational education was great, the purpose of such education continued to be debated (Roberts & Ball, 2009). For example, John Dewey believed that vocational skills should be combined with traditional academics, creating a context-rich curriculum, while David Snedden argued that vocational education should be content-centered, focusing only on preparing students to work (Roberts & Ball, 2009).

Although this debate occurred nearly 100 years ago, and the country has witnessed massive technological advancements coupled with a growing world economy in the years since, literature shows that the Dewey and Snedden conversation continues in agricultural education (Roberts & Ball, 2009). Agricultural education professionals still struggle to determine if agriculture is to be the content or context, regarding how secondary agricultural education instruction is delivered (Jenkins, Kitchel, & Hains, 2010; Park & Osborne, 2006; Roberts & Ball, 2009; Scales, Terry, & Torres, 2009).

Agriculture as Context

Agriculture as context reflects the Dewey argument in that the agricultural education setting becomes an effective teaching-learning environment across disciplines and subject matter (Roberts & Ball, 2009). Science, math, and reading are among the subjects that have been examined in terms of the validity of the *agriculture as context* paradigm (Roberts & Ball, 2009). The following studies examined this theory more

thoroughly (Roberts & Ball, 2009 Scales, Terry, & Torres, 2009; Thompson & Warnick, 2007; Ulmer & Torres, 2007).

Teaching science in the context of agriculture is a dominant field of research in modern agricultural education (Scales et al., 2009; Thompson & Warnick, 2007; Ulmer & Torres, 2007). Scales et al. (2009) maintained that the concept of including more science into the agricultural education curriculum has been gaining support for the last 20 years. The study also found that agriculture instructors in Missouri believed they were competent to teach science concepts while, in fact, the use of an instrument from the American Board for Certification in Teacher Excellence revealed a lack of science knowledge among 90% of participants (Scales et al., 2009).

In a study conducted by Thompson and Warnick (2007), science teachers and agriculture teachers were questioned to determine attitudes and perceptions concerning the integration of additional science into the agricultural education curriculum. It was determined that both groups of teachers believed that teaching science in the context of agriculture would improve students' science knowledge and help agricultural education meet state standards (Thompson & Warnick, 2007). Thompson and Warnick (2007) suggested that teacher education programs should see the results of their study as a call to include more science-centered, pedagogical training for new teachers.

Ulmer and Torres (2007) investigated the cognitive behavior of both agricultural education and science teachers. They found that both groups of teachers spent a majority of their time on lower-order behavior, and that agriculture teachers had an abundance of

opportunities to model higher-order thinking. The study called for new teacher training and in-service opportunities for current agriculture instructors (Ulmer & Torres, 2007).

Science is not the only discipline being tested in the context of agriculture. Literature shows that scholars are interested also in determining the outcomes associated with integrating math and reading instruction into agricultural education curriculum (Park & Osborne, 2006; Parr, Edwards, & Leising, 2008; Stone, Alfeld, & Pearson, 2008; Young, Edwards, & Leising 2009). Stone et al. (2008) found that students who were subjected to math competencies through career and technical education for one academic year achieved greater scores on traditional math tests. Young et al. (2009) studied the effects of integrating math-enhanced curriculum into agricultural power and technology coursework. The purpose of the study was to determine if the use of math-enhanced curriculum diminished student technical skills (Young et al., 2009). The results of the study indicated that students who received math-enhanced agricultural power and technology training did not display diminished competencies in technology skills, and thus the experimental treatment was supported (Young et al., 2009). Although the literature associated with science and math integration is more extensive, it is important to recognize that scholars also contended that agriculture teachers are called on to demonstrate their commitment to improving student reading skills, and they advocated the use of allocated time for student reading (Park & Osborne, 2006a; Park & Osborne, 2006b).

Agriculture as Content

The amount of literature supporting the use of agriculture as a context for teaching academic disciplines greatly outweighs current literature testing and advocating that agriculture should be the content for agricultural education. In fact, even occupational education scholars recognize the need for a new vocational education (Grubb, 1997). Grubb (1997) proposed a *new vocationalism* and maintained that occupational curriculum should be general and not focus on specific jobs and that traditional academia should be integrated into occupational coursework. Further, he argued that career education might even require a change in institutional structure (Grubb, 1997). Hoachlander (1998) supported the argument by saying, “Career and technical education programs will continue a trend that focuses less on specific training for immediate entry level employment upon graduation” (p. 1). There appears to be very little current literature supporting the traditional approach to teaching content-based agriculture.

Agricultural Education – Content and Context

Roberts and Ball (2009) argued that although agricultural education is still under the career and technical education umbrella, technically the program actually offers two products (see Figure 2). With the first product, agricultural educators prepare students to go into the world and act as free thinkers. These student products of agricultural education develop careers that may move into and out of the agriculture industry. They take with them a valuable, basic understanding of agriculture that will serve them for a lifetime, and they make valuable contributions to innumerable facets of the national and

global economy. With the second product, instructors produce the people necessary to create a vibrant agriculture industry in the United States of America. They are solid contributors to our nation's gross domestic product. (Roberts & Ball, 2009)

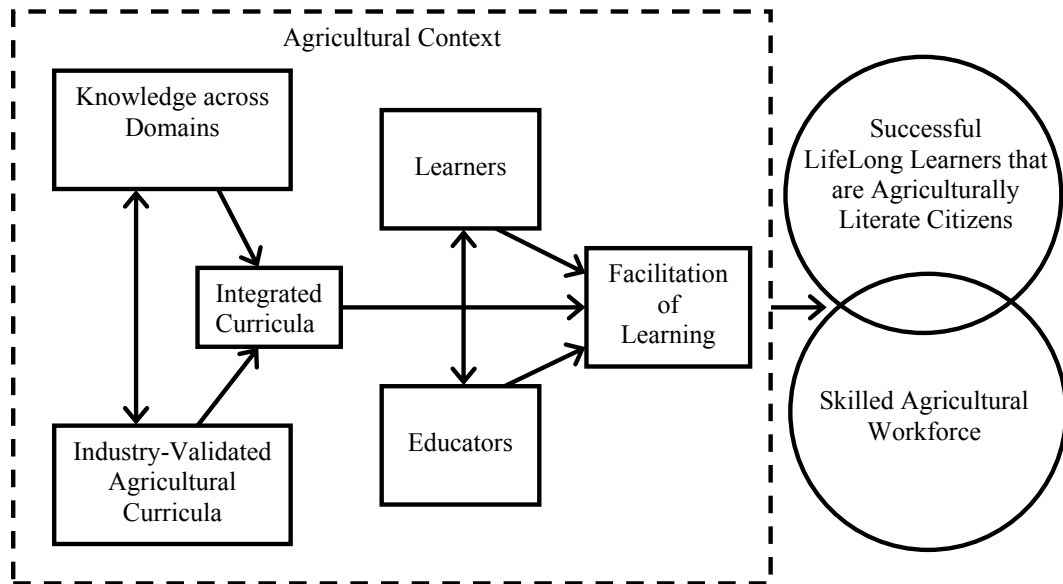


Figure 2 - Conceptual model for agricultural subject matter as a content and context for teaching (Roberts & Ball, 2009).

Instructional programs, SAEs, and FFA offer three distinct learning environments designed to create a holistic agricultural education experience (Retallick, 2003). There has not been a complete consensus as to which of the two outcomes (agriculturally literate citizens or skilled agricultural workers) agricultural education truly produces (Roberts & Ball, 2009). However, there seems to be a consensus that the non-formal learning environments embedded in FFA benefit students regardless of whether agricultural education instructors are teaching agriculture as content or context in the classroom (Connors et al., 2010; Hoover et al., 2007; Rutherford et al., 2002; Stedman,

Rutherford, Rosser, & Elbert, 2009). Although separate collections of literature do exist, which examine agriculture as either context or content (Roberts & Ball, 2009), little literature exists refuting the idea that non-formal learning environments result in positive outcomes for students. In fact, the general consensus is that they are good for students (Conners et al., 2010; Hoover et al., 2007; Rutherford et al., 2002; Stedman, Rutherford, Rosser, & Elbert, 2009).

Learning Environments

Educational learning environments are described typically as functioning from one of three settings: formal, informal or non-formal (Kasworm et al., 2010). In practice, however, the parameters are not so defined (Malcolm, Hodgkinson, & Colley, 2003). Much of the literature concerning varied learning environments suggests a lack of agreement related to what constitutes formal, informal and non-formal and where the boundaries between those environments lie (Malcolm et al., 2003). In spite of the lack of consensus related to boundaries, literature does appear to support the position that authentic learning occurs in all three environments and that none is inherently superior to the other (Malcolm et al., 2003).

Formal Learning Environment

Typically, the formal learning environment exists within an institutional setting, such as the classroom, lecture hall, or learning laboratory (Kasworm, Rose, & Ross-Gordon, 2010). Malcolm et al. (2003) described formal learning as acquisitional learning typified by vertical knowledge development. Mocker and Spear (1982), in their descriptive model of lifelong learning, identified formal learning as that which occurs in a

setting determined by the institution with learning goals set by the institution. One broadly held school of thought posits that to be productive, learning must be designed, planned, and facilitated in a formal instructional setting (Marsick, Volpe, & Watkins, 1999).

Informal Learning Environment

Informal learning environments occur in virtually any setting where people co-exist and interact (Kasworm, Rose, & Ross-Gordon, 2010). In differentiating between formal and informal learning, Malcom et al. (2003) asserted that informal learning embodies everyday events that result in horizontal knowledge gathered from non-educational settings. Typically, this knowledge gathering process occurs independently as a self-directed means to address issues related to personal development, work, or civic engagement (Kaswor et al., 2010). Eraut (2004) espoused a typology of informal learning that identified three types of informal learning: (a) deliberative, which signifies learning directed toward a specific learning goal; (b) reactive, which occurs as individuals learn in reaction to fact-finding, observations, opinions, and responses to changing situations; and (c) implicit, which develops as tacit knowledge acquired separate from intentional acquisitions. Although informal learning encompasses characteristics that are separate from formal learning, there are clearly instances of interrelationships (Malcolm, et al., 2003). “All (or almost all) learning situations contain attributes of formality/informality, but the nature of, and balance between varies significantly from situation to situation” (Malcolm, et al., 2003, p. 317).

Non-formal Learning Environment

Non-formal learning environments differ from formal and informal learning environments in that the learning exhibits some loosely organized structure offered outside of institutional constraints (Kasworm, Rose, & Ross-Gordon, 2010). Brennan (2006) identified three sub-types of non-formal education (NFE): (a) NFE that acts as a complement to formal education; (b) NFE that acts as an alternative to formal education; and (c) NFE that acts as a supplement to formal education. In contrast, Malcolm et. al. (2003) postulated that the terms informal and non-formal could be used interchangeably to signify characteristics contrary to the formal environment. Andersson and Andersson (2005) stated,

In sum, central aspects of authentic learning are to take learners' perspectives and to create a learning environment by referring the content to the learners' actual life experiences. Thereby, the content of learning is assumed to become genuine and meaningful. Hence, an authentic activity implies real world experiences, which make the content relevant and engage the learners in their own meaning-making. This can be achieved through collaboration, by posing questions, by simulating situations and by using cases and authentic material (p. 424).

The non-formal learning activities that form much of the infrastructure of FFA focus largely on leadership education (Hoover, Scholl, Dunigan, & Mamontova, 2007). As outlined in the FFA mission statement, students have the opportunity to develop their own leadership potential, grow personally, and prepare for career success through their involvement in FFA (National FFA Organization, 2008, p. 5). To that end, FFA has developed a variety of leadership conferences and experiences such as Washington

Leadership Conference (WLC), National FFA Convention, and the 212 Degrees Conference. Each of these programs have among their goals to teach students principles required for leadership and personal development beyond what is taught in the subject area as part of the classroom component (National FFA Organization, n.d.). One focus of WLC is encouraging youth civic engagement, developed around the tenet that citizenship should move an individual beyond self-interest and toward a commitment to the well-being of the larger group (Stedman et. al., 2009). Rutherford et al. (2002) acknowledged a positive correlation between students' FFA participation and their self-perceptions of leadership. That involvement may take the form of participating in local, district, state, and national conferences; livestock exhibitions; and career development events (Oklahoma FFA Association, n.d.). Personal and leadership development are also a primary focus of the summer camps offered by 24 state FFA associations (Connors, Falk, & Epps, 2010). Connors et al. (2010) reported "leadership development (at camps) played an important role in preparing FFA officers and members for future FFA chapter activities" (p. 39). Smith, Garton, and Kitchel (2010) identified three themes of importance to youth organizations such as the FFA. These three themes were equipping youth to contribute to society, supporting the family, and assisting in youth personal growth and development (Smith et al., 2010).

In summary, formal learning environments are not the only venues for authentic learning to occur. Formal, informal, and non-formal learning environments each empower learners with knowledge and skills (Kasworm, Rose, & Ross-Gordon, 2010). Eaton (2010) supported this concept by stating,

The new ways of regarding learning transcend geographical borders, be they provincial or national, and reach far beyond traditional notions of learning. No longer is formal education the 'only' way. Now we have systematic and inclusive methods to demonstrate and recognize all types of learning – formal, non-formal and informal in ways we never have before. (p. 27)

Learning Styles

Literature shows that different types of learning environments produce differing learning outcomes (Kasworm, Rose, & Ross-Gordon, 2010). The literature also differentiates between types of learners and varying learning outcomes (Cano & Garton, 1994; Garton & Raven, 1992). A review of relevant literature revealed that considerable research has been conducted regarding preferred learning styles and the effects of learning styles in school-based agricultural education programs (Brown & Terry, 2012; Cano & Garton, 1994; Cano, Garton, & Raven, 1992; Dyer & Osborne, 1996; Friedel & Rudd, 2006; Garton, Spain, Lamberson, & Spiers, 1999; Lambert, Smith, & Ulmer, 2010; Marrison & Frick, 1994; Whittington & Raven, 1995). An abundance of literature associated with learning styles also exists in other education disciplines (Hansen & Stansfield, 1982; McDonald, 1984; Mehdikhani, 1983; Miller, 1991; Paradise & Block, 1984). Before these studies can be expounded upon, a short discussion of several learning style measurement instruments is necessary.

Learning Style Inventories

Several learning style inventories exist that can be used to identify individual learning styles (Gregorc, 1982; Kolb, 1984; Shindler & Yang, 2003). Educators must

recognize the different learning styles among their students and realize that students process and understand information in widely varied ways (Anderson & Adams, 1992).

The Gregorc Style Delineator™ (GSD) classifies the learner into four style types: Concrete Sequential (CS), Abstract Sequential (AS), Abstract Random (AR), and Concrete Random (CR) (Gregorc, 1982). In essence the GSD measures where people are positioned mentally on a continuum consisting of concrete and abstractness on opposing ends. Concrete learners see the world with a *right* or *wrong* mentality and abstract learners find value in the idea that things could be right and wrong (Gregorc, 1982). Lambert, Smith, and Ulmer (2010) utilized the GSD to determine if mind styles affected the overall relational satisfaction between mentors and protégés who were participating in a new teacher-mentoring program.

The Group Embedded Figures Test (GEFT) has been used in research about learning style by agricultural educators (Cano & Garton, 1994; Cano & Metzger, 1995; Dyer & Osborne, 1996; Garton, Spain, Lamberson, & Speirs, 1999). The GEFT assesses the students' preferred learning style by classifying them as field-dependent or field-independent learners (Oltman, Raskin, & Witkin, 1971). Learners who are field-dependent are focused more on their social environment and tend to struggle with problem solving (Oltman et al., 1971). Field-independent learners prefer to perform activities independently and excel in solving problems (Oltman et al., 1971).

The Kolb Learning Style Inventory (KLSI) identifies nine learning styles based upon an individual's preference for Kolb's (Kolb, 1984) four learning modes: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active

Experimentation (Kolb & Kolb, 2009). The KLSI is rooted foundationally in Jung's (1971) psychological trait theory (Kolb, 1984). The first four learning styles, Experiencing, Reflecting, Thinking, and Acting are determined because the individual emphasizes one of the four modes. Four other learning styles, Diverging, Assimilating, Converging, Accommodating, represent learners who show an emphasis for two learning modes, one representing the transforming dimension and the other representing the grasping dimension (Kolb & Kolb, 2009). Finally, "learners with a Balancing style balance the extremes of the dialectics of action reflection and concrete-abstract by finding a middle ground between them" (Kolb & Kolb, 2009, p. 318).

The Paragon Learning Style Inventory (PLSI) (Shindler & Yang, 2003) is a 52-item learning style inventory that utilizes the four Jungian dimensions: (a) extroversion versus introversion, (b) sensation versus intuition, (c) thinking versus feeling, and (d) judging versus perceiving (Jung, 1971; Schneider, 1969; Shindler & Yang, 2003). Items of the PLSI were constructed using a single question or stem statement with two opposing answers or statement choices. Shindler and Yang (2003), the creators of the PLSI, indicated that the first two Jungian types, extroversion versus introversion and sensation versus intuition, most influence how an individual learns and acts in an academic setting. Shindler and Yang (2003) named and described four learning styles associated with these two type dimensions:

1. *Action Oriented Realists* are those people who are both extraverts and sensates. These learners thrive on action and prefer to work in groups. Action Oriented Realists are impatient with slow complicated situations and place the most value on practical results.

2. *Action Oriented Innovators* are those people who are both extraverts and intuitives. These action oriented learners share their thoughts with those around them and love to test their theories with the group. Action Oriented Innovators are deterred by details and routine activities.
3. *Thoughtful Realists* are those people who are both introverts and sensates. These learners make careful, steady choices and prefer to work alone. Although they are not expressive by nature, they are detailed observers.
4. *Thoughtful Innovators* are those people who are both introverts and intuitives. These learners are excellent problem solvers and, like Thoughtful Realists, prefer to work alone on their on thoughts and ideas. Thoughtful Innovators are fascinated with scientific things.

Learning Style Research in Agricultural Education

Learning style research in agricultural education has devoted the preponderance of its attention to the learning styles of students rather than teachers (Cano & Garton, 1994; Cano et al., 1992; Dyer & Osborne, 1996; Friedel & Rudd, 2006; Garton et al., 1999; Lambert et al., 2010; Marrison & Frick, 1994; Whittington & Raven, 1995). Dunn and Dunn (1979) suggested that, “teachers teach the way they learned” (p. 241). Research focused on teacher learning styles has been useful in identifying gaps that may exist in meeting the educational needs of students who learn in various ways.

Brown and Terry (2012) examined the learning styles of college-age students who served as group leaders in a FFA camp setting. They concluded that most students who volunteered and were selected to serve as camp group leaders were extraverts (Brown &

Terry, 2012). The researchers failed to find that group leader learning style had any impact on the learning outcomes of the students they taught (Brown & Terry, 2012). The results of this study contributed to the divergence of literature related to the effects of teacher learning style on student learning outcomes, which supported previous studies (Hansen & Stansfield, 1982; McDonald, 1984; Mehdikhani, 1983; Paradise & Block, 1984).

Whittington and Raven (1995) employed the GEFT (Oltman, Raskin, & Witkin, 1971) to explore the learning styles of agricultural education student teachers. It was determined that most student teachers were field-independent learners, which indicated that the student teachers valued their responsibility to facilitate or guide student-centered learning (Whittington & Raven, 1995). The study suggested that female agricultural education student teachers “tended to be more field-independent than the national norm for the GEFT” (Whittington & Raven, 1995, p. 15). Other researchers in agricultural education who conducted studies using the GEFT found that students who possessed the field-independent learning style were more successful in academic endeavors than those students who did not (Cano et al., 1992; Garton et al., 1999). Marrison and Frick (1994), however, concluded that no significant differences in academic achievement existed between field-dependent and field-independent learners, but that field-independent learners enjoyed the learning experience more than field-dependent learners.

The GSD was used to test the effects of Mind Styles™ on relationship satisfaction between protégés and their assigned mentors during the duration of a mentoring program for new teachers (Lambert et al., 2010). Lambert et al. (2010) stated that the GSD has been utilized most widely to measure relationship satisfaction between students and their

teachers. The researchers further posited that their study mirrored the field of literature associated with the GSD by suggesting “a mentor/protégé relationship could be similar to a teacher/student relationship, but is not necessarily the same” (Lambert et al., 2010, p. 71). Although transfer of information from mentor to protégé was not measured in the study, the researchers questioned if Mind Style™ could be a contributing factor in the learning process in such a relationship (Lambert et al., 2010). Friedel and Rudd (2006) also administered the GSD to determine learning styles of participants to determine if there was a relationship between learning styles and the ability to think creatively. No relationships between creative thinking ability and learning styles were found other than a negative correlation between Abstract Random learners and two constructs measuring originality and fluency (Friedel & Rudd, 2006).

Learning Style Research in Other Disciplines

Numerous studies outside the discipline of agricultural education have examined learning styles and student outcomes (Hansen & Stansfield, 1982; McDonald, 1984; Mehdikhani, 1983; Miller, 1991; Paradise & Block, 1984). Researchers have examined student learning outcomes as effected by teacher learning style (Hansen & Stansfield, 1982; McDonald, 1984; Mehdikhani, 1983; Paradise & Block, 1984). In fact, McDonald (1984) identified benefits from matching student learning styles with teacher learning styles. Paradise and Block (1984) echoed that finding when they found a correlation between teacher learning style and fourth grade students’ reaching achievement. Other studies, however, found that teacher learning style and student outcomes are not so closely correlated (Hansen & Stansfield, 1982; Mehdikhani, 1983). In a study of the disciplines of mathematics and English, Mehdikhani (1983) concluded that teacher

learning style did not affect students' academic success. Hansen and Stansfield (1982) tested the outcomes of matching students with teachers who had like learning styles and concluded that students who were matched did not score significantly higher than those who were mismatched. Thornton, Haskell, and Libby (2006) compared learning styles of 100 high school students, 34 of whom were gifted, 32 who were not gifted but were college-bound, and 34 who were neither gifted nor college-bound. The researchers concluded although gifted students used each of the learning styles more than the other two groups of students, no statistically significant difference existed in the type of learning style used by the gifted versus non-gifted students (Thornton et al., 2006).

Personal Characteristics and Academic Characteristics as Factors in Learning

Several personal and academic characteristics are prevalent in the literature as being positively or negatively related to student learning (Caldas and Bankston, 1997; Cochran et al., 2010; Seligman, 1990). Upon a review of this literature, the researcher made an informed decision as to what personal characteristics should be included in the secondary data analysis of the study. A survey of literature revealed the following conclusions related to student attitude, personal characteristics, grade point average, and involvement in agricultural education.

Attitude – When examined through the lens of their postschool lives, the attitudes students acquire in school become profoundly important – perhaps even more important than their cognitive achievements (Popham, 2009). In fact, a student's tendency to attribute success to internal or external factors can be correlated to attitudes toward self-efficacy and performance (Bandura, 1982; Cochran, McCallum, & Bell, 2010; Haugen &

Lund, 1998). This correlation between positive attitude and academic success can be found in a variety of studies (Cochran et al., 2010; Horwitz, Horwitz, & Cope, 1986; Onwuegbuzie, Bailey, & Daley, 2000).

Personal Characteristics – A student’s family’s socioeconomic status (SES) tends to have an effect on the student’s academic achievement (Caldas & Bankston, 1997; Nye, Konstantopoulos, & Hedges, 2004; Thoron & Myers, 2011). Students from poverty status families, as indicated by their qualification for the federal free/reduced price lunch program, demonstrate a negative correlation on academic achievement, while students from higher social status families demonstrate a more positive correlation (Caldas & Bankston, 1997). However, Caldas and Bankston (1997) found that “going to school with classmates from relatively high family social status backgrounds does make a strong and significant contribution to academic achievement, independent of one’s family SES or race” (p. 275). Research revealed that teacher effects are more pronounced in low-SES schools (Nye et al., 2004). Teacher selection, teacher effectiveness, and interventions to increase teacher effectiveness through replacement or in-service training have a higher impact on academic achievement in low-SES schools when compared to high-SES schools (Nye et al., 2004). However, Brown (1991) reported that data supported the finding that “there are few, if any, differences among social classes in students’ ability to process school resources to make gains in achievement” (p. 355). When examining sex, literature revealed that women are more likely to blame themselves for their failures and credit others for their success, while men more often credit themselves with more optimistic attributes (Cochran, McCallum, & Bell, 2010; Seligman, 1990). Brown (1991) found that males performed at higher academic levels in mathematics while females

performed at higher levels in reading. Thoron and Myers (2011) found, however, that neither sex nor ethnicity impacted student outcomes on laboratory reports. Their overall findings related to student outcomes on laboratory reports neither confirm nor refute the findings of Caldas and Bankston (1997) related to SES (Thoron & Myers, 2011). Rather, they found that those participants who received free lunch received the lowest scores, whereas, those who received reduced lunch earned the highest scores on their laboratory reports. The researchers questioned whether agricultural education courses and laboratories could be more applicable to practical knowledge possessed by students in this demographic (Thoron & Myers, 2011).

Grade Point Average (GPA) – Literature addressing grade point averages indicated that both high school GPAs and ACT scores acted as predictors for first-year college performance for 1997 incoming freshmen (Garton, Ball, & Dyer, 2002). However, Garton et. al. (2002) found that for the 1998 class of incoming freshmen, high school core GPA alone was the best predictor of academic achievement in college.

Involvement in Agricultural Education – Numerous studies have been conducted relating to student involvement in agricultural education as a predictor of academic performance (Dyer, Lacy & Osborne, 1996; Garton, Kitchel, & Ball 2005; Moore & Braun, 2005; Smith et al., 2010; Zirkle & Connors, 2003). Smith et al. (2010) examined the relationship between students who were actively involved in school-based agricultural education and their academic performance as college freshmen. The study compared 1998 and 2003 Missouri State FFA Degree recipients to 1998 and 2003 college freshmen who were never enrolled in high school agricultural education (Smith et al., 2010). The results of this longitudinal study were inconclusive in that significant differences in

academic performance (GPA) did not exist in 1998 incoming freshmen, but a significant difference was found among 2003 incoming freshmen (Smith et al., 2010). A mean score difference of .31 was found among the 2003 group when comparing past agricultural education students to students having no agricultural education experience (Smith et al., 2010). The findings from both 1998 and 2003 incoming freshmen conflict with results report by Moore and Braun (2005), which asserted that students with school-based agricultural education experience earned a significantly lower GPA than those with no agricultural education experience. In contrast, the 1998 findings by Smith et al. (2010) confirmed the research of Dyer et al. (1996), which found no significance among students with school-based agricultural education experience and those without. Garton et al. (2005) found that FFA membership alone yielded a positive influence on academic achievement and college degree completion. In conclusion, the literature reported mixed findings related to a correlation between academic performance and enrollment in school-based agricultural education and membership in the National FFA organization.

Theoretical Framework

This study focused on the academic learning outcomes of Oklahoma FFA Alumni Leadership camp, a non-formal learning environment. Upon a review of literature on theories related to this investigation, it was determine that the study should be framed by a confluence of two psychological theories: Vygotsky's (1962) Sociocultural Theory, a lens in which to view camper learning and social interactions in the camp environment, and Jung's (1971) Psychological Types Theory, a theoretical leans in which to examine the FFA members who attended the camp.

Sociocultural Theory is a constructivist learning theory (Shunk, 2012).

Constructivism is a psychological and philosophical viewpoint, which contends that individuals construct what they learn and know (Bruning, Schraw, Norby, & Ronning, 2004). Two primary constructivist theories are prominent in educational literature: Vygotsky's (1962) Sociocultural Theory and Piaget's (1952) Theory of Cognitive Development. Although both theories are grounded in the philosophy that all learning is constructed by the individual, Sociocultural Theory focuses more on the social environment and emphasizes the roll of social interactions to facilitate learning and growth (Tudge & Scrimsher, 2003).

Jung's Psychology Type Theory (1971) focuses on individual psychological types and serves as a theoretical foundation for various learning styles and learning style inventories (Kolb, 1984; Shindler & Yang, 2003). Because Jung's (1971) theory has withstood the test of time and has been used widely as a foundation for learning style research (Kolb, 1984; Shindler & Yang, 2003), the PLSI was selected as the most appropriate learning style inventory to meet the objectives of this study.

Vygotsky's Sociocultural Theory

Vygotsky, a Russian Marxist (Rohrkemper, 1989), endeavored to explain and understand human thought processes in new traditions (Shunk, 2012). Shunk (2012) explained that Vygotsky rejected introspection, a theory relying on self-analysis, and he "wanted to abandon explaining states of consciousness by referring to the concept of consciousness; similarly, he rejected behavioral explanations of action in terms of prior actions" (p. 242). Shunk (2012) explained further, "rather than discarding consciousness

(which the behaviorists did) or the role of the environment (which the introspectionists did), he sought a middle ground of taking environmental influence into account through its effect on consciousness” (p. 242). A key tenet of Sociocultural Theory is that the social environment impacts cognition through three tools: (a) cultural objects (e.g., technology), (b) language, and (c) social institutions (e.g., civic organizations) (Shunk, 2012). “Social interactions help to coordinate the three influences on development” (Shunk, 2012, p. 242). According to Meece (2002), language is the most important of the three tools. Language develops as a student masters the use of social speech, moves to engaging in private speech, and finally, processes covert or inner speech. Cognitive growth occurs when individuals use cultural tools within social interactions to internalize and transform the interactions into their own meaning (Bruning et al., 2004). In short, Vygotsky’s theory focuses on the interaction between people and their environment (Shunk, 2012). In fact, Vygotsky (1962) contented that all advanced cognitive functions begin in the social environment.

Another key component of Vygotsky’s theory is the zone of proximal development (ZPD), which is defined by Vygotsky as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). A person’s ZPD is determined by the amount of information an individual can learn when provided proper instruction in an appropriate educational environment (Puntambeker & Hübscher, 2005). The ZPD is an indicator a student’s level of intellectual development in a given learning domain and demonstrates how student development and cognitive gain are associated

(Bredo, 1997). Belmont (1989) suggested that a person's ZPD could be observed as a substitution for the concept of student intelligence. This philosophical view was compounded by Vygotsky's belief that formal education was most important because it afforded students the opportunity to become aware of themselves, their contribution and role in the world, and their language (Shunk, 2012).

Although Vygotsky's theory is impressive, some scholars have suggested that the theoretical claims appear to be overreaching (Bereiter, 1994; Carey & Gelman, 1991; Shunk, 2012; Spelke, 1982). Carey and Gelman (1991) noted that empirical evidence suggests that young children create a solid understand of the world before they have had the opportunity to learn from the surrounding culture. Further, research shows that children begin life with a preprogrammed method to conceptualize the physical world and that, although it is possible social learning contributes to conceptualization, it cannot be claimed that all learning begins on the social plane (Spelke, 1982).

Jung's Psychological Trait Theory

Jung (1971) outlined traits that affect the way people, learn, act, think, communicate, and view the world. Jung (1971) identified four factors that determine a person's psychological type: (a) Extraverts versus Introverts, (b) Sensates versus Intuitives, (c) Thinkers versus Feelers, and (d) Judgers versus Perceivers. Jung (1971) theorized that people trend naturally toward one characteristic in each of the divergent pairs. As a result, 16 possible psychological types emerge from Jung's (1971) theory. Each type of person learns, behaves, and interacts with others in varied ways (Shindler & Yang, 2003).

When describing differences between individuals who are Introverts and those who are Extraverts Jung (1971) stated,

The introvert's attitude is an abstract one; at bottom, he is always intent on withdrawing libido from the object, as though he had to prevent the object from gaining power over him. The extravert, on the contrary, has a positive relation to the object. He affirms its importance to such an extent that his subjective is constantly related to and oriented by the object. (p. 330)

Extraverts find themselves drawn to other people (objects) as a source of energy, while Introverts focus on and draw out energy from their inner self (Jung, 1971). Shindler and Yang (2003) explained further that Extroverts are more comfortable and confident in social environments and gain their ideas from external forces, while Introverts prefer to work alone, set their own standards, and acquire their ideas from within.

Jung (1971) explained that the dimension of Intuition or Sensation is a way of processing and making meaning of ideas. Shindler and Yang (2003) explained that Sensates view ideas as physical and part of reality. On the contrary, Intuitives operationalize ideas as real and see them "as a world in and of themselves" (p. 2). Sensates rely on common sense and have realistic viewpoints, while Intuitives favor imagination and focus on his or her future plans (Jung, 1971).

While making decisions, people either rely on thought or feeling to guide the process (Jung, 1971). "Thinkers tend to make decisions based on logic and ideas whereas Feelers tend to make decisions based more on relation to people and how their actions affect others, especially their feelings" (Shindler & Yang, 2003, p. 2). Further, Feelers

dislike conflict and stimulate enthusiasm among groups (Shindler & Yang, 2003).

Finally, thinkers are unprejudiced in conflict and require reason when making decisions (Shindler & Yang, 2003).

Judgers and Perceivers differ in their orientation to the external environment (Jung, 1971). Perceivers often struggle to make decisions and prefer to maintain several options for action (Shindler & Yang, 2003). Perceivers are spontaneous people and tolerate the differences they have with others, while Judgers are mostly decisive rather than curious and can suffer from rash decision-making (Shindler & Yang, 2003). Figure 3 shows the learning profiles of the four types that most effect learners academically.

	Extroverts (E)	Introverts (I)
Sensates (S)	<p>ESs Action-Oriented Realists (≈ 36%)</p> <p>Let me work with my hands and create something practical. Some people may call me a “kinesthetic” learner, but I would rather call myself a “doer.” I like to be part of a team and see practical results from my/our work. I have a strong need to contribute and be recognized. Don’t just explain how to do something to me, at least show me, and better yet, let me try it out. I learn from doing and then reflecting on what I have done. If you want me to understand an abstraction let me discover it inductively, or I can have a difficult time integrating it into a big picture understanding. Written directions can be really helpful to me. If you expect me to continually sit and listen to a lecture and then do well on a test later, I will likely disappoint you much of the time.</p>	<p>ISs Thoughtful Realists (≈ 36%)</p> <p>Let me work independently on tasks that are clearly spelled out. Let me work with facts and information and I will be able to use my power of insightful realism to come to sound well thought-out conclusions. Give me a chance to be careful and thoughtful. I will be your most dependable and steady student if you give me work where the directions are clear and the desired outcome is understood beforehand. Give me recognition for my care and persistence since those are my strengths and I may not draw as much attention to myself as some of the other students. When you give vague careless directions or just expect me to “be creative” with no guidelines, I will likely feel some uneasiness and maybe even some resentment.</p>
Intuitives (N)	<p>ENs Action-Oriented Innovators (≈ 16%)</p> <p>Let me work in situations where I can use my communications skills in my learning. If I am working in a group where there are chances to be creative, I can get really motivated. I am a much better student when I am “into the task” as opposed to when I am “not into the task.” I like to be inspired and see the purpose behind the work. I have an expressive energy that comes out when I am comfortable, and it helps me draw out my creativity and make connections across content. Talking, discussing, role-playing, debating are natural ways for me to tap that energy source. Peer tutoring a subject that I am good at is one of my favorite things to do. Projects where I can solve problems and draw energy from working with others and overcoming challenges are also areas where I feel very confident. When there are too many details, routines, lectures or the same old thing all the time, I may turn my creative energies into behavior that you may not like.</p>	<p>INs Thoughtful Innovators (≈ 12%)</p> <p>Let me work in situations where I can come up with my own ideas whenever possible. I don’t have as much trouble as some of the other students in being creative. I am often surprised when I see that I sometimes see deeper realities that other students miss. I like to come up with stories, draw pictures, or think of new ways of doing something. Some people call me a “visual learner” but I just feel more comfortable studying something for a while and understanding how it works before I try to do it or talk about it. I will be the last to volunteer usually, but I will work to master it long after the other students have moved on to something else. I need to be able make connections with the current subject and the previous subjects, so let me know the purpose behind what we are doing before you tell me what to do. If you ask me to do work that is pointless, inconsistent, or irrelevant then you will probably see me become at least a bit cynical and/or irreverent.</p>

Figure 3. Learning Profiles of each of the Four Academic Types – IS, IN, ES, EN (Shindler & Yang, 2003).

Summary

The industrial revolution of the 19th century brought with it an increased demand for skilled workers, which then led to significant changes in American education and the resultant development of vocational education (Roberts, 1957). The ensuing debate then became whether this new educational paradigm should be context- or content-driven, an

argument that agricultural education professionals still struggle to resolve (Jenkins, Kitchel, & Hains, 2010; Park & Osborne, 2006; Roberts & Ball, 2009; Scales, Terry, & Torres, 2009). Roberts and Ball (2009) argued that agricultural education actual yields two different student outcomes: lifelong learners who are agriculturally literate and skilled learners who become part of the agricultural workforce. Retallick (2003) suggested that agricultural education's three distinct learning environments, comprised of instructional programs, Supervised Agricultural Experiences (SAE), and FFA, created a holistic agricultural education experience.

Although much of the literature related to formal, informal, and non-formal learning environments suggested a lack of agreement as to what constituted each environment and where the boundaries between them were drawn, literature appeared to concede that authentic learning occurs in all three environments and none was inherently superior to the other (Malcolm, Hodkinson, & Colley, 2003). Considerable research has been conducted surrounding preferred learning styles, including their effects in agricultural education (Brown & Terry, 2012; Cano & Garton, 1994; Cano et al., 1992; Dyer & Osborne, 1996; Friedel & Rudd, 2006; Garton et al., 1999; Lambert et al., 2010; Marrison & Frick, 1994; Whittington & Raven, 1995). A majority of learning style research in agricultural education has focused on student learning styles as opposed to teacher learning styles (Cano & Garton, 1994; Cano et al., 1992; Dyer & Osborne, 1996; Friedel & Rudd, 2006; Lambert et al., 2010; Whittington & Raven, 1995). Research focused on teacher learning styles may identify gaps that exist in meeting the education needs of students who learn in various ways (Brown & Terry, 2012). Studies focused on students' personal and academic characteristics, such as socioeconomic status, sex,

ethnicity, and academic achievement, and their positive or negative correlation to cognitive gain and retention were prevalent in the literature field (Caldas & Bankston, 1997; Cochran et al., 2010; Nye et al., 2004; Seligman, 1990). Findings were mixed in establishing a correlation between academic performance and enrollment in school-based agricultural education and membership in FFA (Dyer et al., 1996; Garton et al., 2005; Moore & Braun, 2005; Smith et al., 2010; Zirkle & Connors, 2003).

Following a thorough review of theory literature, the researcher determined that this study should be framed around Vygotsky's (1962) Sociocultural Theory and Jung's (1971) Psychological Types Theory. The merged application of these two theories would provide a broadened lens through which to view the FFA members who attended the camp, their learning styles, and their social interaction.

CHAPTER III

METHODOLOGY

Introduction

Chapter III is a presentation of the methodological approach and decision process that ensued as the study was conducted. This chapter includes the purpose of the study, description of the population, sampling procedures, research design, data collection, control factors considered, fidelity of the study, and a description of data analysis techniques. The research project proposal was submitted to the Oklahoma State University Office of University Research Compliance and reviewed by the Institutional Review Board (IRB). All subject recruitment documents and procedures were reviewed thoroughly by the IRB and found to meet the three pillars of the Belmont report: (a) respect for persons, (b) beneficence, and (c) justice (U.S. Department of Health and Human Services, 1979). The study was approved from June 17, 2011 to June 16, 2012 and was allotted the following IRB number: AG1133 (see Appendix A).

Purpose

The purpose of this study was to examine the academic learning outcomes of Oklahoma FFA Alumni Leadership Camp and to describe how learning styles,

attitudes, and other personal characteristics affected the learning outcomes and knowledge retention exhibited by camp attendees.

Population

The target population for this study was FFA members who participated in the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Camp attendees were Oklahoma public school students who had completed the eighth grade but had not yet graduated from high school. All attendees must have completed at least one agricultural education class and have been members of the National FFA Association during the previous school year. Camp participants could have been a FFA member for as few as one year to as many as four years. Because the target population exceeded 1,500 ($N = 1,543$), the researcher determined that a census was not feasible, so a random sample was extracted from the population to serve as the subjects of the research.

Sampling Procedures

Probabilistic simple random sampling was used for the study. Simple random sampling is the most rigorous sampling procedure because it utilizes random sampling techniques, which allows the researcher to claim that the sample is a representation of the total population and thus generalize the findings of the study to the total population (Creswell, 2008). Therefore, the results of this study can be generalized only to FFA members who attended camp during summer 2012. Individual campers were each assigned a number during the camp registration process. A web-based randomization tool (randomizer.org) was utilized to generate a simple random sample of the population. Study participants were identified by matching each number on the sample list to the

number assigned to each individual camper. G*Power version 3.1, a computer statistical power analysis software, was used to determine that a sample size of 60 was needed to reach maximum statistical power with an expected effect size of ($\eta_p^2 = .25$) (Faul, Erdfelder, Lang, & Buchner, 2007).

Generalization was desired; therefore, it was determined that a sample size larger than 60 was necessitated. Krejcie and Morgan's (1970) *Table for Determining Sample Size from a Given Population* was utilized to determine the appropriate sample size ($n = 310$) for the study population ($N = 1,543$). To ensure that the final sample size would be large enough to generalize study results, the researcher chose to randomly sample 435 campers. Ultimately, the sample was reduced to 395 due to a lack of parental consent from 40 campers. In all, 344 FFA members participated in the study while at camp, resulting in an 87% response rate. According to Lindner, Murphy, and Briers (2001), an 87% response rate was great enough that no further procedures to control for non-response error were necessitated.

Research Design

The quantitative research approach was chosen because it was the most appropriate method to meet the objectives of the study. The study employed a split-plot factorial repeated-measures quasi experiment as well as correlation and regression analysis. Creswell (2008) defined quantitative research as “educational research in which the researcher decides who to study; asks specific, narrow questions; collects quantifiable data from participants; analyzes these numbers using statistics; and conducts the inquiry in an unbiased, objective manner” (p. 46). To achieve the study's objectives, the

researcher collected quantifiable information and used statistical analysis to: (a) describe personal characteristics, (b) identify learning styles, (c) determine if camper learning styles affect camper cognitive gain in the camp environment, (d) determine if camper learning styles affect camper cognitive retention in the camp environment, (e) measure the relationship between posttest scores and selected camper personal characteristics and attitudes, and (f) measure the relationship between delayed posttest scores and selected camper personal characteristics and attitudes .

The objectives of this study were met by utilizing a split-plot factorial repeated measures quasi-experimental design. The study was quasi-experimental because campers were not randomly assigned to treatment groups (Kirk, 1995) due to the natural occurrence of learning styles among individuals. According to Field (2009), study participants are required to complete all levels of the quasi-experiment when using the repeated-measures research design. The three levels of this repeated-measures quasi-experiment were a pretest, posttest, and delayed posttest. To meet the objectives of the study, student learning style was identified, student cognitive gain and retention was determined by scores on the pretest, posttest, and delayed posttest, and students were split into four test groups based on their preferred learning styles to determine if their individual style affected their level of cognitive gain and retention of material taught during small group breakout sessions.

Small groups convened seven times during the four-day camp, which resulted in 12 hours of treatment. Each small group was led by a post high school, former FFA member known as a Small Group Leader (SGL). The variables tested in the quasi-experiment are shown in Table 1.

Table 1

Quasi-Experimental Study Design

Group	Assignment	Repeated Measure 1	Repeated Measure 2	Repeated Measure 3
A	Non-Random	Pretest	Posttest	Delayed Posttest
B	Non-Random	Pretest	Posttest	Delayed Posttest
C	Non-Random	Pretest	Posttest	Delayed Posttest
D	Non-Random	Pretest	Posttest	Delayed Posttest

Variables of Investigation

Steinberg (2008) defined an independent variable as “the treatment or condition that the researcher expects will make subjects perform either better or worse on some measure of behavior” (p. 142). The independent variables in the primary analysis component of this study were the following four learning styles: (a) Action Oriented Realists, (b) Action Oriented Innovators, (c) Thoughtful Realists, and (d) Thoughtful Innovators (Shildler & Yang, 2003). Personal characteristics, specifically sex, race, age, grade level, socioeconomic status, years of Oklahoma FFA Alumni Leadership Camp attendance, chapter FFA officer status, and grade point average, as well as student attitude scores pertaining to evaluation, potency, and activity of camp also served as independent variables in secondary data analysis procedures.

Dependent variables are “the measured outcome or behavior, which the researcher then assumes is attributable to the treatment” (Steinberg, 2008, p. 142). Three repeated measures of knowledge related to communications served as the dependent variables for this study. Those measures were collected in the form of a pretest, posttest, and delayed posttest.

Data Collection

Instrumentation

Four instruments were used to collect quantitative data and meet the study’s objectives: (a) the Paragon Learning Style (PLSI); (b) the Camp Communications Content Examination (CCCE); (c) Alumni Camp Attitude Assessment (ACAS); and (d) a questionnaire to collect personal characteristics of the campers.

Through a thorough review of the literature, it was determined that the Paragon Learning Style (PLSI), a widely used instrument, was the most appropriate learning style inventory to meet the objectives of the study (Shindler & Yang, 2003). The PLSI is a 52-item learning style inventory that utilizes the four Jungian dimensions: (a) extroversion versus introversion, (b) sensation versus intuition, (c) thinking versus feeling, and (d) judging versus perceiving (Jung, 1971; Schneider, 1969; Shindler & Yang, 2003). According to Shindler and Yang (2003), the learning style dimensions of extraversion versus introversion and sensation versus intuition were most useful for this type of research because they affect students most in an educational environment. Therefore, the researcher chose to focus only on the first two learning style dimensions. Items of the PLSI were constructed using a single question or stem statement with two opposing

answers or statement choices. This standardized instrument has been reviewed continuously to increase reliability and improve validity for more than 10 years. Shindler and Yang (2003), creators of the instrument, reported split-half reliability coefficients between .90 and .94 for each of the four dimensions. Based on this report, the instrument was considered valid and reliable.

The researcher, in cooperation with state FFA staff and Alumni Camp planners, created the Camp Communications Content Examination (CCCE), a criterion-referenced test designed to assess camper's cognitive gain of concepts associated with the curriculum taught during camp small group breakout sessions. Oklahoma FFA staff members collaborated with the researcher to identify objectives of the curriculum, which focused on personal communication, team communication, and family communication. The CCCE is composed of 17 multiple-choice items.

A panel of experts comprised of two leadership curriculum specialists, three agricultural education teacher educators from Oklahoma State University, and three students from high schools in Oklahoma reviewed the CCCE for face and content validity.

Creswell (2008) explained, "content validity is the extent to which the questions on the instrument and the scores from these questions are representative of all the possible questions that a researcher could ask about the content or skills" (p. 172). Content validity is established typically by using a panel of judges or experts in the field being tested to determine if the items on the instrument are valid (Creswell, 2008). Two leadership curriculum specialists were included on the review panel primarily for the

purpose of reviewing each test item for content validity. Both of the leadership curriculum specialists had previous experience writing curriculum and assessments for FFA leadership seminars and conferences such as Made for Excellence and the Washington Leadership Conference. Teacher education faculty members in agricultural education were also included on the panel due to their expertise in constructing summative education assessments. Panel members were tasked with determining if the test items were constructed appropriately. Finally, three Oklahoma high school students were asked to review the CCCE primary for face validity. The three students reviewed the instrument to ensure that all test items and directions were written at an age-appropriate level and were easy to comprehend. After two rounds of reviews and feedback from the panel, minor changes were made to the instrument. As a result, the CCCE was deemed a valid instrument.

Reliability “is the ability of the measure to produce the same results under the same conditions” (Field, 2009, p. 12). Wiersma and Jurs (1990) suggested eight specific methods to establish reliability of a criterion-referenced examination, including homogeneous items, discriminating items, enough items, high quality copying and format, clear directions for the students, a controlled setting, motivating introduction, and clear directions for the scorer. The following actions were carried out to ensure the CCCE was a reliable instrument,:

1. *Homogeneous items* – The CCCE was created to test campers in the area of social communications. Test questions were linked directly to curriculum objectives. All test items were multiple-choice.

2. *Discriminating items* – Leadership curriculum development specialists confirmed that test items were difficult enough to be discriminative.
3. *Enough items* – A test item represented each camp curriculum subject or objective. Careful attention was given to creating a test with enough items to assess student learning while recognizing time constraints for data collection at camp.
4. *High quality copying and format* – Tests were formatted into booklets and printed on a high quality laser printer. Three high school aged students assisted in assessing the tests for face validity and formatting problems.
5. *Clear directions for the students* – Campers were provided extensive written directions explaining how to respond to test items properly. The three high school age students were also asked to provide feedback pertaining to written test directions.
6. *A controlled setting* – All study participants were provided a separate area monitored by the primary researcher to complete the pretests during the registration setting. The posttest was also administered and monitored in a controlled setting during a time set aside for students to complete the exam on the last day of camp.
7. *Motivating introduction* – Students were informed of the reason for the study and the positive implications the results would have on future camps. The information was included in the consent form signed by each student and reread before each test was administered.

8. *Clear directions for the scorer* – The lead researcher created a test key for scoring purposes. Further, item responses for each participant were entered into SPSS version 20 to compute a test score.

Multiple sources in the literature describe the appropriate role of reliability indices in criterion-referenced tests (Kane, 1986; Lang, 1982; Popham & Husek, 1969; Wiersma & Jurs, 1990). Kane (1986) stated, “in discussion of the properties of criterion-referenced tests, it is often assumed that traditional reliability indices, particularly those based on internal consistency, are not relevant” (p. 221). He explained further that his analyses “suggest that reliability is an important issue in criterion-referenced testing” (Kane, 1986, p. 221). More specifically, Kane (1986) posited that although criterion-referenced tests are designed purposefully to measure a person’s level of achievement, reliability coefficients (internal consistency) below .50 would not provide accurate results. The Kuder-Richardson (*KR20*) formula (Cronbach, 1970), a test for internal consistency used commonly in association with criterion-referenced exams, was utilized to test the CCCE for reliability. The CCCE produced a reliability coefficient of .52 (*KR20*), which is acceptable for criterion-referenced exams (Kane, 1986). Based on this finding, the CCCE was determined to be a valid and reliable instrument.

A nine-item questionnaire was developed to gather personal characteristics of interest for this study. The questionnaire included six multiple-choice questions, two fill-in-the-blank questions, and one open-ended question. The same panel of experts that reviewed the CCCE also reviewed the personal characteristics questionnaire for face and content validity.

The Alumni Camp Attitude Assessment (ACAS) semantic differential (Osgood et al., 1965) was developed by the researcher to determine the attitudes of campers regarding the camp experience. According to Isaac and Michael (1995), “the semantic differential is a method for measuring the meaning of concepts” (p. 144). Osgood et al. (1965) used factor analysis of 76 pairs of dichotomous adjectives to identify three factors that account for many of the semantic differential loadings. The three factors are evaluation, potency, and activity (Osgood et al., 1965). Isaac and Michael (1995) suggested that pairs of adjectives should be selected from the list of factor-analyzed pairs developed by Osgood et al. (1965) and placed on opposing ends of a seven-point summative scale. The instrument should include five to nine pairs of adjectives from each of the three factors (Osgood et al., 1965). Following this advice, the researcher chose five adjective pairs for each of the three factors, and varied the arrangement of each adjective pair so that the potent, evaluative, and active ends of the scales were positioned on both the left and right positions of the seven-point scale to avoid the development of response patterns. Table 2 displays the 15 pairs of polar adjectives chosen by the researcher to be included in the semantic differential developed for the purpose of this study. According to Isaac and Michael (1995), an attitude score between 1.00 and 3.99 is considered a negative attitude, a score between 4.00 and 4.99 is considered a neutral attitude, and a score between 5.00 and 7.00 is considered a positive attitude.

The ACAS was reviewed for face and content validity by the same panel of experts as the CCCE. Although all adjective sets were chosen from the list of factor-analyzed adjective pairs developed by Osgood et al. (1965) and were considered

standardized, the researcher chose to conduct a post-hock reliability analysis of the ACAS. The ACAS produced a reliability coefficient of .70 (Cronbach’s Alpha).

Table 2

List of Pairs of Polar Adjectives Utilized for the Development of Alumni Camp Attitude Assessment (ACAS) Semantic Differential

Evaluation	Potency	Activity
Good – Bad	Hard – Soft	Active – Passive
Happy – Sad	Strong – Weak	Fast – Slow
Sociable – Unsociable	Large – Small	Difficult – Easy
Friendly – Unfriendly	Heavy – Light	Emotional – Unemotional
Kind – Cruel	Deep – Shallow	Excitable – Calm

Procedures

During the registration period for each of the four sessions of camp, participants received and were asked to complete an instrument consisting of three documents: (a) a pretest content examination designed to measure cognitive gain of camp curriculum, (b) the Paragon Learning Style Inventory (PLSI) (Shindler & Yang, 2003), designed to measure camper learning styles, and (c) a questionnaire designed to collect participant’s personal characteristics. Before leaving camp, campers were asked to complete the CCCE as a posttest and the ACAS.

In January of 2012, each participant was asked to complete the CCCE again as a delayed posttest. The decision to administer the CCCE six months after the camp experience was supported in educational literature (Berti & Andriolo, 2012). The results of the delayed posttest were used to determine the level of cognitive retention. Dillman (2000) explained that survey implementation has a much greater bearing on response rate than the actual design and quality of the questionnaire. Dillman (2000) outlined five elements in his Tailored Design for achieving high response rates: (a) creation of a respondent-friendly questionnaire, (b) four separate mailings to each subject by first class mail, with an additional special contact, (c) return envelopes with first class stamps, (d) personalized mailings to each subject, and (e) prepaid incentives. The researcher determined that a higher response rate would be achieved if Dillman's (2000) design was utilized to contact the teachers of each subject rather than to communicate with each camper individually. The following steps were taken to achieve Dillman's (2000) Tailored Design:

1. *Respondent-friendly questionnaire* – A panel of experts reviewed the CCCE to ensure that the questions were clear and comprehensible. The panel also reviewed the instrument's design.
2. *Four separate mailings to each subject by first class mail, with an additional contact* – Each teacher received a letter of pre-notice three days prior to the questionnaire being mailed. The questionnaire was mailed with an explanatory letter included. A thank you/reminder postcard was mailed approximately one week after the questionnaire was received.

Replacement questionnaires were mailed to teachers who no longer had the instrument in their possession.

3. *Return envelopes with first class stamps* – A return envelope with a prepaid first class postage stamp affixed accompanied each questionnaire.
4. *Personalized correspondence* – All correspondence was printed on high quality stationery, including names of instructors and original signatures from the researcher.
5. *Prepaid incentive* – Each questionnaire packet included an ink pen branded with the OSU logo and the department name. Teachers were encouraged to keep the pen as a token of appreciation for their effort in the data collection process.

Two hundred and forty-three campers completed and returned the delayed posttest resulting in a 70.63% response rate. The best method to control for nonresponse error, a threat to external validity, is to compare those who responded to those who did not (Lindner, Murphy, & Briers, 2001). To do so, the researcher contacted agricultural education teachers who did not return their students' tests by telephone to request they return the completed instruments from their students included in the study. Twenty completed instruments were received through this process, meeting the minimum standard for the number of subjects needed to represent non-respondents (Lindner et al., 2001). A *t*-test analysis showed no significant differences between the respondents and non-respondents [$t(261) = -.56, p = .58$]. It was determined, therefore, that the respondents were representative of the population.

Control Factors

“Threats to validity are specific reasons why we can be partly or completely wrong when we make an inference about covariance, about causation, about constructs, or about whether the causal relationship holds over variations in persons, settings, treatments, and outcomes” (Shadish, Cook, & Campbell, 2002, p. 39).

Internal Validity

In experimental design research, there are eight primary threats to internal validity: (a) history, (b) maturation, (c) testing, (d) instrumentation, (e) statistical regression, (f) differential selection of participants, (g) mortality, and (h) selection-maturation interaction (Gay, Mills, & Airasian, 2009). Three powerful tactics for overcoming threats to internal validity in experimental research are random assignment of subjects, random selection of subjects, and researcher control over other nuisance variables (Gay et al., 2009). Although extensive precautions were taken to ensure that threats to internal validity were addressed, some threats were unavoidable due to the quasi-experimental nature of the study. The following discussion outlines how threats to internal validity were addressed during the course of this study.

History.

“History refers to any event occurring during a study that is not part of the experimental treatment but may affect the dependent variable” (Gay et al., 2009, p. 243). This threat was addressed in two ways. First, the treatment was relatively short as the duration of each of the four sessions of camp was only four days. As a result, the chances of monumental events occurring during the experiment were reduced. Secondly, the

actual camp environment protected students from learning of occurrences outside of the camp environment because campers were not allowed to communicate with friends or family members who were not in attendance.

Maturation.

“Maturation refers to physical, intellectual, and emotional changes that naturally occur within individuals over a period of time” (Gay et al., 2009, p. 243). Although young people often mature and change rapidly (Gay et al., 2009), maturation was not a significant threat to internal validity due to the short duration of the treatment. It should be noted, however, that the camp environment creates a unique setting where emotional changes and strong relationships can solidify quickly (Connors, Falk, & Epps, 2010). It is conceivable, therefore, that maturation could be a threat in the camp environment.

Testing.

“Testing also called *pretest sensitization*, refers to the treat of improved performance on a posttest that results from a pretest” (Gay et al., 2009, p. 244). Testing is a limitation of the study. Higher scores could have been achieved on the posttest due to memory and content cues acquired when the pretest was completed. In a effort to avoid this threat to internal validity, the researcher reordered the test items and answer choices randomly within each item.

Instrumentation.

“Instrumentation threat refers to unreliability, or lack of consistency, in measuring instruments that may result in an invalid assessment of performance” (Gay et al., 2009, p.

244). Careful attention was given to instrumentation. Gay et al. (2009) explained that instrumentation can threaten a study if the test used for a pretest is more or less difficult than the posttest instrument. As a result, the researcher chose to employ the same, but reordered, content exam as the pretest, posttest, and delayed posttest for the study. All four instruments were determined to be valid and reliable. Validity and reliability is discussed further in a latter section of chapter.

Statistical regression.

Statistical regression occurs frequently in experiments when subjects are chosen due to their extremely low or high scores (Gay et al., 2009).

Statistical regression is the tendency of participants who score highest on a test (e.g., a pretest) to score lower on a second, similar test (e.g., a posttest) and of participants who score lowest on a pretest to score higher on a posttest. (Gay et al., 2009, p. 245)

This threat to internal validity could have been avoided if the research design allowed for random assignment of subjects. However, learning styles are a naturally occurring phenomenon; therefore, campers could not be randomly assigned to treatment groups. It was possible that learning style could have affected test scores and that statistical regression was a threat to the experiment.

Differential selection of participants.

“Differential selection of participants is the selection of subjects who have differences before the start of a study that may at least partially account for differences found in posttest” (Gay et al., 2009, p. 245). This threat to internal validity was avoided

by administering a pretest to determine that all four groups began the treatment with the same level of knowledge.

Mortality.

“Mortality, or *attrition*, refers to a reduction in the number of research participants; this reduction occurs over time as individuals drop out of the study” (Gay et al., 2009, p. 245). Mortality became a threat to internal validity during the delayed posttest data collection phase of the study. A number of participants did continue their participation in the study through the completion of the delayed posttest. As a result, the researcher chose to analyze the data in two parts. The first split-plot factorial analysis (SPF) included only the first two repeated measures (pretest and posttest), while the second SPF analysis included all three repeated measures (pretest, posttest, and delayed posttest) with fewer participants.

Selection-maturation interaction.

Selection-maturation interaction “exists if participants selected into the treatment groups matured at different rates during the study” (Gay et al., 2009, p. 256). The study was designed in a way that selection-maturation interaction was not a threat to internal validity. The treatment duration was not extensive, and campers were exposed only to their assigned small group leader throughout the entire camp session.

External Validity

There are seven primary threats to external validity: (a) pretest-treatment interaction, (b) multiple-treatment interference, (c) selection-treatment interaction, (d)

specificity of variables, (e) treatment diffusion, (f) experimenter effects, and (g) reactive arrangements (Gay et al., 2009). Gay et al. (2009) explained,

Threats affecting “generalizing to whom” – that is, threat affecting the groups to which research results be generalized – make up threats to population validity.

Threats affecting the settings, conditions, variables, and contexts to which results can be generalized – make up threats to ecological validity. (Gay et al., 2009, p. 246)

Pretest-treatment interaction.

“Pretest-treatment interaction occurs when participants respond or react differently to a treatment because they have been pretested” (Gay et al., 2009, p. 246). A pretest was included in the design of this study. The pretest was necessary to meet the objectives set forth by the researcher. It is possible that students remembered items on the pretest and focused specifically on those items during their small group breakout sessions, resulting in a higher posttest score. To avoid this threat to external validity, each item on the posttest was reordered.

Multiple-treatment interference.

“Multiple treatment interference occurs when carryover effects from an earlier treatment make it difficult to assess the effectiveness of a later treatment” (Gay et al., 2009, p. 247). Although many of the study participants have attended camp in the past, they have never been exposed to the curriculum that was taught during the small group breakout sessions. Further, the camp is offered only during the summer each year, which

means students could not have been exposed to the FFA Alumni Camp experience within the last year.

Selection-treatment interaction.

This threat to population validity arises when findings of a study apply to groups that do not represent the complete population (Gay et al., 2009). Gay et al. (2009) explained,

Selection-treatment interaction, like the problem of differential selection of participants associated with internal validity, mainly occurs when participants are not randomly selected for treatments, but this threat can occur in designs involving randomization as well, and the way a given population become available to a researcher may threaten generalizability, no matter how internally valid an experiment may be. (p. 247)

The researcher used the simple random sampling technique (Creswell, 2008) to develop a representative sample of the entire camp population. All members of the population had an equal chance of being included in the sample.

Specificity of variables.

Specificity of variables, much like selection-treatment interaction, is a threat to external validity no matter the experimental design. Gay et al. (2009) stated, “any given study has specificity of variables; that is, the study is conducted with a specific kind of participant, using specific measuring instruments, at a specific time, and under a specific set of circumstances” (p. 247). To avoid this threat to external validity, the researcher

used extensive detail to describe the research methodology and procedures so that the reader can replicate the study or transfer the findings to another similar situation.

Treatment diffusion.

“Treatment diffusion occurs when different treatment groups communicate with and learn from each other” (Gay et al., 2009, p. 248). The nature of the study encouraged students to learn from each other during small group breakout sessions. In fact, camper-to-camper interaction during small group time was encouraged. The study was, however, designed so that all participants completed the pretest and the posttest at the same time during each session, which did not allow campers to assist each other on the tests. As such, the unit of analysis was campers. Treatment diffusion was a strong threat to external validity when students completed the delayed posttest. Teachers were instructed not to allow students to consult any resources for answers to the questions in an attempt to control for this threat.

Experimenter effects.

The researcher or researchers also pose a threat to external validity (Gay et al., 2009). “A researcher’s influences on participants or on study procedures are known as experimenter effects” (p. 248). The researcher was present during the data collection process at all four camp sessions but was not present (except for brief observation periods) during small group breakout sessions, which served as the treatment for the experiment.

Reactive arrangements.

“Reactive arrangements, also called *participant effects*, are threats to validity that are associated with the way in which a study is conducted and the feelings and attitudes of the participants involved” (Gay et al., 2009, p. 249). One of the limitations of the study is that the researcher was dependent upon the campers to give their best effort when completing the tests that served as the repeated measures of the experiment. Campers were encouraged to complete each item on the test carefully and were notified of the significance of the study and were encouraged to feel empowered that their efforts were fundamental in future camp planning efforts.

Fidelity of the Study

To determine fidelity of the experiment, the researcher observed all training sessions during the two-week camp experience. It was determined by the researcher that all 66 SGLs who were responsible for delivering the academic content during the small group breakout sessions were trained in the same manner and were provided the same curriculum and learning objectives. The researcher also randomly observed small group meetings during camp to ensure that SGLs were in fact teaching the established curriculum and learning objectives during small group time.

Analysis of Data

Primary Data Analysis Procedures

All data were analyzed using Statistical Package for Social Sciences (SPSS) version 20 for Macintosh computers. To reduce human error, the researcher also utilized

SPSS to calculate individual camper scores for the all three levels of the CCCE and to calculate mean scores for the three attitude factors associated with the ACAS. Objectives one, two, and seven were analyzed using descriptive statistics through central modes of tendency and variability. Frequencies, means, and percentages were calculated when appropriate. The split-plot factorial (SPF) design was utilized to meet objectives three through six and was considered the primary analysis procedure for this study. SPF designs test for between-subjects effects and within-subjects effects (Kirk, 1995). This study employed an SPF-4x2 design that tested differences among four between-subjects groups (learning styles), differences between two repeated measures (pretest scores and posttest scores) and determined if an interaction existed between learning styles and test scores. The researcher also utilized an SPF-4x3 design, which included one additional repeated measure (delayed posttest) to test for between-subjects effects and within-subjects effects when the delayed posttest was added to the analysis. Field (2009) explained that a test for sphericity is not necessary when an analysis includes only two repeated measures. Therefore, Mauchly's (1940) sphericity test was only utilized as part of the SPF-4x3 analysis. Mauchly's (1940) test for sphericity was non-significant ($p = .43$); therefore, the assumption of sphericity was met. Furthermore, Levene's (1960) test for homogeneity of variance was used to determine that there were no significant differences between the variances of each group. Levene's (1960) test produced a p value of .86 when comparing group variances for the pretest, a p value of .14 when comparing group variances for the posttest, and a p value of .65 when comparing group variances for the delayed posttest.

Secondary Data Analysis Procedures

Objectives eight and nine were achieved using three analysis procedures. First, a one-way ANOVA was employed to test if relationships existed between camper test scores and nominal variables with more than two categories (Kirk, 1995). Second, Student's *t*-test scores were utilized to test if relationships exist between camper test scores and nominal variables with two categories (Kirk, 1995). Finally, Creswell (2008) explained that correlational research is necessitated when “you seek to relate two or more variables to see if they influence each other” (p. 356). Therefore, Pearson's correlation coefficient *r* was used to test if relationships exist between camper test scores and continuous variables (Field, 2009). Appropriate statistical tests were used to determine that all assumptions were met during these secondary data analysis procedures.

Methods for Determining Effect Sizes

Cohen's *d* was reported for all one-way ANOVA outputs and *t*-tests because it is an appropriate statistic to calculate effect size when two independent variables are present (Kirk, 1995). Kirk (1995) explained, “Cohen refers to a *d* value of 0.2 as a small effect size” (p. 64). He further added that “a medium effect size is one for which $d = 0.5$, and a large effect size is one for which $d = 0.8$ ” (Kirk, 1995, p. 64). Partial eta squared (η_p^2) is a suitable statistic to calculate effect size in a repeated measures design with more than two independent variables (Richardson, 2011). Cohen (1965) explained that the partial eta squared statistic (η_p^2) is appropriate because other non-error causes of variation are partialled out of the analysis. Therefore, partial eta squared (η_p^2) was utilized to report effect sizes for both of the SPF analyses. Pearson's *r* squared was used to determine

relationship magnitude in all correlation analyses. “Effect size in the correlational context is referred to as the strength of association between two variables” (Chen & Popovich, 2002, p. 42). Cohen’s (1988) conventional reference of effect size magnitude (small - 0.1, moderate - 0.3, large - 0.5) are “relative, not only to each other, but to the area of behavioral science or even more particularly to the specific content and research method being employed in any given investigation” (p. 25).

CHAPTER IV

FINDINGS

Introduction

Chapter IV is the presentation of results generated from the execution of the objectives of the study. The findings are organized by objective with data presented with tables and narrative discussion.

Findings

Before data analyses were performed, all three dependent variables were tested for normality to ensure that the assumption of normality (Kirk, 1995) was not violated. Histograms and Q-Q plots were generated and analyzed. It was determined that all dependent variable scores were distributed normally.

Findings Associated with Objective One

The first objective was to describe selected personal characteristics (sex, race, age, grade level, socioeconomic status, years of Oklahoma FFA Alumni Leadership Camp attendance, chapter FFA officer status, and grade point average) of FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.

The sample was composed of 198 female campers (57.56%) and 146 male campers (42.44%). The ethnic composition of the group was 287 (83.10%) white, 42 (12.20%) were Native American or Alaskan Native, six (1.70%) were Asian or Pacific Islander, six (1.70%) were Hispanic, one (0.30%) was self-identified as African American, and two (0.60%) chose “other” to describe their race (see Table 3). The age range of campers was 13 to 19 years of age. More than 81% of the campers ($f = 277$) were 15 years of age ($f = 89$), 16 ($f = 110$) years of age, and 17 ($f = 78$) years of age. Socioeconomic status was determined by campers’ response to a question about whether or not they receive free or reduced lunch at school. This method of determining socioeconomic status is prevalent in academic literature (Caldas & Bankston, 1997; Molnar, Smith, Zahorik, Palmer, Halbach, & Ehrle, 1999; Nye, Konstantopoulos, & Hedges, 2004). Among this group, 17.00% ($f = 60$) indicated that they receive free or reduced meals (see Table 3).

Table 3

Frequency of Campers' Personal Characteristics (n = 344)

Personal Characteristic	<i>f</i>	%
Sex		
Female	198	57.56
Male	146	42.44
Race		
White	287	83.10
Native American or Alaskan Native	42	12.20
Asian or Pacific Islander	6	1.70
Hispanic	6	1.70
African American	1	0.30
Other	2	0.60
Age		
16 years of age	110	32.00
15 years of age	89	25.90
17 years of age	78	22.70
14 years of age	36	10.50
18 years of age	15	4.40
13 years of age	5	1.50
19 years of age	1	0.30
No age specified	10	2.90
Socioeconomic Status		
Does not receive free or reduced school lunches	284	83.00
Receives free or reduced school lunches	60	17.00

When campers were asked to indicate their grade level, 32.40% ($f= 111$) were entering their junior year, 28.60% ($f= 98$) were incoming sophomores, 26.20% ($f= 90$) were entering their senior year, 12.00% ($f= 42$) were going to be freshmen, and only 0.90% ($f=3$) were entering the eighth grade the following year (see Table 4). More than 77% of campers ($f= 266$) had attended camp once or twice, while 22.68% ($f= 78$) of campers indicated that they had been to camp at least three times. FFA chapter officers composed 61.34% ($f= 211$) of the sample. Campers' self-reported GPA was divided into three groups: (a) GPA range 2.00 – 2.99, (b) GPA range 3.00 – 3.99, and (c) GPA range 4.00 – 5.00. The possible scale was 0.00 to 5.00 due to a weighted GPA, which accounted for advanced placement courses. Campers with GPAs ranging 2.00 – 2.99 accounted for 4.36% ($f= 15$) of the sample. Those campers with GPAs ranging 3.00 – 3.99 comprised 56.40% ($f= 194$) of the sample and campers with GPAs ranging 4.00 – 5.00 accounted for 29.07% ($f= 100$) (see Table 4).

Table 4

Frequency of Campers' Academic Characteristics (n = 344)

Academic Characteristic	<i>f</i>	%
Grade Level		
11 th grade	111	32.40
10 th grade	98	28.60
12 th grade	90	26.20
9 th grade	42	12.00
8 th grade	3	0.90
Years of Camp Attendance		
1 st year of attendance	159	46.22
2 nd year of attendance	107	31.10
3 rd year of attendance	52	15.12
4 th year of attendance	23	6.69
5 th year of attendance	3	0.87
FFA Chapter Officer Status		
Holds FFA chapter office	211	61.34
Does not hold FFA chapter office	129	37.50
FFA chapter officer status not specified	4	1.16
Camper Grade Point Average (GPA)^a		
GPA range (2.00 – 2.99)	15	4.36
GPA range (3.00 – 3.99)	194	56.40
GPA range (4.00 – 5.00)	100	29.07
No GPA specified	35	10.17

^aGPA Range = 0.00 – 5.00 due to weighted AP courses.

The average age of campers in the sample was 15.80 ($SD = 1.11$) and the mean GPA was 3.61 ($SD = .42$) with a GPA range of 2.00 – 4.67 (see Table 5).

Table 5

Campers' Average Age and Grade Point Average (GPA) (n = 344)

Characteristic	<i>n</i>	<i>M</i>	<i>SD</i>	Range
Camper Age	334	15.80	1.11	13 – 19
GPA ^a	309	3.61	.42	2.00 – 4.67

^aGPA Range = 0.00 – 5.00 due to weighted AP courses.

Findings Associated with Objective Two

The second objective was to determine the pervasive learning style of FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Approximately 60% of the respondents possessed an extraverted learning style ($f = 206$). The most common learning style among campers was Action Oriented Realists ($f = 108$; 31.40%) followed by the second extraverted learning style, Action Oriented Innovators ($f = 98$; 28.48%) (see Figure 4). Thoughtful Realists, an introverted learning style, accounted for 28.40% ($f = 97$) of the sample while 11.92% ($f = 41$) of campers were Thoughtful Innovators, an introverted learning style (see Figure 4).

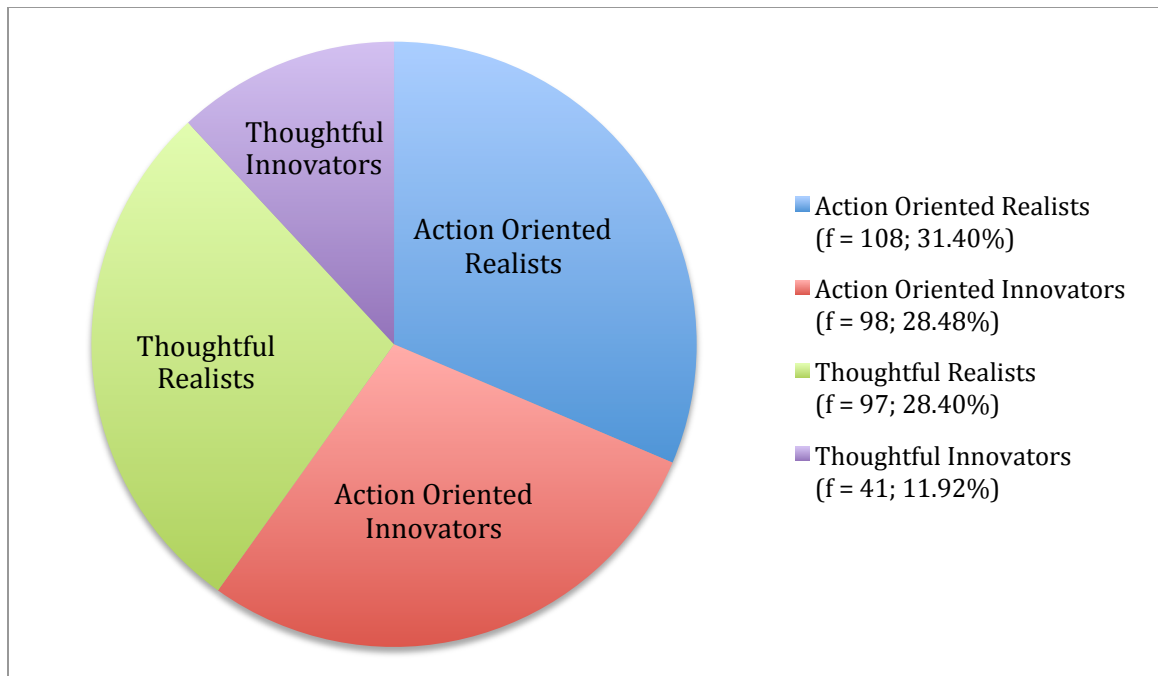


Figure 4. Distribution of campers by learning style.

Findings Associated with Objective Three

The third objective was designed to determine the amount of knowledge gained from the curriculum taught during small group sessions of the camp by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. The mean raw pretest and posttest scores, by treatment group, are presented in Table 6. Action Oriented Realists had a mean raw pretest score of 5.12 (30.12% correct) and a mean raw posttest score of 10.13 (59.59% correct). The mean difference was 5.01, which equated to a 29.47% increase in mean score when comparing pretest to posttest. Action Oriented Innovators scored 5.18 (30.47% correct) on the pretest and 9.52 (56.00% correct) on the posttest, resulting in a mean difference of 4.34 (25.53%). The third treatment group, Thoughtful Realists, achieved a pretest mean raw score of 5.34 (31.41% correct) and mean raw posttest score of 9.64 (56.71% correct). The mean difference for

Thoughtful Realists was 4.30 (25.29%). Finally, Thoughtful Innovators scored 5.20 (30.59% correct) on the pretest and 9.83 (57.82) on the posttest. The mean difference was 4.63, indicating that members of this group increased their score by an average of 27.24%. The overall mean raw pretest score was 5.21 (30.65% correct) and the overall average posttest score was 9.78 (57.53% correct). On average, respondents increased their score by 4.57 raw points or 26.88% (see Table 6).

Table 6

Mean Raw Pretest and Posttest Scores and Percentages that were Correct by the Treatment Group (n = 344)

	Treatment Group	<i>f</i>	<i>M</i>	<i>SD</i>	% Correct
Pre-Test	Action Oriented Realists (ES)	108	5.12	1.93	30.12
	Action Oriented Innovators (EN)	98	5.18	1.85	30.47
	Thoughtful Realists (IS)	97	5.34	1.92	31.41
	Thoughtful Innovators (IN)	41	5.20	2.09	30.59
	Overall	344	5.21	1.92	30.65
Post-Test	Action Oriented Realists (ES)	108	10.13	2.74	59.59
	Action Oriented Innovators (EN)	98	9.52	2.37	56.00
	Thoughtful Realists (IS)	97	9.64	2.64	56.71
	Thoughtful Innovators (IN)	41	9.83	2.61	57.82
	Overall	344	9.78	2.59	57.53

Objective Three sought to determine the amount of knowledge gained during camp. A null hypothesis was developed in association with this objective. Data for the

hypothesis are presented in Table 8 and are displayed graphically in Figure 5. The null hypothesis stated, “No difference exists between Oklahoma FFA Alumni Leadership Camp attendees’ pretest and posttest scores on a multiple-choice test linked with the small group curriculum taught during camp breakout sessions.” A SPF 4x2 analysis was performed to determine that a statistically significant difference existed between campers’ mean pretests and posttest scores, [$F(3, 1) = 841.42, p = .00$] (see Table 8). Levene’s test of equality of error variances was non-significant, and thus equal variances were assumed. The observed power for the statistical analysis was 1.00. Partial eta squared was calculated and showed a large effect size ($\eta_p^2 = .71$), which indicated that approximately 71% of the variance, was attributed to the treatment (see Table 8).

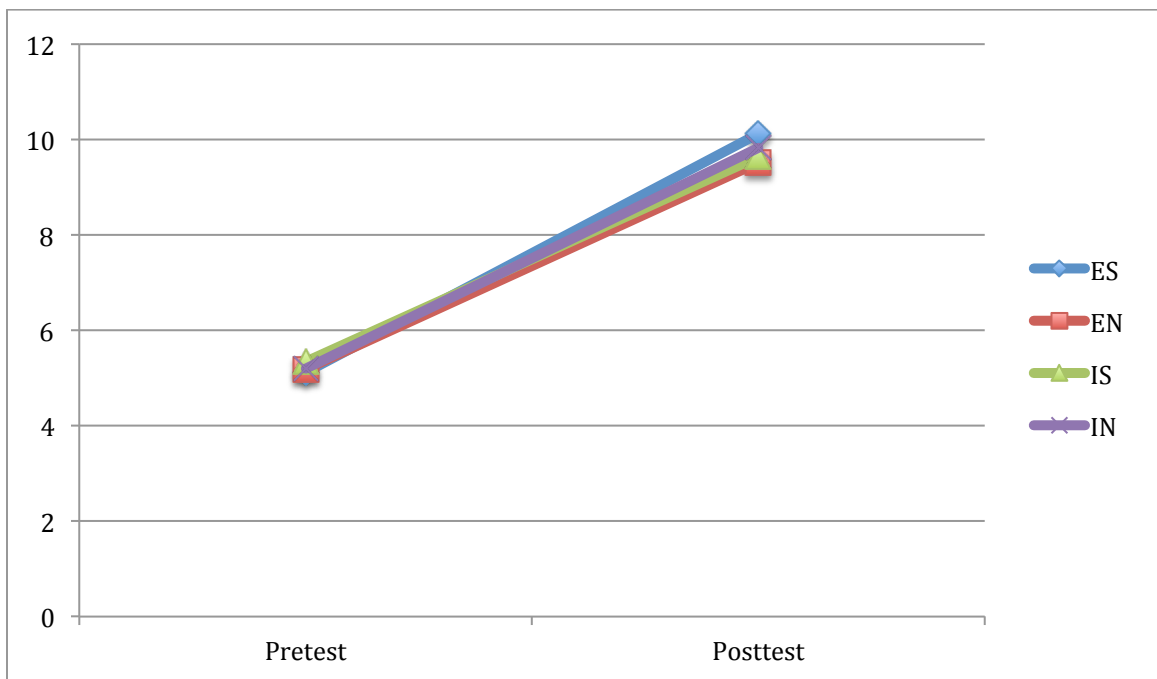


Figure 5. Mean raw pretest and posttest scores by treatment group.

Findings Associated with Objective Four

Objective Four was to determine the amount of knowledge retained about the curriculum taught during small group sessions of the camp after a 6-month period by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Experimental mortality occurred during the six-month period between the end of camp and administration of the delayed posttest. As a result, the sample size was reduced from 344 to 234 due to campers dropping out of the study by failing to return the delayed posttest instrument. Table 7 displays findings associated with this objective. Action Oriented Realists had a mean raw pretest score of 4.97 (29.24% correct) and a mean raw delayed posttest score of 7.38 (43.41% correct). The mean difference was 2.26, which equated to a 13.29% increase in mean score when comparing pretest to delayed posttest. Action Oriented Innovators scored 5.16 (30.35% correct) on the pretest and 6.76 (39.76% correct) on the delayed posttest, resulting in a mean difference of 1.58 (9.29%). The third treatment group, Thoughtful Realists, achieved a pretest mean raw score of 5.51 (32.41% correct) and mean raw delayed posttest score of 7.19 (42.29% correct). The mean difference for Thoughtful Realists was 1.85 (10.88%). Finally, Thoughtful Innovators scored 5.41 (31.82% correct) on the pretest and 7.41 (43.59% correct) on the delayed posttest. The mean difference was 2.21, indicating that Thoughtful Innovators' score increased by 13.00% when comparing pretest and delayed posttest scores. The total mean raw pretest score was 5.23 (30.76% correct) and the total average delayed posttest score was 7.16 (42.12% correct). On average, campers increased their score by 1.95 points or 11.47% when comparing pretest scores to delayed posttest scores.

Table 7

Mean Raw Pretest, Posttest, and Delayed Posttest Scores and Percentages that were Correct by the Treatment Group (n = 243)

	Treatment Group	<i>n</i>	<i>M</i>	<i>SD</i>	% Correct
Pre-Test	Action Oriented Realists (ES)	76	4.97	1.97	29.24
	Action Oriented Innovators (EN)	68	5.16	1.84	30.35
	Thoughtful Realists (IS)	67	5.51	1.94	32.41
	Thoughtful Innovators (IN)	32	5.41	1.88	31.82
	Total	243	5.23	1.92	30.76
Post-Test	Action Oriented Realists (ES)	108	10.13	2.74	59.59
	Action Oriented Innovators (EN)	98	9.52	2.37	56.00
	Thoughtful Realists (IS)	97	9.64	2.64	56.71
	Thoughtful Innovators (IN)	41	9.83	2.61	57.82
	Overall	344	9.78	2.59	57.53
Delayed Post-Test	Action Oriented Realists (ES)	76	7.38	2.57	43.41
	Action Oriented Innovators (EN)	68	6.76	2.21	39.76
	Thoughtful Realists (IS)	67	7.19	2.43	42.29
	Thoughtful Innovators (IN)	32	7.41	2.28	43.59
	Total	243	7.16	2.40	42.12

A null hypothesis was developed for objective four. Data for the hypothesis are presented in Table 9 and are displayed graphically in Figure 6. The null hypothesis stated, “No difference exists between Oklahoma FFA Alumni Leadership Camp attendees’ pretest and delayed posttest scores on a multiple-choice test linked with the small group

curriculum taught during camp breakout sessions.” A SPF- 4x3 analysis was performed to determine that a statistically significant difference existed between campers’ mean pretests and delayed posttest scores [$F(3, 2) = 286.66, p = .00$] (see Table 9). Levene’s test of equality of error variances was non-significant, and thus equal variances were assumed. Mauchly’s test of sphericity was non-significant. Therefore, sphericity was assumed. The observed power for the statistical analysis was 1.00. Partial eta squared was calculated and showed a large effect size ($\eta_p^2 = .55$), which indicates that approximately 55% of the variance can be attributed to the treatment.

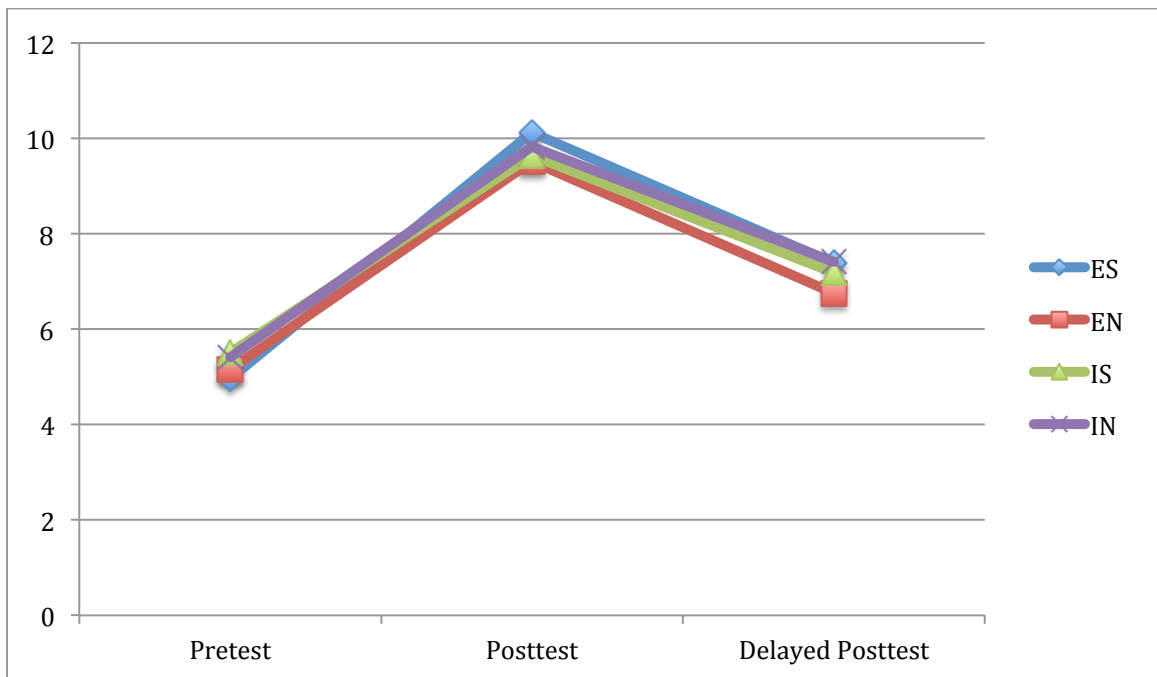


Figure 6. Mean raw pretest, posttest, and delayed posttest scores by treatment group.

Findings Associated with Objective Five

Objective Five was designed to determine if the learning style of the campers affected the attainment of knowledge associated with the curriculum taught during small

group sessions of the camp. Table 8 provides the data for the two hypotheses formulated for objective five. The first null stated, “No difference exists between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles.” Data displayed in Table 8 indicate that between-subjects effects (learning styles) were not significant [$F(3, 1) = .38, p = .77$]. Levene’s test of equality of error variances was non-significant; therefore, equal variances were assumed. Because there were only two repeated measures, Mauchly’s test of sphericity was not necessitated (Field, 2009). The observed power for the statistical analysis was low (.13) due to a negligible effect size ($\eta_p^2 = .003$).

The second null hypothesis developed for this objective stated, “No interaction exists between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style.” The data for these hypotheses can also be found in Table 8. The interaction between learning style and time were not significant [$F(3, 3) = 1.52, p = .21$]. Levene’s test of equality of error variances was non-significant; therefore, equal variances were assumed. Although the analysis employed a large n , the observed power for the statistical analysis was moderate (.40) due to a negligible effect size ($\eta_p^2 = .01$).

Table 8

*Comparative Analysis of Camper Pretest and Posttest Scores by Treatment Group Mean:
A Split-Plot Factorial 4x2 Repeated Measures ANOVA Summary Table (n = 344)*

Source	Type III Sum of Squares	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η_p^2
Between Subjects Effects						
Learning Style	7.69	3	2.56	.38	.77	
Error (Learning Style)	2300.80	340	6.77			
Within Subject Effects						
Time	3084.46	1	3084.46	841.42*	.00	.71
Time * Learning Style	16.73	3	5.56	1.52	.21	
Error (Test Scores)	1246.36	340	3.67			

* $p < .05$.

Findings Associated with Objective Six

Objective Six sought to determine if the learning style of the campers affected the retainment of knowledge associated with the curriculum taught during small group sessions of the camp. Table 9 provides the data for the two hypotheses formulated for objective six. The first null stated, “No difference exists between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles.” Table 9 shows that between subjects-effects (learning styles) were not statistically significant [$F(3, 1) = 1.12, p = .34$]. Levene’s test of equality of error variances was non-significant; therefore, equal variances were assumed. Mauchly’s test of sphericity was non-significant. Therefore, sphericity was assumed. The observed power for the statistical analysis was low (.30) due to a negligible effect size ($\eta_p^2 = .01$).

The second null hypothesis developed for this objective stated, “No interaction exists between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style.” Data for these hypotheses are presented in Table 9. The interaction between learning style and time were not significant [$F(3, 2) = 1.02, p = .41$]. Levene’s test of equality of error variances was non-significant, and thus, equal variances were assumed. The observed power for the statistical analysis was moderate (.41) due to a negligible effect size ($\eta_p^2 = .01$).

Table 9

Comparative Analysis of Camper Pretest, Posttest, and Delayed Posttest Scores by Treatment Group Mean: A Split-Plot Factorial 4x3 Repeated Measures ANOVA Summary Table (n = 243)

Source	Type III Sum of Squares	df	MS	F	p	η_p^2
Between Subjects Effects						
Learning Style	28.36	3	9.45	1.12	.34	
Error (Learning Style)	2016.30	239	8.44			
Within Subject Effects						
Time	2222.05	2	1111.02	286.66*	.00	.55
Time * Learning Style	23.74	6	3.96	1.02	.41	
Error (Test Scores)	1852.62	478	3.88			

* $p < .05$.

Findings Associated with Objective Seven

Objective Seven was to assess attitudes toward the Oklahoma FFA Alumni Leadership Camp held by FFA members who attended the program during the summer of

2011. Campers' attitudes were measured by three constructs: evaluation of camp, potency of camp, and activity of camp. The possible score range was 1.00 – 7.00. As displayed in Table 10, campers' overall attitude toward camp was positive ($M = 5.66$; $SD = 0.45$). When comparing the three attitude constructs, they were most positive regarding their evaluation of camp ($M = 6.58$; $SD = 0.53$), followed by their attitude related to the activeness of camp ($M = 5.42$; $SD = 0.62$). Camper attitude related to the potency of camp ($M = 4.97$; $SD = 0.65$) was neutral.

Table 10

Mean Camper Attitude Scores (n = 344)

Attitude	<i>n</i>	<i>M</i> ^a	<i>SD</i>
Attitude Related to Evaluation of Camp	344	6.58	0.53
Attitude Related to Potency of Camp	344	4.97	0.65
Attitude Related to Activeness of Camp	344	5.42	0.62
Overall Attitude of Camp	344	5.66	0.45

^aScale: 1.00 – 3.99 = negative attitude; 4.00 – 4.99 = neutral attitude; 5.00 – 7.00 = positive attitude.

Findings Associated with Objective Eight

Objective Eight was to measure the relationship between posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Male campers achieved an average posttest score of 54.12% correct (9.20 out of 17.00 possible), and females scored an average of 60.06% (10.21 out of 17.00 possible). As shown in Table 11, an independent samples *t*-test indicate that the difference between the two scores was

significant [$t(342) = -3.65, p = .00$]. Levene's test was non-significant, and thus, equal variances were assumed. Cohen's d was calculated and showed a negligible effect size ($d = -.14$).

Table 11

Camper Posttest Scores: Contrast of Males versus Females (n = 344)

Contrast	<i>n</i>	<i>M</i>	Mean Difference	<i>t</i>	<i>SE</i>	<i>df</i>	<i>p</i>
Male	146	9.20					
			-1.01	-3.65*	.28	342	.00
Female	198	10.21					

* $p < .05$.

A one-way ANOVA was utilized to determine if posttest scores varied based on the race of campers. As seen in Table 12, no statistically significant differences existed between groups [$F(5, 338) = .51, p = .77$]. Levene's test indicated that equal variances were assumed.

Table 12

Comparative Analysis of Camper Posttest Scores by Race (n = 344)

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	17.17	5	3.43	.51	.77
Within Groups	2291.48	338	6.78		
Total	2308.65	343			

As shown in Table 13, no statistically significant relationship existed [$r(332) = .03, p = .56$] between camper age and posttest score. It should be noted, however, that camper posttest scores were significantly correlated to camper GPA [$r(308) = .22, p = .00$]. According to Chen and Popovich (2002) an $r = .22$ is a small to medium effect size.

Table 13

Correlation Between Camper's Personal Characteristics (Age and GPA) and Posttest Scores

	Age	GPA
Camper Posttest Score	.03	.22*

* $p < .001$.

A one-way ANOVA was utilized to determine if campers' grade level affected their posttest score (see Table 14). No statistically significant differences existed between grade level [$F(4, 339) = 1.14, p = .34$]. Levene's test indicated that equal variances were assumed.

Table 14

Comparative Analysis of Camper Posttest Scores by Grade Level (n = 344)

	SS	df	MS	F	p
Between Groups	30.50	4	7.62	1.14	.34
Within Groups	2278.15	339	6.72		
Total	2308.65	343			

Campers who received free or reduced lunch at school achieved a raw posttest score of 9.08 (53.41% correct), and those campers who did not receive free or reduced lunches scored 58.41% correct (9.93 of 17.00 possible) (see Table 15). An independent samples *t*-test indicate that the difference between the two scores was statistically significant [$t(78.13) = -2.08, p = .04$]. Levene's test was significant; therefore, equal variances were not assumed, and the Welch-Satterthwaite method was used to adjust the degrees of freedom to account for the violation of the equal variances assumption (Kirk, 1995). Cohen's *d* was calculated and showed a small effect size ($d = -.31$). These data are displayed in Table 15.

Table 15

Camper Posttest Scores: Contrast of Campers Who Receive Free or Reduced Lunches at School versus Campers Who Do Not Receive Free or Reduced Lunches at School (n = 344)

Contrast ^a	<i>n</i>	<i>M</i>	Mean Difference	<i>t</i>	<i>SE</i>	<i>df</i>	<i>p</i>
Yes	60	9.08					
			-.85	-2.08*	40	78.13	.041
No	284	9.93					

^aEqual variances not assumed.

* $p < .05$.

A one-way ANOVA was utilized to determine if the number of times a camper had attended camp affected their posttest score. Table 16 indicates that no statistically significant posttest score differences existed [$F(4, 14.57) = 2.89, p = .06$]. Levene's test was statistically significant, revealing that the ANOVA assumption that group variances

are roughly equal (Kirk, 1995) was violated. Therefore, the Welch statistic was utilized to adjust the degrees of freedom to account for unequal group variances.

Table 16

Comparative Analysis of Camper Posttest Scores by Number of Times the Camper has Attended Camp (n = 344)

	F^a	$df1$	$df2$	p
Welch	2.89	4	14.57	.06

^aAsymptotically F distributed.

Campers who held a local FFA chapter office achieved a raw posttest score of 10.14 (59.65% correct), and those campers who were not local FFA chapter officers scored 9.16 (53.88% correct) (see Table 17). An independent samples t -test indicated that the difference between the two scores was significant [$t(338) = 3.47, p = .00$]. Levene's test was non-significant, and thus, equal variances were assumed. Cohen's d was calculated and showed a small to medium effect size ($d = .39$) (see Table 17).

Table 17

Camper Posttest Scores: Contrast of Campers Who Are FFA Chapter Officers versus Campers Who Are Not FFA Chapter Officers (n = 340)

Contrast	n	M	Mean Difference	t	SE	df	p
Officer	211	10.14					
			.98	3.47*	.28	338	.00
Not Officer	129	9.16					

* $p < .05$.

Table 18 displays that no statistically significant relationship existed [$r(342) = .01, p = .83$] between camper evaluation of camp attitude score and posttest score. The table does however reveal that camper posttest scores were statistically significantly correlated to camper attitude scores when measuring the potency of camp [$r(342) = .11, p = .04$]. According to Chen and Popovich (2002) an $r = .11$ is a negligible effect size. No statistically significant relationship existed between camper attitude scores pertaining to activeness of camp and camper posttest scores [$r(342) = .07, p = .20$]. Further, no significant relationship existed [$r(342) = .09, p = .10$] between campers' total attitude toward camp score and their posttest score.

Table 18

Correlation Between Camper Attitude Scores and Posttest Scores

	Camper Posttest Score
Evaluation of Camp	.01
Potency of Camp	.11*
Activeness of Camp	.07
Combined Attitude Toward Camp	.09

* $p < .05$.

Findings Associated with Objective Nine

Objective Nine was designed to measure the relationship between delayed posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Male campers achieved a raw delayed posttest score of 7.01 (41.24% correct), and females scored 7.27

(42.76% correct) (see Table 19). An independent samples *t*-test indicated that the difference between the two scores was non-significant [$t(241) = -.85, p = .40$]. Levene's test was non-significant, and thus, equal variances were assumed. (see Table 19)

Table 19

Camper Delayed Posttest Scores: Contrast of Males versus Females (n = 243)

Contrast	<i>n</i>	<i>M</i>	Mean Difference	<i>t</i>	<i>SE</i>	<i>df</i>	<i>p</i>
Male	104	7.01					
			-.26	-.85	.28	241	.40
Female	139	7.27					

A one-way ANOVA was utilized to determine if campers of divergent races produced significantly different delayed posttest scores. Table 20 indicates that no statistically significant differences existed between groups [$F(5, 237) = .30, p = .91$]. Levene's test indicated that equal variances were assumed.

Table 20

Comparative Analysis of Camper Delayed Posttest Scores by Race (n = 243)

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between-Groups	8.77	5	1.75	.30	.91
Within-Groups	1379.97	237	5.82		
Total	1388.74	242			

Table 21 displays that no statistically significant relationship existed [$r(241) = -.04, p = .55$] between camper age and delayed posttest scores. The table does, however, reveal that camper delayed posttest scores were significantly correlated to camper GPA [$r(241) = .14, p = .03$]. According to Chen and Popovich (2002) an $r = .14$ is a negligible effect size.

Table 21

Correlation Between Camper Personal Characteristics (Age and GPA) and Delayed Posttest Scores (n = 243)

	Age	GPA
Camper Delayed Posttest Score	-.04	.14*

* $p < .05$.

A one-way ANOVA was utilized to determine if campers' grade level affected their delayed posttest score. Table 22 indicates that no statistically significant differences existed between grade level [$F(4, 238) = .72, p = .58$]. Levene's test indicated that equal variances were assumed.

Table 22

Comparative Analysis of Camper Delayed Posttest Scores by Grade Level (n = 243)

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between-Groups	16.52	4	4.13	.72	.58
Within-Groups	1372.23	238	5.77		
Total	1388.74	242			

Campers who received free or reduced lunch at school achieved a raw delayed posttest score of 6.80 (40.00% correct), and those campers who did not receive free or reduced lunches scored 7.23 (42.53% correct). An independent samples *t*-test indicated that the difference between the two scores was non-significant [$t(241) = -1.04, p = .30$]. Levene's test was non-significant, and thus, equal variances were assumed (see Table 23).

Table 23

Camper Delayed Posttest Scores: Contrast of Campers Who Receive Free or Reduced Lunches at School versus Campers Who Do Not Receive Free or Reduced Lunches at School (n = 243)

Contrast ^a	<i>n</i>	<i>M</i>	Mean Difference	<i>t</i>	<i>SE</i>	<i>df</i>	<i>p</i>
Yes	40	6.80					
			-0.43	-1.04	.41	241	.30
No	203	7.23					

A one-way ANOVA was utilized to determine if the number of times a camper had attended camp affected their delayed posttest score. Table 24 indicates that no statistically significant delayed posttest score differences existed [$F(4, 238) = 1.29, p = .28$]. Levene's test was non-significant and equal variances were assumed.

Table 24

Comparative Analysis of Camper Delayed Posttest Scores by Number of Times the Camper has Attended Camp (n = 243)

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between-Groups	29.42	4	7.35	1.29	.28
Within-Groups	1359.32	238	5.71		
Total	1388.74	242			

Campers who held a local FFA chapter office achieved a raw delayed posttest score of 7.40 (43.53% correct), and those campers who were not local FFA chapter officers scored 6.74 (39.65% correct) (see Table 25). An independent samples *t*-test indicated that the difference between the two scores was statistically significant [$t(237) = 2.12, p = .04$]. Levene's test was non-significant, and thus, equal variances were assumed. Cohen's *d* was calculated and showed a small effect size ($d = .28$) (see Table 25).

Table 25

Camper Delayed Posttest Scores: Contrast of Campers Who Are FFA Chapter Officers versus Campers Who Are Not FFA Chapter Officers (n = 239)

Contrast	<i>n</i>	<i>M</i>	Mean Difference	<i>t</i>	<i>SE</i>	<i>df</i>	<i>p</i>
Officer	151	7.40					
			.67	2.12*	.31	237	.04
Not Officer	88	6.74					

* $p < .05$.

Table 26 displays that no statistically significant relationship existed [$r(241) = -.06, p = .33$] between campers' evaluation of camp attitude score and delayed posttest score. The table also reveals that camper delayed posttest scores are not significantly correlated to camper attitude scores when measuring the potency of camp [$r(241) = .06, p = .32$]. No statistically significant relationship existed between camper attitude scores pertaining to activeness of camp and camper delayed posttest scores [$r(241) = .09, p = .16$]. Further, no significant relationship existed [$r(241) = .05, p = .45$] between campers' total attitude toward camp score and delayed posttest score.

Table 26

Correlation Between Camper Attitude Scores and Delayed Posttest Scores

	Camper Posttest Score
Evaluation of Camp	-.06
Potency of Camp	.06
Activeness of Camp	.09
Combined Attitude Toward Camp	.05

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

Chapter V provides a summary of the study, including highlights of the findings along with the conclusions, implications, and recommendations generated from those findings.

Purpose

The purpose of this study was to examine the academic learning outcomes of Oklahoma FFA Alumni Leadership Camp and to describe how learning styles, attitudes, and other personal characteristics affected the learning outcomes and knowledge retention exhibited by camp attendees.

Objectives

The following objectives were formulated to accomplish the purpose of this study:

1. Describe selected personal characteristics (sex, race, age, grade level, socioeconomic status, years of Oklahoma FFA Alumni Leadership Camp attendance, chapter FFA officer status, grade point average) of FFA members

who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.

2. Determine the pervasive, preferred learning style of FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.
3. Determine the amount of knowledge gained from the curriculum taught during small group sessions of the camp by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.
4. Determine the amount of knowledge retained from the curriculum taught during small group sessions of the camp after a 6-month period by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011.
5. Determine if the preferred learning style of the campers affected, or had an effect on, the attainment of knowledge associated with the curriculum taught during small group sessions of the camp.
6. Determine if the learning style of the campers affected or, had an effect on, the retainment of knowledge associated with the curriculum taught during small group sessions of the camp.
7. Assess the attitude toward the Oklahoma FFA Alumni Leadership Camp of FFA members who attended the program during the summer of 2011.
8. Measure the relationship between posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011.

9. Measure the relationship between delayed posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011.

Hypotheses

The following hypotheses were formulated for objectives three, four, five, and six and guided the statistical analysis of the study:

Objective 3

H₀: No difference existed between Oklahoma FFA Alumni Leadership Camp attendees' pretest and posttest scores on a multiple-choice test linked with the small group curriculum taught during camp breakout sessions.

Objective 4

H₀: No difference existed between Oklahoma FFA Alumni Leadership Camp attendees' pretest and delayed posttest scores on a multiple-choice test linked with the small group curriculum taught during camp breakout sessions.

Objective 5

H₀: No difference existed between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles.

H₀: No interaction existed between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style.

Objective 6

H₀: No difference existed between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles.

H₀: No interaction existed between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style.

Summary of the Study Findings with Conclusions, Implications, and Recommendations

Objective One – Student Camper Personal Characteristics

The first objective was to describe selected personal characteristics (sex, race, age, grade level, socioeconomic status, years of Oklahoma FFA Alumni Leadership Camp attendance, chapter FFA officer status, and grade point average) of FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. The sample was composed of 198 female campers (57.56%) and 146 male campers (42.44%). The ethnic composition of the group was overwhelmingly white (83.10%), while 42 (12.20%) were Native American or Alaskan Native, six (1.70%) were Asian or Pacific Islander, six (1.70%) were Hispanic, one (0.30%) was self-identified as African American, and two (0.60%) chose “other” to describe their race. The campers ranged in age from 13 to 19 years of age. More than 81% of the campers ($f = 277$) were 15 years of age ($f = 89$), 16 ($f = 110$) years of age, and 17 ($f = 78$) years of age. The campers’ response to a question as to whether they receive free or reduced lunch at school was used to determine their socioeconomic status. This method of determining socioeconomic status is prevalent in academic literature (Caldas & Bankston, 1997;

Molnar, Smith, Zahorik, Palmer, Halbach, & Ehrle, 1999; Nye, Konstantopoulos, Hedges, 2004). Among this group, 17% ($f = 60$) indicated that they received free or reduced meals.

When asked to indicate their grade level, 32.40% ($f = 111$) of campers were entering their junior year, 28.60% ($f = 98$) were incoming sophomores, 26.20% ($f = 90$) were entering their senior year, 12.00% ($f = 42$) were incoming freshmen, and only 0.90% ($f = 3$) were entering the eighth grade the following year. More than 77% of campers ($f = 266$) had attended camp once or twice, while 22.68% ($f = 78$) of campers indicated that they had been to camp at least three times. Three campers (0.87%) indicated they were attending camp for the fifth time. FFA chapter officers comprised 61.34% ($f = 211$) of the sample. Campers' self-reported GPA was divided into three groups: (a) GPA range 2.00 – 2.99, (b) GPA range 3.00 – 3.99, and (c) GPA range 4.00 – 5.00. The possible scale was 0.00 to 5.00 due to a weighted GPA, which accounted for advanced placement courses. Campers with GPAs ranging 2.00 – 2.99 accounted for 4.36% ($f = 15$) of the sample. Those campers with GPAs ranging 3.00 – 3.99 comprised 56.40% ($f = 194$) of the sample and campers with GPAs ranging 4.00 – 5.00 accounted for 29.07% ($f = 100$). The average age of campers in the sample was 15.80 ($SD = 1.11$) and the mean GPA was 3.61 ($SD = .42$) with a GPA range of 2.00 – 4.67.

It can be concluded, therefore, that the typical Oklahoma FFA Alumni Camp attendee is a white, middle or upper class female who maintains a good GPA. She has completed her sophomore year of high school, holds a local FFA chapter office, and is attending camp for the first time.

It is notable that most campers are first-time or second-time attendees. Does this suggest that many Oklahoma FFA members view FFA Alumni Camp as a one-time experience? It is recommended that Oklahoma FFA staff and camp planners clarify the purpose of camp and determine if the camp should be a one-time experience, thus allowing more students to attend. This modification could possibly alleviate the current strain on facilities to accommodate all FFA members who wish to attend as well as concerns about repetitive programs. Phenomenological qualitative research should be employed to understand the essence of the decision process to attend camp. The phenomenological inquiry should have a dual focus and serve to answer two research questions:

1. What is the essence of the decision process that led FFA members to choose to attend camp only once?
2. What is the essence of the decision process that led FFA members to choose to attend camp two or more times?

This research will provide a deeper understanding of the mitigating factors affecting FFA members' camp attendance and will provide valuable insight for FFA advisors who determine which members to bring to camp and for camp planners who design and conduct the camp experience.

Objective Two – Camper Learning Styles

The second objective was to determine the pervasive learning style of FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Approximately 60% of the respondents possessed an extraverted learning style (*f*

= 206). The most common learning style present was Action Oriented Realists ($f = 108$; 31.40%) followed by Action Oriented Innovators ($f = 98$; 28.48%), both of which are extraverted learning styles. Thoughtful Realists, an introverted learning style, accounted for 28.40% ($f = 97$) of the sample while 11.92% ($f = 41$) of campers were Thoughtful Innovators, also an introverted learning style.

Based on these findings the researcher concludes that campers' learning styles roughly mirror the learning styles of the general population (Shindler & Yang, 2003). As with the general population, camper learning styles are varied. This conclusion indicates that campers representing all learning styles are attracted to the camp, initially. However, this study did not explore the learning styles of FFA members who chose to attend the camp a second, third, fourth, or fifth time. Further research is needed to analyze the learning styles of FFA members who chose to attend camp more than once. Such research will determine if a particular type of learner is attracted to the format and programs of camp. According to Jung's (1971) type theory, extraverted learners are most comfortable in the camp setting due to the considerable emphasis on group work at camp and, thus, would be expected to attend camp again when given the opportunity.

Objective Three – Knowledge Gained

The third objective was designed to determine the amount of knowledge gained about the curriculum taught during small group sessions of the camp by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Action Oriented Realists had a mean raw pretest score of 5.12 (30.12% correct) and a mean raw posttest score of 10.13 (59.59% correct). The mean difference was 5.01, which

equates to a 29.47% increase in mean score when comparing pretest to posttest. Action Oriented Innovators scored 5.18 (30.47% correct) on the pretest and 9.52 (56.00% correct) on the posttest, which resulted in a mean difference of 4.34 (25.53%). The third treatment group, Thoughtful Realists, achieved a pretest mean raw score of 5.34 (31.41% correct) and mean raw posttest score of 9.64 (56.71% correct). The mean difference for Thoughtful Realists was 4.30 (25.29%). Finally, Thoughtful Innovators scored 5.20 (30.59% correct) on the pretest and 9.83 (57.82) on the posttest. The mean difference was 4.63, indicating that members of this group increased their score by an average of 27.24%. The overall mean raw pretest score was 5.21 (30.65% correct), and the overall average posttest score was 9.78 (57.53% correct). On average, respondents increased their score by 4.57 raw points or 26.88%.

A null hypothesis was developed in association with this objective. The null hypothesis stated that no difference exists between Oklahoma FFA Alumni Leadership Camp attendees' pretest and posttest scores on a multiple-choice test linked with the small group curriculum taught during camp breakout sessions. A split-plot factorial 4x2 analysis was performed to determine that a statistically significant difference existed between campers' mean pretests and posttest scores, [$F(3, 1) = 841.42, p = .00$]. Levene's test of equality of error variances was non-significant and equal variances were assumed. The observed power for the statistical analysis was 1.00. Partial eta squared was calculated and showed a large effect size ($\eta_p^2 = .71$), which means approximately 71% of the variance, can be attributed to the treatment. As a result, the null hypothesis was rejected, meaning that campers gained knowledge about communication during camp.

On average, campers nearly doubled their score on the CCCE when comparing pretest and posttest results. The large effect size indicates that the campers experienced cognitive gains related to the communications curriculum taught during small group breakout sessions. It is important to note, however, that the average posttest score is a 58%, which would be a failing grade in a formal educational environment. According to Sociocultural Theory, the camp environment should be conducive to learning because campers are exposed to an environment that includes adult guidance (SGLs) and capable peers (other campers) (Vygotsky, 1978). So, why did campers not master the material? Is it possible that the college-age SGLs are not capable of effectively guiding the students and delivering the curriculum?

Newcomb, McCracken, and Warmbrod (1993) contended that a working knowledge of effective instructional methods and an understanding of pedagogy are necessary to effectively teach learning objectives. It is recommended that more time is devoted to teaching effective instructional strategies and methods during SGL training sessions to ensure that the curriculum is effectively taught during small group, breakout times. This recommendation, if implemented, would result in developing more effective group leaders to guide the learner. According to Sociocultural Theory (Vygotsky, 1978), effective adult guidance is a vital component of the learning environment and must be present for student success.

Could it be that the camp experience is not the appropriate educational environment for academic learning and the camp should focus more on soft skill development as recent literature suggests (Connors et al., 2010)? Literature suggests that camps are an appropriate avenue for increasing participants' self-concept and social skills

(Delansky, 1991). In fact, Conners et al. (2010) stated “the FFA Camp Experience can take average students and catapult them into over-achieving leaders in their home chapters and create bonds between campers that last a lifetime” (p. 32). It appears that small group sessions should be more focused on meeting these objectives rather than teaching academic leadership curriculum. It is recommended that camp planners refocus small group session curriculum to concentrate more on soft skill and personal development and less on formal curriculum.

The most profound adaptation that should be made due to the findings and conclusions related to this section of this study is a paradigm shift among camp planners and curriculum writers that lessens the focus on student learning and strengthens the focus on student development. If this adaptation to camp curriculum is not desired, then curriculum writers should review the material to determine the appropriate level of rigor for the curriculum. Could it be that the curriculum is too difficult for students to master in the four-day non-formal camp environment? If so, the curriculum should be reassessed and modified. Further, a yearly camp evaluation procedure should be designed and implemented to ensure that campers, camp planners, and small group leaders are meeting the objectives of the camp. Teacher educators and evaluation specialists in the Department of Agricultural Education, Communications, and Leadership at Oklahoma State University could be utilized to design and or implement the evaluation.

Further scholarly research is needed to evaluate or assess the effective value of Oklahoma FFA Alumni Leadership Camp. This research should focus on determining if camp increases student confidence, self-awareness, and other social skills. It is possible that the objectives of this study failed to capture the true value of camp.

Objective Four – Knowledge Retained

Objective Four sought to determine the amount of knowledge retained about the curriculum taught during small group sessions of the camp after a 6-month period by FFA members who attended the Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Experimental mortality occurred during the six-month period between the end of camp and administration of the delayed posttest. As a result, the sample size was reduced from 344 to 234 due to campers dropping out of the study by failing to return the delayed posttest instrument. Action Oriented Realists had a mean raw pretest score of 4.97 (29.24% correct) and a mean raw delayed posttest score of 7.38 (43.41% correct). The mean difference was 2.26, which equates to a 13.29% increase in mean score when comparing pretest to delayed posttest. Action Oriented Innovators scored 5.16 (30.35% correct) on the pretest and 6.76 (39.76% correct) on the delayed posttest, resulting in a mean difference of 1.58 (9.29%). The third treatment group, Thoughtful Realists, achieved a pretest mean raw score of 5.51 (32.82% correct) and mean raw delayed posttest score of 7.19 (42.29% correct). The mean difference for Thoughtful Realists was 1.85 (10.88%). Finally, Thoughtful Innovators scored 5.41 (31.82% correct) on the pretest and 7.41 (43.59% correct) on the delayed posttest. The mean difference was 2.21, meaning Thoughtful Innovators' score increased by 13.00% when comparing pretest and delayed posttest scores. The total mean raw pretest score was 5.23 (30.76% correct), and the total average delayed posttest score was 7.16 (42.12% correct). On average, campers increased their score by 1.95 points or 11.47% when comparing pretest scores to delayed posttest scores.

A null hypothesis developed for objective four. The null hypothesis stated, “No difference exists between Oklahoma FFA Alumni Leadership Camp attendees’ pretest and delayed posttest scores on a multiple-choice test linked with the small group curriculum taught during camp breakout sessions.” A split-plot factorial 4x3 analysis was performed to determine that a statistically significant difference existed between campers’ mean pretests and delayed posttest scores, [$F(3, 2) = 286.66, p = .00$]. Levene’s test of equality of error variances was non significant and equal variances was assumed. Mauchly’s test of sphericity was non-significant and sphericity was assumed. The observed power for the statistical analysis was 1.00. Partial eta squared was calculated and showed a large effect size ($\eta_p^2 = .55$), which means approximately 55% of the variance, can be attributed to the treatment. As a result, the null hypothesis was rejected, meaning there was a significant difference between mean camper pretest and delayed posttest scores.

Although the difference between these two assessments was statistically significant, the amount of information retained after a six-month period was not practically significant. Simply put, campers retained a small amount of the information taught during small group time at camp. The average delayed posttest score was a 42%, which is only 11% higher than the average pretest score. Is an 11% gain in test scores enough to justify the amount of money and resources spent on this component of camp?

If academic curriculum is to continue to be emphasized in future camp sessions, a program should be designed and incorporated to provide opportunities to reinforce camp learning objectives. This follow-up program could include components for both agricultural education instructors and camp attendees. Camp curriculum developers could

provide resources for the school-based agricultural education instructors that would review and reinforce the curriculum taught during small group sessions at the previous summer's camp. Similarly, the camp curriculum developers could develop online follow-up components to complement the small group session curriculum and be utilized by camp attendees throughout the school year following the camp experience.

Objective Five – Learning Style Effect on Knowledge Gained

Objective Five was designed to determine if the learning style of the campers affects the attainment of knowledge associated with the curriculum taught during small group sessions of the camp. The first null hypothesis associated with this objective stated, “No difference exists between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles.” Between-subjects effects (learning styles) were not significant, [$F(3, 1) = .38, p = .77$]. Levene's test of equality of error variances was non-significant therefore equal variances were assumed. Because there were only two repeated measures, Mauchly's test of sphericity was not necessitated (Field, 2009). The observed power for the statistical analysis was low (.13) due to a negligible effect size ($\eta_p^2 = .003$). The researcher failed to reject the null hypothesis, meaning no statistically significant differences were found between pretest and posttest scores of campers with differing learning styles.

The second null hypothesis developed for this objective stated, “No interaction exists between pretest and posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style.” The interaction between learning style and time were not statistically significant, [$F(3, 3) = 1.52, p = .21$]. Levene's test of equality

of error variances was non-significant therefore equal variances were assumed. Although the analysis employed a large n , the observed power for the statistical analysis was moderate (.40) due to a negligible effect size ($\eta_p^2 = .01$). It was determined that there were no significant simple main effects and the researcher failed to reject the null hypothesis.

Learning style had no effect on the amount of information campers learned during small group breakout sessions. This conclusion seems to contradict Jung's (1971) Psychological type theory. In theory, Introverts are expected to experience a learning barrier due to the group-learning environment created during small group breakout sessions (Jung, 1971). Theory suggests that this learning environment should be most conducive to Extraverted learners who thrive in group environments and learn best by sharing their thoughts with others (Jung, 1971). The findings of this study add to the divergent field of literature pertaining to learning style in both agricultural education as well as other educational disciplines (Cano, et al., 1992; Garton et al., 1999; Marrison & Frick, 1994; Thornton, Haskell, & Libby, 2006; Whittington & Raven, 1995) and confirms the findings of Marrison and Frick (1994) who found that learning style produced no significant differences in academic achievement.

Psychological Trait Theory suggests that introverts would not be comfortable or enjoy small group sessions even though their ability to learn is not inhibited. Is it possible that campers' learning styles are correlated with their attitudes toward camp? Although this research question was not an objective of this study, further research to explore the relationship between learning style and attitude toward camp is recommended.

Objective Six – Learning Style Effect on Knowledge Retained

Objective Six sought to determine if the preferred learning style of the campers affects the retainment of knowledge associated with the curriculum taught during small group sessions of the camp. The first null hypothesis associated with this objective stated, No difference exists between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees with differing learning styles. It was found that between-subjects effects (learning styles) were not statistically significant, [$F(3, 1) = 1.12, p = .34$]. Levene's test of equality of error variances was non-significant therefore equal variances were assumed. Mauchly's test of sphericity was non-significant and sphericity was assumed. The observed power for the statistical analysis was low (.30) due to a negligible effect size ($\eta_p^2 = .01$). The researcher failed to reject the null hypothesis.

The second null hypothesis developed for this objective stated, No interaction exists between pretest, posttest, and delayed posttest scores of Oklahoma FFA Alumni Leadership Camp attendees and their personal learning style. The interaction between learning style and time were not significant, [$F(3, 2) = 1.02, p = .41$]. Levene's test of equality of error variances was non-significant and equal variances were assumed. The observed power for the statistical analysis was moderate (.41) due to a negligible effect size ($\eta_p^2 = .01$). It was determined that there were no significant simple main effects and the researcher failed to reject the null hypothesis.

As with the conclusions presented for Objective Five, campers' preferred learning style had no effect on the amount of information learned or retained by campers when comparing the mean scores of pretests, posttests, and delayed posttests. Further, there is

no interaction between time and learning style, which indicates that learning style does not impact the amount of information campers are able to retain over a six-month period. This study leads to the conclusion that learning style is not a factor in student learning outcomes or retention in a non-formal camp environment. This conclusion aligns with the findings of Hansen and Stansfield (1982), McDonald (1984), Mehdikhani (1983), and Paradise and Block (1984) who also found that learning style did not impact student learning outcomes in formal education environments.

Objective Seven – Camper Attitudes

Objective Seven assessed attitudes toward the Oklahoma FFA Alumni Leadership Camp held by FFA members who attended the program during the summer of 2011. Campers' attitudes were measured by three constructs: evaluation of camp, potency of camp, and activeness of camp. The possible score range was 1.00 – 7.00. It was found that, campers' overall attitude toward camp was positive ($M = 5.66$; $SD = 0.45$). When comparing the three attitude constructs, campers were most positive regarding their evaluation of camp ($M = 6.58$; $SD = 0.53$), followed by their attitude related to the activeness of camp ($M = 5.42$; $SD = 0.62$). Camper attitude related to the potency of camp ($M = 4.97$; $SD = 0.65$) was neutral.

Overall, campers have a positive attitude toward camp. Two of the three construct scores were greater than 5.00, which indicated that campers have a positive attitude when asked to evaluate the camp and scale the activeness of the camp experience. Research indicates that students perform better when they exhibit a positive attitude toward the learning environment (Cochran, et al., 2010; Hortwitz, Horwitz, & Cope, 1986;

Onwuegbuzie, Bailey, & Daley, 2000). The lowest attitude score was in the area of potency; the mean associated with potency was 4.97, indicating that campers are indifferent with their opinion of the level of potency related to the camp experience. This finding seems to contradict the findings of Objective Three. An individual would intuitively conclude that campers should consider the camp experience very potent when considering their low level of achievement on the posttest. Do these confounding results indicate that campers are more interested in meeting new people, socializing, and having fun than they are in learning? Do students largely ignore the curriculum being taught because they are focused on other aspects of the camp?

Objective Eight – Relationships Between Campers’ Posttest Scores and Personal Characteristics

Objective Eight was designed to measure the relationship between posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Male campers achieved an average posttest score of 54.12% correct (9.20 out of 17.00 possible) and females scored an average of 60.06% (10.21 out of 17.00 possible). An independent samples *t*-test indicated that the difference between the two scores was statistically significant [$t(342) = -3.65, p = .00$]. Levene’s test was non-significant and equal variances were assumed. As shown in Table 11, Cohen’s *d* was calculated and showed a negligible effect size ($d = -.14$).

A one-way ANOVA was utilized to determine if posttest scores varied based upon the race of campers. No statistically significant differences existed between groups [$F(5, 338) = .51, p = .77$]. Levene's test indicated that equal variances were assumed.

Further, no statistically significant relationship existed between camper age and posttest score [$r(332) = .03, p = .56$]. It should be noted, however, that camper posttest scores were significantly correlated to camper GPA [$r(308) = .22, p = .00$]. According to Chen and Popovich (2002) an $r = .22$ is a small to medium effect size.

Finally, a one-way ANOVA was utilized to determine if campers' grade level affected their posttest score. No statistically significant differences existed between grade level [$F(4, 339) = 1.14, p = .34$]. Levene's test indicated that equal variances were assumed.

Campers who received free or reduced lunch at school achieved a raw posttest score of 9.08 (53.41% correct); those campers who did not receive free or reduced lunches scored 58.41% correct (9.93 of 17.00 possible). An independent samples t -test indicated that the difference between the two scores was statistically significant [$t(78.13) = -2.08, p = .04$]. Levene's test was significant; therefore, equal variances were not assumed and the Welch-Satterthwaite method was used to adjust the degrees of freedom to account for the violation of the equal variances assumption (Kirk, 1995). Cohen's d was calculated and showed a small effect size ($d = -.31$).

A one-way ANOVA was utilized to determine if the number of times campers had attended camp affected their posttest score. No statistically significant differences in posttest scores existed [$F(4, 14.57) = 2.89, p = .06$]. Levene's test was significant

revealing that the ANOVA assumption that group variances are roughly equal (Kirk, 1995) was violated. The Welch statistic was utilized to adjust the degrees of freedom to account for unequal group variances.

Campers who held a local FFA chapter office achieved a raw posttest score of 10.14 (59.65% correct), while those campers who were not local FFA chapter officers scored 9.16 (53.88% correct). An independent samples *t*-test indicated that the difference between the two scores was significant [$t(338) = 3.47, p = .00$]. Levene's test was non-significant and equal variances were assumed. Cohen's *d* was calculated and showed a small to medium effect size ($d = .39$).

No statistically significant relationship existed between camper evaluation of camp attitude score and posttest score [$r(342) = .01, p = .83$]. However, camper posttest scores were significantly correlated to camper attitude scores when measuring the potency of camp [$r(342) = .11, p = .04$]. According to Chen and Popovich (2002) an $r = .11$ is a negligible effect size. No statistically significant relationship existed between camper attitude scores pertaining to activeness of camp and camper posttest scores [$r(342) = .07, p = .20$]. Further, no statistically significant relationship existed between campers' total attitude toward camp score and posttest score [$r(342) = .09, p = .10$].

Posttest scores were not affected by camper race, grade level, previous camp attendance, or attitudes pertaining to camp evaluation and activity. A negligible correlation existed between posttest scores and camper attitude scores pertaining to the potency of camp. Although a statistically significant difference was found between posttest scores of males and females, the statistical analysis showed a negligible effect

size. Three personal characteristics, however, were significant and produced a small to medium effect size: GPA, socioeconomic status, and chapter officer status.

Students with higher GPAs performed better on the posttest. This finding confirms the findings of other researchers who explored the relationship between student GPA and academic performance (Garton, Ball, & Dyer, 2002) and suggests that students who perform well in a formal learning environment also outperform their peers in a non-formal learning environment.

Students who received free or reduced lunches at school, which is considered to be an indicator of low family socioeconomic status, performed more poorly on the posttest than those students who did not. This finding is broadly confirmed in education literature (Caldas & Bankston, 1997; Nye, Konstantopoulos, & Hedges, 2004; Thoron & Myers, 2011). Further, research suggests that students from families of low socioeconomic status perform at lower levels than their peers because they are inhibited by a lack of resources and family support (Nye et al., 2004). Although a statistically significant difference was found between those who received free or reduced lunches and those who did not, the effect size was small, indicating that socioeconomic status had little effect on cognitive gain. Could this mean that camp created a learning environment that removed some of the barriers these students usually confront? Is it possible that non-formal learning environments, such as camps, can help narrow the gap between students who are of low socioeconomic status and those who are not?

Campers who held a chapter FFA office outperformed those campers who did not hold an office. Vygotsky (1978) theorized that the experiences a person brings to the

learning environment could potentially affect the outcome. Perhaps this finding is an indicator that chapter officers bring more experiences, due to their level of FFA involvement, to the camp than non-chapter officers.

Objective Nine – Relationships Between Campers’ Delayed Posttest Scores and Personal Characteristics

Objective Nine was designed to measure the relationship between delayed posttest scores and selected personal characteristics, and attitudes of FFA members who attended Oklahoma FFA Alumni Leadership Camp during the summer of 2011. Male campers achieved a raw delayed posttest score of 7.01 (41.24% correct) and females scored 7.27 (42.76% correct). An independent samples *t*-test indicate that the difference between the two scores was non-significant [$t(241) = -.85, p = .40$]. Levene’s test was non-significant and equal variances were assumed.

A one-way ANOVA was utilized to determine if campers of divergent races produced significantly different delayed posttest scores. No statistically significant differences existed between groups [$F(5, 237) = .30, p = .91$]. Levene’s test indicated that equal variances were assumed.

Further, no statistically significant relationship existed [$r(241) = -.04, p = .55$], between camper age and delayed posttest scores. However, campers’ delayed posttest scores were significantly correlated to camper GPA [$r(241) = .14, p = .03$]. According to Chen and Popovich (2002) an $r = .14$ is a negligible effect size.

A one-way ANOVA was utilized to determine if campers’ grade level affected their delayed posttest score. No statistically significant differences existed between grade

level [$F(4, 238) = .72, p = .58$]. Levene's test indicated that equal variances were assumed.

It was also revealed that campers who received free or reduced lunch at school achieved a raw delayed posttest score of 6.08 (35.76% correct), while those campers who did not receive free or reduced lunches scored 7.23 (42.53% correct). An independent samples t -test indicated that the difference between the two scores was non-significant [$t(241) = -1.04, p = .30$]. Levene's test was non-significant and equal variances were assumed.

A one-way ANOVA was utilized to determine if the number of times a camper had attended camp affected their delayed posttest score. No significant delayed posttest score differences existed between the groups [$F(4, 238) = 1.29, p = .28$]. Levene's test was non-significant and equal variances were assumed.

It was found that campers who held a local FFA chapter office achieved a raw delayed posttest score of 7.40 (43.53% correct), and those campers who were not local FFA chapter officers scored 6.74 (39.65% correct). An independent samples t -test indicated that the difference between the two scores was statistically significant [$t(237) = 2.12, p = .04$] and resulted in a small effect size ($d = .28$).

No statistically significant relationship existed between camper evaluation of camp attitude score and delayed posttest score [$r(241) = -.06, p = .33$]. Camper delayed posttest scores are not significantly correlated to camper attitude scores when measuring the potency of camp [$r(241) = .06, p = .32$]. Further, no statistically significant relationship existed between camper attitude scores pertaining to activeness of camp and

camper delayed posttest scores [$r(241) = .09, p = .16$]. Finally, no statistically significant relationship existed between campers' total attitude toward camp score and delayed posttest score [$r(241) = .05, p = .45$].

Delayed posttest scores were not affected by camper sex, race, age, grade level, socioeconomic status, previous camp attendance, or attitude. A statistically significant correlation was found between delayed posttest score and camper GPA. This correlational analysis did, however, produce a negligible effect size indicating that the correlation is statistically significant, but that the actual effect had little meaning.

Campers who held a FFA chapter office continued to outperform campers who did not hold an office. Could it be that FFA chapter officers had the opportunity to apply what they learned at camp when they returned home? This conclusion further compounds the divergent field of literature exploring the relationship between level of involvement in agricultural education and student performance (Dyer et al., 1996; Garton et al., 2005; Moore & Braun, 2005; Smith et al., 2010).

Summary of Conclusions

In summary, the following conclusions were made as a result of the findings of the study:

1. The typical Oklahoma FFA Alumni Camp attendee is a white, middle or upper class female who maintains a good GPA. She has completed her sophomore year of high school, holds a local FFA chapter office, and is attending camp for the first time.

2. Campers' learning styles roughly mirror the learning styles of the general population (Shindler & Yang, 2003). As with the general population, camper learning styles are varied.
3. On average, campers nearly doubled their score on the CCCE when comparing pretest and posttest results. It is important to note, however, that the average posttest score is a 58%, which would be a failing grade in a formal educational environment.
4. Although the difference between tests scores is statistically significant, the amount of information retained after a six-month period is not practically significant. Campers retain a small amount of the information taught during small group time at camp.
5. Learning style does not affect the amount of information campers learn during small group breakout sessions.
6. Learning style has no affect on the amount of information learned or retained by campers when comparing the mean scores of pretests, posttests, and delayed posttests.
7. Overall, campers have a positive attitude toward camp. Two of the three construct scores were greater than 5.00, which indicated that campers had a positive attitude when asked to evaluate the camp and scale the activeness of the camp experience.
8. Posttest scores are not affected by camper sex, race, grade level, previous camp attendance, or attitudes pertaining to camp. Scores are, however,

affected by camper GPA, socioeconomic status, and FFA chapter officer status.

9. Delayed posttest scores are not affected by camper sex, race, age, grade level, socioeconomic status, previous camp attendance, GPA, or attitude. However, campers who hold an FFA chapter office continued to outperform campers who did not hold an office.

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APPENDICES

APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL FORM

Oklahoma State University Institutional Review Board

Date: Friday, June 17, 2011
IRB Application No AG1133
Proposal Title: Predicting Camper Cognitive Gain and Retention at Oklahoma FFA Alumni Leadership Camp Using Learning Styles and Demographic Variables

Reviewed and Processed as: Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 6/16/2012

Principal Investigator(s):

Nicholas R. Brown	Robert Terry
458 Ag Hall	458 Ag Hall
Stillwater, OK 74078	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

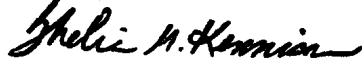
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

APPENDIX B

LETTER TO PARENTS OF STUDY PARTICIPANTS



**Department of Agricultural Education,
Communications and Leadership**

448 Agricultural Hall
Stillwater, Oklahoma 74078-6031
405-744-8036
Fax: 405-744-5176
<http://aged.okstate.edu>

June 2, 2011

Dear Parent:

You are receiving this letter because your child is registered to attend FFA Alumni Leadership Camp this summer.

I have teamed up with Oklahoma FFA Association staff members Kent Boggs and Kurt Murray to conduct an evaluation of Alumni Camp. We will be looking at the camp experience with a goal of determining the amount of information students learn about leadership while at camp. Obviously we want Oklahoma FFA members to have a great time at camp, but we are also interested in making the camp as meaningful as possible.

The information gathered during the study will allow camp organizers to make the camp experience better for future FFA members. If you consent to allowing your student to participate please read and sign the parental consent form and send it with your child when they come to camp. Your child will not be subjected to any situation that can be embarrassing to them and their camp experience will not be disrupted.

Respectfully,

Nick Brown
Graduate Research Associate
Department of Agricultural Education,
Communications and Leadership

6/17/11
Lafayette
AC-11-33

APPENDIX C

PARENT/GUARDIAN PERMISSION FORM

**PARENT/GUARDIAN PERMISSION FORM
OKLAHOMA STATE UNIVERSITY**

PROJECT TITLE: Predicting Camper Cognitive Gain and Retention at Oklahoma FFA Alumni Leadership Camp Using Learning Styles and Demographic Variables

INVESTIGATORS: Nick Brown, M.P.A.; Robert Terry, Ph.D., Oklahoma State University

PURPOSE:

Non-formal FFA learning activities such as camps, conferences, and conventions require significant investments of financial and human resources to plan and execute. Given these costs, it is important to determine the amount of information learned and retained by students within these non-formal learning environments and to identify variables that predict student-learning outcomes. The results of this study will be useful to the Oklahoma FFA Association staff, Oklahoma agricultural education instructors, state agricultural education staff members, and other stakeholders who are interested in affecting program impact and in improving agricultural education and FFA in Oklahoma.

PROCEDURES:

Campers will be asked to complete three documents; (1) a short questionnaire designed to determine the camper's learning style, (2) a questionnaire designed to identify camper characteristics such as age, years at camp, and gender, and (3) a short test designed to measure what the camper has learned at camp. This will not interfere with the camp experience because campers who participate will be asked to complete the documents during camp registration and during free time after breakfast on the last day of camp. Campers who participate in the study will be asked to complete the three documents while at camp and will also be mailed a post-test in December to help the FFA understand how much students remember from camp.

RISKS OF PARTICIPATION:

There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

BENEFITS OF PARTICIPATION:

The results of this study will be useful to the Oklahoma FFA Association staff, Oklahoma agricultural education instructors, state agricultural education staff members, and other stakeholders who are interested in affecting program impact and in improving agricultural education and FFA Alumni Leadership Camp in Oklahoma.

CONFIDENTIALITY:

The records of this study will be kept private. Any written results will discuss group findings and will not include information that will identify your child. Research records will be stored securely and only researchers and individuals responsible for research oversight will have access to the records. Subject names will not be used; instead, a researcher assigned number will identify participants. The researcher will create a temporary list linking participant names and researcher assigned ID numbers while data collection is on going. This list will be kept in a locked file cabinet in a faculty office (Ag Hall 458) until May 2012 when it will be destroyed. The PI, Nick Brown, and his advisor, Rob Terry, will have access to the coded list. It is possible that

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the consent process and data collection will be observed by research oversight staff responsible for safeguarding the rights and wellbeing of people who participate in research.

CONTACTS:

Parents/Guardians may contact any of the researchers at the following addresses and phone numbers, should they desire to discuss their child's participation in the study and/or request information about the results of the study: Nick Brown, M.P.A., 458 Agricultural Hall, Dept. of Agricultural Education, Communications and Leadership, Oklahoma State University, Stillwater, OK 74078, (405) 744-2972.

If you have questions about your child's rights as a research volunteer, you may contact the Oklahoma State University Institutional Review Board (IRB) Chair, Dr. Shelia Kennison at 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

PARTICIPANT RIGHTS:

Your child's participation is voluntary, there is no penalty for their refusal to participate, and you are free to withdraw your permission at any time, without penalty.

CONSENT DOCUMENTATION:

I have been fully informed about the procedures listed here. I am aware of what my child and I will be asked to do and of the benefits of their participation.

I affirm that I am 18 years of age or older.

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form will be given to me. I hereby give permission for my child _____ (insert child name here) and my participation in this study.

Signature of Parent/Legal Guardian

Date

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APPENDIX D

STUDENT ASSENT FORM

ASSENT FORM

Dear Student,

We are interested in learning about FFA Alumni Leadership Camp. In order to understand this, we would like you to fill out three forms at the beginning of camp and then you will be asked to complete an additional short form after breakfast on the last day of camp. We will also send a form to your home this December for you to fill out and send back to us so we can determine how much you remember from camp. Your parent/guardian is aware of this project.

Please understand that you do not have to do this. You do not have to answer any questions that you do not want to. You may stop at any time and bring the forms back to me.

Your name will not be on the forms you fill out, and you will be given a number that will be put on your answer sheet so no one will know whose answers they are. If you have any questions about the form or what we are doing, please ask us. Thank you for your help.

Sincerely,

Nick Brown
Graduate Student Oklahoma State University

Rob Terry, Ph.D.
Professor Oklahoma State University

I have read this form and agree to help with your project.

(your name)

(your signature)

(date)

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APPENDIX E

PRETEST INSTRUMENT



Oklahoma FFA Alumni Leadership Camp Study



**OSU Department of
Agricultural Education,
Communications and
Leadership**

Name: _____ FFA Chapter: _____

Home Address: _____

City: _____ Zip Code: _____

Purpose

The purpose of this test and questionnaire is to gather information from Oklahoma FFA members about what they learn as a camper at Oklahoma FFA Alumni Camp.

Your participation in this study is strictly voluntary and appreciated greatly. The information you provide will assist the OSU Department of Agricultural Education, Communications and Leadership in evaluating Alumni Camp and providing feedback to the Oklahoma FFA Association in an effort to make camp better for future FFA members. So, your responses are vital.

Should you decide to participate in this study, please, return your completed questionnaire before you leave the camp registration area. The responses you provide will remain confidential; no names of individuals will be associated with the findings of this study.

Thank you for participating in this important study!

Nicholas R. Brown
Graduate Teaching and Research Associate

Part I– Learning Style

Please answer the questions as carefully, honestly and quickly as possible. There are no right answers, only your best answers. Circle the letter beside your answer.

1. When you come to a new situation you usually
 - A. try it right away, and learn from doing
 - B. like to watch first and try it later
2. Do you think people should be more
 - A. sensible and practical
 - B. imaginative and inspired
3. When you come to an uncertain situation
 - A. you usually trust your feelings more
 - B. you usually trust your thinking more
4. Would you say you are
 - A. a little more serious
 - B. a little more easy-going
5. Do you spend most of your time
 - A. often in bigger groups and seldom alone
 - B. in smaller groups or alone
6. It is better to
 - A. be able to accept things
 - B. want to change things
7. Is it worse to
 - A. do mean things
 - B. do unfair things
8. Do you prefer when things are
 - A. planned and structured
 - B. spontaneous and unplanned
9. After a day spent with a lot of people do you
 - A. feel energized and stimulated
 - B. feel drained and like being alone
10. When you need to get something important done, you prefer to
 - A. do it the way that has worked before
 - B. do it a new way that you just thought of

11. Which is a bigger compliment?
 - A. "he/she is really nice"
 - B. "he/she is really smart"
12. When it comes to time, are you more likely to
 - A. usually be on time
 - B. be pretty flexible
13. When you are in a group do you usually
 - A. do a lot of the talking
 - B. mostly listen and talk a little
14. Are you more interested in
 - A. what really is
 - B. what can be
15. When you look at two things, you mostly notice
 - A. how they are the same
 - B. how they are different
16. Do you tend to get along better with
 - A. people who are a lot like you
 - B. lots of different types of people
17. Most other people seem to see you as
 - A. kind of out-going
 - B. kind of shy and reserved
18. When it comes to work that is very exact and detailed
 - A. it comes pretty easily to you
 - B. you tend to lose interest in it quickly
19. When your friend disagree, it is more important to you
 - A. to help them agree and come together
 - B. to help them come to the right answer
20. When you get-up in the morning
 - A. you know pretty much how your day will go
 - B. it seems everyday is pretty different
21. When it comes to using the phone
 - A. you use it a lot and make most of the calls
 - B. you use it most when other call you

22. When you work on group projects, do you prefer
 - A. helping make sure the project gets done and works
 - B. helping come up with the ideas and plans
23. Others often describe you as a
 - A. warm-hearted person
 - B. cool-headed person
24. Which is more your way
 - A. to “do the right thing”
 - B. to “just do it”
25. When you talk to strangers you’ve just met you
 - A. talk pretty easily and at length
 - B. run out of things to say pretty quickly
26. When it comes to work you
 - A. prefer steady effort and a regular routine
 - B. work in spurts, really “on” then really “off”
27. Is it worse to be
 - A. too critical
 - B. too emotional
28. Would you rather have things
 - A. finished and decided
 - B. open to change
29. When it comes to news at school, you seem
 - A. to find it out quickly
 - B. to be one on the last to know
30. Are you more likely to trust
 - A. your experience
 - B. your hunches
31. I prefer teachers who are more
 - A. caring and supportive
 - B. knowledgeable and expect a lot
32. Is it more your way to
 - A. finish one project before you start a new one
 - B. have lots of projects going at once

33. Which is more true of you? do you
A. too often act and talk without thinking much first
B. spend too much time thinking and not enough doing
34. Games would be more fair if people
A. would just follow the rules
B. would just use "good sportsmanship"
35. It is usually easier for you to tell
A. how someone else is feeling
B. what someone else is thinking
36. Which is the more useful ability
A. to be able to organize and plan
B. to be able to adapt and make do
37. At a party or gathering
A. you do more of the introducing of others
B. others introduce you more
38. Do you think more about
A. what is going on right now
B. what will happen in the future
39. It is more your way to
A. usually show what you are feeling
B. usually not show your feelings
40. You are the kind of person who
A. needs to have things a certain way
B. does it any old way
41. When you get done with an assignment
A. you feel like showing it to someone
B. you like to keep it to yourself
42. Things would be better if people were
A. more realistic
B. more imaginative
43. Would you say you are more concerned with
A. being appreciated by others
B. achieving something important

44. It is better that people
 - A. know what they want
 - B. keep an open-mind
45. Friday night after a long week you usually
 - A. feel like going to a party or going out
 - B. feel like renting a movie and relaxing
46. When you do a job, it's usually your approach to
 - A. start from the beginning, and go step-by-step
 - B. start anywhere, and figure it out as you go
47. When you tell a story, you mostly talk about
 - A. how the people involved were effected
 - B. what when on in general
48. You feel most comfortable when things are
 - A. planned and you know what to expect
 - B. unplanned and flexible
49. Most people describe you as more
 - A. energetic and talkative
 - B. calm and a good listener
50. When you are asked to make up a story
 - A. you tend to use people and places that you already know
 - B. it is pretty easy for you to come up with original ideas
51. When you get in an argument, you usually fell
 - A. kind of bad because feelings get hurt
 - B. like sometimes it is important to stick to your position
52. For most tasks you do everyday
 - A. you find a system that you use pretty consistently
 - B. you often try different ways of doing them

PART II—FFA Alumni Camp Student Pre-Test

Circle the letter beside the correct answer. Please answer each question to the best of your ability.

1. What is important to remember when you self-communicate?
 - A. our thoughts become things
 - B. our thoughts become who we are
 - C. our thoughts become ideas
 - D. our thoughts become unbelievable

2. "Once you have seen it you will always see it" is an example of?
 - A. recall memory
 - B. reticular activation
 - C. post-response
 - D. secondary memory
3. What is the number one rule of communication in relationships?
 - A. we can't get what we are not willing to give
 - B. we must know what we want
 - C. we should know who leads the relationship
 - D. we need to talk things out
4. In small group, you (will or did) learn about family communication. What should family communication be?
 - A. it should be perfect
 - B. it should be positive
 - C. it should be the best it can be
 - D. it should focus on constructive criticism
5. What kind of communication is key for active listening?
 - A. positive
 - B. expressive
 - C. non-verbal
 - D. source
6. Which of the following is not one of the Three R's in the self-destructive process?
 - A. resentment
 - B. retaliation
 - C. retribution
 - D. regret
7. What is the first goal in handling conflict?
 - A. take responsibility for your feelings
 - B. identify the reason for conflict
 - C. express your feelings
 - D. evaluate your relationship
8. What is a good tool to use to resolve conflict?
 - A. I need... I want...
 - B. I feel ... I want ...
 - C. I want... I feel...
 - D. I want... I need...

9. What is the term used to describe someone who has made an impact on your life?
 - A. hero
 - B. mentor
 - C. teacher
 - D. role model

10. What is mastering intra personal communications all about?
 - A. mastering our emotions
 - B. mastering out actions
 - C. mastering our thoughts
 - D. mastering our responses

11. What is true of an average person's thoughts?
 - A. 50% of our thoughts are positive
 - B. 40% of our thoughts are negative
 - C. 80% of our thoughts are negative
 - D. 70% of our thoughts are positive

12. What is the difference between intrapersonal communication and interpersonal communication?
 - A. interpersonal is communication with oneself and intrapersonal is communication within a team
 - B. intrapersonal communication involves clear communication with others and interpersonal communication does not
 - C. interpersonal communication involves communicating with people you know well and intrapersonal communication does not
 - D. intrapersonal communication is with oneself and interpersonal is communication within a team

13. What is the most important question to ask yourself about an argument?
 - A. can I win?
 - B. what is the cost of winning?
 - C. do I value this relationship?
 - D. what is the cost of losing?

14. What is important to remember when we look at situations differently?
 - A. knowledge is found
 - B. we see the truth
 - C. we see different things
 - D. we don't get past our initial thoughts

15. What is meant by "you cannot cast a shadow on an enlightened mind?"
 - A. the smarter you are the better off you will be
 - B. once you have learned something it is a useful tool
 - C. negative people can't influence positive people
 - D. there is no such thing as a smart failure

16. From what source do we learn most of our communication skills?
 - A. our teachers
 - B. those closest to us
 - C. television
 - D. leadership conferences

17. What is important to remember when communicating with family members?
 - A. they will forgive you if you argue
 - B. we have no control over the situation
 - C. you and your parents want the same things
 - D. it is important to make eye contact

PART III—Personal Characteristics

For each item in Part III, circle or provide the answer that best describes you.

1. What is your sex?
 - A. Male
 - B. Female

2. What is your race?
 - A. White
 - B. African American
 - C. Asian or Pacific Islander
 - D. Native American or Alaskan Native
 - E. Hispanic
 - F. Other

3. How old are you? (Please write your age in the blank.) _____

4. What grade will you be in when you start school this fall?
 - A. 8th
 - B. 9th
 - C. 10th
 - D. 11th
 - E. 12th

- 5. Do you receive free or reduced lunch at school?
 - A. Yes
 - B. No
 - C. Don't know

- 6. Including this year how many times have you attended FFA Alumni Camp?
 - A. 1
 - B. 2
 - C. 3
 - D. 4
 - E. 5

- 7. Are you an FFA Chapter Officer?
 - A. Yes
 - B. No

- 8. What is your Grade Point Average (GPA)? _____

- 9. Why did you come to FFA Alumni Camp?

Thank You!

Please return this questionnaire to Nick Brown when complete.

APPENDIX F

POSTTEST INSTRUMENT



Name: _____ FFA Chapter: _____

PART I—FFA Alumni Camp Student Post-Test

Circle the letter beside the correct answer. Please answer each question to the best of your ability.

1. "Once you have seen it you will always see it" is an example of?
 - A. secondary memory
 - B. recall memory
 - C. reticular activation
 - D. post-response

2. What is important to remember when we look at situations differently?
 - A. we see the truth
 - B. knowledge is found
 - C. we don't get past our initial thoughts
 - D. we see different things

3. What is the number one rule of communication in relationships?
 - A. we must know what we want
 - B. we can't get what we are not willing to give
 - C. we need to talk things out
 - D. we should know who leads the relationship

4. In small group, you (will or did) learn about family communication. What should family communication be?
 - A. it should be positive
 - B. it should focus on constructive criticism
 - C. it should be the best it can be
 - D. it should be perfect

5. Which of the following is not one of the Three R's in the self-destructive process?
 - A. retaliation
 - B. resentment
 - C. regret
 - D. retribution

6. What is the first goal in handling conflict?
 - A. express your feelings
 - B. identify the reason for conflict
 - C. take responsibility for your feelings
 - D. evaluate your relationship

7. What is a good tool to use to resolve conflict?
 - A. I want... I feel...
 - B. I want... I need...
 - C. I need... I want...
 - D. I feel ... I want ...

8. What is important to remember when you self-communicate?
 - A. our thoughts become ideas
 - B. our thoughts become who we are
 - C. our thoughts become things
 - D. our thoughts become unbelievable

9. What is important to remember when communicating with family members?
 - A. you and your parents want the same things
 - B. they will forgive you if you argue
 - C. it is important to make eye contact
 - D. we have no control over the situation

10. What is mastering intrapersonal communications all about?
 - A. mastering our thoughts
 - B. mastering our responses
 - C. mastering our emotions
 - D. mastering our actions

11. What is true of an average person's thoughts?
 - A. 70% of our thoughts are positive
 - B. 40% of our thoughts are negative
 - C. 50% of our thoughts are positive
 - D. 80% of our thoughts are negative

12. What is the difference between intrapersonal communication and interpersonal communication?
 - A. interpersonal communication involves communicating with people you know well and intrapersonal communication does not
 - B. interpersonal is communication with oneself and intrapersonal is communication within a team
 - C. intrapersonal communication involves clear communication with others and interpersonal communication does not
 - D. intrapersonal communication is with oneself and interpersonal is communication within a team

13. What is the most important question to ask yourself about an argument?
 - A. do I value this relationship?
 - B. what is the cost of losing?
 - C. what is the cost of winning?
 - D. can I win?

14. What kind of communication is key for active listening?
 - A. non-verbal
 - B. positive
 - C. source
 - D. expressive

15. What is the term used to describe someone who has made an impact on your life?
- A. mentor
 - B. role model
 - C. hero
 - D. teacher
16. What is meant by “you cannot cast a shadow on an enlightened mind?”
- A. there is no such thing as a smart failure
 - B. the smarter you are the better off you will be
 - C. negative people can't influence positive people
 - D. once you have learned something it is a useful tool
17. From what source do we learn most of our communication skills?
- A. leadership conferences
 - B. our teachers
 - C. those closest to us
 - D. television

PART II—Attitudes

Place a mark (X) in one of the seven spaces between each pair of words to best describe your feelings about FFA Alumni Camp.

Example:

Alumni Camp								
Complex	___	___	___	___	___	___	___	Simple

This person thought FFA Alumni Camp was more Complex than Simple.

Alumni Camp								
Good	___	___	___	___	___	___	___	Bad
Soft	___	___	___	___	___	___	___	Hard
Excitable	___	___	___	___	___	___	___	Calm
Unfriendly	___	___	___	___	___	___	___	Friendly
Large	___	___	___	___	___	___	___	Small
Easy	___	___	___	___	___	___	___	Difficult
Happy	___	___	___	___	___	___	___	Sad
Light	___	___	___	___	___	___	___	Heavy
Active	___	___	___	___	___	___	___	Passive
Cruel	___	___	___	___	___	___	___	Kind
Deep	___	___	___	___	___	___	___	Shallow
Slow	___	___	___	___	___	___	___	Fast
Sociable	___	___	___	___	___	___	___	Unsociable
Weak	___	___	___	___	___	___	___	Strong
Emotional	___	___	___	___	___	___	___	Unemotional

Thank You!

Please return this questionnaire to Nick Brown when complete.

APPENDIX G

DELAYED POSTTEST INSTRUMENT



Oklahoma FFA Alumni Leadership Camp Study



**OSU Department of
Agricultural Education,
Communications and
Leadership**

Name: _____ FFA Chapter: _____

Home Address: _____

City: _____ Zip Code: _____

PART I—FFA Alumni Camp Student Post-Test

Circle the letter beside the correct answer. Please answer each question to the best of your ability.

1. From what source do we learn most of our communication skills?
 - A. leadership conferences
 - B. television
 - C. our teachers
 - D. those closest to us

2. What is true of an average person's thoughts?
 - A. 80% of our thoughts are negative
 - B. 70% of our thoughts are positive
 - C. 40% of our thoughts are negative
 - D. 50% of our thoughts are positive

3. What is the term used to describe someone who has made an impact on your life?
 - A. mentor
 - B. hero
 - C. teacher
 - D. role model

4. What is a good tool to use to resolve conflict?
 - A. I want... I need...
 - B. I feel ... I want ...
 - C. I want... I feel...
 - D. I need... I want...

5. What is the first goal in handling conflict?
 - A. take responsibility for your feelings
 - B. evaluate your relationship
 - C. identify the reason for conflict
 - D. express your feelings

6. What kind of communication is key for active listening?
 - A. positive
 - B. non-verbal
 - C. expressive
 - D. source

7. Which of the following is not one of the Three R's in the self-destructive process?
 - A. retribution
 - B. resentment
 - C. retaliation
 - D. regret

8. "Once you have seen it you will always see it" is an example of?
 - A. recall memory
 - B. reticular activation
 - C. secondary memory
 - D. post-response

9. What is important to remember when we look at situations differently?
 - A. we don't get past our initial thoughts
 - B. we see different things
 - C. knowledge is found
 - D. we see the truth

10. What is mastering intrapersonal communications all about?
 - A. mastering our responses
 - B. mastering our thoughts
 - C. mastering our actions
 - D. mastering our emotions

11. What is the number one rule of communication in relationships?
 - A. we need to talk things out
 - B. we must know what we want
 - C. we can't get what we are not willing to give
 - D. we should know who leads the relationship

12. What is important to remember when communicating with family members?
 - A. they will forgive you if you argue
 - B. you and your parents want the same things
 - C. it is important to make eye contact
 - D. we have no control over the situation

13. What is meant by "you cannot cast a shadow on an enlightened mind?"
 - A. negative people can't influence positive people
 - B. the smarter you are the better off you will be
 - C. once you have learned something it is a useful tool
 - D. there is no such thing as a smart failure

14. In small group, you (will or did) learn about family communication. What should family communication be?
 - A. it should be perfect
 - B. it should be the best it can be
 - C. it should focus on constructive criticism
 - D. it should be positive

15. What is the difference between intrapersonal communication and interpersonal communication?
- A. interpersonal is communication with oneself and intrapersonal is communication within a team
 - B. intrapersonal communication is with oneself and interpersonal is communication within a team
 - C. interpersonal communication involves communicating with people you know well and intrapersonal communication does not
 - D. intrapersonal communication involves clear communication with others and interpersonal communication does not
16. What is important to remember when you self-communicate?
- A. our thoughts become unbelievable
 - B. our thoughts become who we are
 - C. our thoughts become ideas
 - D. our thoughts become things
17. What is the most important question to ask yourself about an argument?
- A. what is the cost of winning?
 - B. can I win?
 - C. do I value this relationship?
 - D. what is the cost of losing?

Thank You!

Please return this questionnaire to your Ag Teacher when complete.

APPENDIX H

DELAYED POSTTEST DATA COLLECTION MATERIALS



**Department of Agricultural Education,
Communications and Leadership**

448 Agricultural Hall
Stillwater, Oklahoma 74078-6031
405-744-8036
Fax: 405-744-5176
<http://aged.okstate.edu>

January 3, 2012

Dear Ag Teacher:

In a few days you will receive a package from the Department of Agricultural Education, Communications and Leadership at Oklahoma State University containing a short multiple-choice test to be completed by one or more of your students.

You are receiving this package because your student(s) participated in a study this summer during FFA Alumni Camp. This study focuses on student learning outcomes during small group sessions at camp. The test they will be completing will help camp planners understand how much information students have retained six months after the camp experience.

I am sending this letter so you will be aware the package is coming and will watch for its arrival. This study is important for camp planners as they work to move Alumni Camp forward.

Thank you for your time and cooperation during this study. Thus far, data have indicated that students' posttest scores are significantly higher than their pretest scores. We look forward to finishing up this last data collection phase in January and determining how much information is retained.

Respectfully,

A handwritten signature in black ink, appearing to read 'Nick Brown'.

Nick Brown
Doctoral Candidate
OSU AGED Department

P.S. A small token of our appreciation will be included with the test packets.



**Department of Agricultural Education,
Communications and Leadership**

448 Agricultural Hall
Stillwater, Oklahoma 74078-6031
405-744-8036
Fax: 405-744-5176
<http://aged.okstate.edu>

January 12, 2012

Ag Teacher:

I am requesting your help with a study being conducted to determine the learning outcomes for FFA members who attend Oklahoma FFA Alumni Leadership Camp. As you may know, campers are taught leadership curriculum during small group breakout sessions throughout the camp experience. Dr. Rob Terry and I are working with Oklahoma FFA staff to measure learning outcomes during small group time.

Your agricultural education program is receiving this packet because one or more of your students participated in the study this summer while attending FFA Alumni Camp. Please find the enclosed questionnaire(s) and instruct the student whose name appears on the front cover to complete the test. Please do not allow students to discuss the contents of the test with other students or use any outside resource to acquire information. We are interested in learning how much information the student remembers from camp this summer.

The results of this study will be used to help camp planners understand how students learn in a camp environment and how much information campers retain. More than 350 FFA members were randomly selected to participate in the study this summer. It is vitally important that all of these campers complete this questionnaire. Please help us in that effort by allowing your students to complete the test at school. We have provided a postage paid return envelope for your convenience. Please return your students' completed tests by January 23, 2012.

Name or chapter will not identify students when results are provided to state FFA staff. If you have any questions please do not hesitate to contact Rob Terry or myself. Our number is 405-744-2972.

I have enclosed an ink pen as a way of thanking you for helping us collect this information.

Thank you!

Respectfully,

A handwritten signature in black ink, appearing to read 'Nick Brown'.

Nick Brown
Doctoral Candidate
OSU AGED Department

February 1, 2012

Last week you received a packet in the mail containing a test for one or more of your students to complete. This test is included in the final round of data collection for a study of FFA Alumni Camp that is currently underway in cooperation with the Oklahoma FFA state staff and faculty members in Agricultural Education at Oklahoma State University.

If your student(s) has already completed the test and you have returned it to me, please accept my sincere thanks. If not, please ask your student(s) to complete the test today and return it as soon as possible.

I know this is a very busy time in your program and I greatly appreciate your help!

Nick Brown

From: Nick Brown <nrb@ostatemail.okstate.edu>
Subject: Alumni Camp Study
Date: March 8, 2012 5:16:12 PM CST
To: Nick Brown <nick.brown@mail.okstate.edu>

Subject: Alumni Camp Study

Good morning,

Thank you very much for helping me collect this last round of data for the Alumni Camp study. The response has been great. If you have not yet had time to ask your student(s) to complete the tests you received in the mail please do so and send it back as soon as you can. I know this is a very busy time with award applications and livestock shows so please know that your help is greatly appreciated. I am excited to see the results of this study and communicate our findings to the folks at CareerTech. We could not do it without you!

Thanks again,

Nick Brown

Nicholas R. Brown
Graduate Teaching and
Research Associate
Department of Agricultural Education,
Communications and Leadership
Oklahoma State University
nick.brown@okstate.edu
918.534.7428

APPENDIX I

PLSI SCORECARD

LEARNING STYLE INVENTORY SCORE SHEET

Place each answer, either "a" or "b," from the test question sheet beside its corresponding number below. Answer the questions as honestly and quickly as possible. There are no right or better answers, only **your** best answer.

Place "?" for questions that you did not understand.

Place "X" for questions that you could not decide.

1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.
13.	14.	15.	16.
17.	18.	19.	20.
21.	22.	23.	24.
25.	26.	27.	28.
29.	30.	31.	32.
33.	34.	35.	36.
37.	38.	39.	40.
41.	42.	43.	44.
45.	46.	47.	48.
49. _____	50. _____	51. _____	52. _____
a/E - ____	a/S - ____	a/F - ____	a/J - ____
b/I - ____	b/N - ____	b/T - ____	b/P - ____

TOTAL EACH COLUMN:

After you have transposed your answers to this sheet, total the letters in each column. Count the total number of "a"s, and the total of "b"s, column by column. Place the number at the bottom of the column next to the same letter so it looks like this:

a/E - 9

b/I - 4 (This scorer would have had more "a"s than "b"s and would therefore have a stronger "E.")

Put your results in the blanks below (place the corresponding capital letter with the higher total in the space):

_____ **I**NTROVERT/**E**XTROVERT (first column)

_____ **S**ENSATE/**I**NTUITIVE (second column)

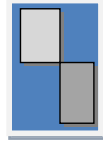
_____ **T**HINKER/**F**EELER (third column)

_____ **J**UDGER/**P**ERCEIVER (fourth column)

You should now have a four letter combination score: For example: **ESTP, INFJ, ENTP, or ISTJ**

APPENDIX J

PLSI INTERPRETIVE MATERIALS



Paragon Learning Style Inventory

A Window into Learning Style and Cognitive Preference

www.calstatela.edu/plsi

www.learningstyle.com

Interpretive Materials

Includes:

Pair-wise Analysis of each of the Four Cognitive Style Dimensions

The Factor Combinations that Most Affect School Life (EN, ES, IN, IS)

The Combinations that Most Affect How We See Things

Learning Profiles of each of the Four Academic Types – IS, IN, ES, EN

Type Dimension Comparison

Effective Teaching across Type Dimensions

Effects of Each Preference in Work Situations

Leadership and Cognitive Style

Type and Careers: Occupational Trends of the 16 Types

Learning Style and Type Dimension Research

Related to Student Characteristics in Counseling Situations

Four Types and Writing Style

Classroom Management Tendencies of each Teaching Style

“At Risk” and Problem Behavior in Schools Related to Type/Learning Style

Bibliography of Learning Style Literature

The Four Learning Style Factors

Interpreting your score: When you totaled your choices on the score sheet, the total of a's and b's in each column should have indicated a preference on each of these four factors of your learning style. For example, if in the first column you selected more a's than b's, that would have indicated that you would more likely show an E or Extrovert preference rather than an I or Introverted preference. However, if you had a tie, 6 a's and 6 b's, or a 7-6 score, it is helpful to examine each list of characteristics for the columns below to determine whether one of the factors is more "like you" than the other. Most people's "true" preference falls more into one column than the other, but being in the center is possible.

EXTROVERT (≈ 46% of males, 52% of females)

- learns best from doing
- is more at ease and confident socially
- likes to know how others are doing it
- gets energized from socializing
- readily volunteers and offers opinions
- ideas start from the outside in

SENSATE (≈ 75% of females, 70% of males)

- is more realistic and practical
- is more patient and steady
- uses his/her experience and common sense
- likes routines and order
- looks more for what is actual and sensible
- lives in the here and now

FEELER (≈ 70% of females: 45% of males)

- is more interested in people than ideas
- focuses more on personal relationships
- likes harmony dislikes conflict
- is tuned in to others' feelings
- is warm and arouses enthusiasm
- makes decisions based on his/her heart

JUDGER (≈ 55% of population)

- is more decisive than curious
- likes planned and scheduled activities
- has very set opinions
- feels good when things are completed
- likes order and organization
- may make decisions too quickly

INTROVERT (≈ 54% of males, 48% females)

- likes to watch before doing
- prefers working alone or with one other
- sets own standards when possible
- likes quiet space to work
- seems "deep" and hard to understand
- ideas start from inside out

INTUITIVE (≈ 25% of females, 30% of males)

- is more imaginative and abstract
- likes new challenge, works in spurts
- trusts what makes sense to her/him
- dislikes routine and detail work
- looks more for what is possible
- lives toward her/his vision of the future

THINKER (≈ 55% of males: 30% of females)

- is more interested in fascinating ideas
- wants things to be fair and reasonable
- stands-up for what he/she thinks
- is tuned in to logical consistency
- is cool-headed and impartial in conflict
- makes decisions based on rational thought

PERCEIVER (≈ 45% of population)

- is more curious than decisive
- likes the spontaneous and unplanned
- is flexible, adaptable, and tolerant
- like to keep options open
- seeks more to understand than manage things
- may have trouble making up her/his mind

The combination of your four preferences makes up your four factor "learning style." Taking the underlined letters from the factor titles above, you will obtain one of the 16 possible learning style combinations (i.e., ENTJ, ISFP, ESTP, or INFJ). Remember there are no better or more important styles. Those who prefer to work out of each side of the four factors are needed to make things work.

The more your score fell on one side of the column than the other, the more you will likely show a greater comfort working in that mode. While we all have the ability to work in either mode, understanding the modes that are the most comfortable for you will help you learn to be more successful and appreciate your unique gifts. You can learn more about how your preferences affect your style of learning, living and acting in the following pages.

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The Factor Combinations that Most Affect School Life

The two factors that most affect how one acts and learns in school are those of introversion/extroversion and sensation/intuition. Introverts may be more reflective while extroverts may be more outgoing. Practical skills may come more easily to sensates, while intuitives may be more comfortable with imagination. The key to academic and social success is to get to know your learning style and your comfort areas and then use those strengths to work on your less developed areas. The chart below shows the four possible combinations.

	Extroverts (E)	Introverts (I)
Sensates (S)	<p>ESs Action oriented realists (≈ 36%)</p> <p>This type loves action and things happening. They like to get practical results from their work, and like to work in groups. For them too much watching is a waste of time, they want to do. They like to share what they are doing and thinking. They get impatient when things are too slow, complicated, or abstract.</p>	<p>ISs Thoughtful realists (≈ 36%)</p> <p>This type is the most careful and steady. They don't mind working alone or with one other. They like practical results and are good with details, and technical things. They are often the least expressive; they see much but usually share little. They don't like careless ideas, plans, or too many new things at once.</p>
Intuitives (N)	<p>ENS Action oriented innovators (≈ 16%)</p> <p>This type is really motivated and likes to make things happen. They like to work in groups on new and interesting things. They like to take their theories and apply them with others. They share easily, especially what's inside. They don't like details, routines, or the same old thing for too long.</p>	<p>INs Thoughtful innovators (≈ 12%)</p> <p>This type is the best at solving problems. They like to work at their own pace on their own ideas. They like to make creative and scientific things. They would rather express themselves through their thoughts, instead of socializing with lots of others. They don't like doing busy work or things that don't make sense.</p>

The Combinations that Most Affect How We See Things

When sensation is combined with the last (J/P) category, and intuition is combined with the third (T/F) category, four combinations are created that are often called the four temperaments types. When looking at a problem each of the four types may see it, and approach solving it, very differently. But for a team to be most successful it needs to incorporate the ideas and perspectives of each of these four learning styles.

Sensates	<p>SPs Sensible, Adaptable, Active types (≈ 30%)</p> <p>When sensate qualities are combined with perceiver qualities the result is usually someone very tuned in to the here and now. They like doing and playing today, and not being too worried about tomorrow. They are the most spontaneous and easy-going. They like to get involved in new and interesting activities. School can be boring for the SP, if it means sitting still and doing all written work, but it can be fun too, because that's often where the action is.</p>	<p>SJs Sensible, Decision-making types (≈ 40%)</p> <p>When sensate qualities are combined with judging qualities the result is usually someone who is very dependable and responsible. The SJ is very service-oriented and are good "team players." They most like situations that are spelled-out and well organized. SJs like institutions like school, teams, church and family. They usually don't mind step-by-step work, and they like and do well in school (partly because most teachers are SJs themselves).</p>
Intuitives	<p>NFs Enthusiastic, Insightful types (≈ 20%)</p> <p>When intuition is combined with feeling qualities the result is someone who is very good with people and language. The NF is usually very enthusiastic and warm. They are very oriented toward cooperative things, and away from competitive things. They usually have very strong feelings about things and people, they really like them or really don't. NFs are very personal types, and thrive in supportive, creative, and harmonious situations.</p>	<p>NTs Logical, Ingenious types (≈ 10%)</p> <p>When intuition is combined with a thinking style the result is someone who always needs to know "why?" NTs are less interested in how things have been done, and more interested in how they can improve and change them. They are very imaginative, and are very comfortable in the "world of ideas." They like to be good at things, and always want to be learning. They can appear unemotional, and can be accused of having an "attitude," which is usually not the case.</p>

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Learning Profiles of each of the Four Academic Types – IS, IN, ES, EN

	Extroverts (E)	Introverts (I)
Sensates (S)	<p align="center">ESs Action-Oriented Realists (≈ 36%)</p> <p>Let me work with my hands and create something practical. Some people may call me a “kinesthetic” learner, but I would rather call myself a “doer.” I like to be part of a team and see practical results from my/our work. I have a strong need to contribute and be recognized. Don’t just explain how to do something to me, at least show me, and better yet, let me try it out. I learn from doing and then reflecting on what I have done. If you want me to understand an abstraction let me discover it inductively, or I can have a difficult time integrating it into a big picture understanding. Written directions can be really helpful to me. If you expect me to continually sit and listen to a lecture and then do well on a test later, I will likely disappoint you much of the time.</p>	<p align="center">ISs Thoughtful Realists (≈ 36%)</p> <p>Let me work independently on tasks that are clearly spelled out. Let me work with facts and information and I will be able to use my power of insightful realism to come to sound well thought-out conclusions. Give me a chance to be careful and thoughtful. I will be your most dependable and steady student if you give me work where the directions are clear and the desired outcome is understood beforehand. Give me recognition for my care and persistence since those are my strengths and I may not draw as much attention to myself as some of the other students. When you give vague careless directions or just expect me to “be creative” with no guidelines, I will likely feel some uneasiness and maybe even some resentment.</p>
Intuitives (N)	<p align="center">ENS Action-Oriented Innovators (≈ 16%)</p> <p>Let me work in situations where I can use my communications skills in my learning. If I am working in a group where there are chances to be creative, I can get really motivated. I am a much better student when I am “into the task” as opposed to when I am “not into the task.” I like to be inspired and see the purpose behind the work. I have an expressive energy that comes out when I am comfortable, and it helps me draw out my creativity and make connections across content. Talking, discussing, role-playing, debating are natural ways for me to tap that energy source. Peer tutoring a subject that I am good at is one of my favorite things to do. Projects where I can solve problems and draw energy from working with others and overcoming challenges are also areas where I feel very confident. When there are too many details, routines, lectures or the same old thing all the time, I may turn my creative energies into behavior that you may not like.</p>	<p align="center">INs Thoughtful Innovators (≈ 12%)</p> <p>Let me work in situations where I can come up with my own ideas whenever possible. I don’t have as much trouble as some of the other students in being creative. I am often surprised when I see that I sometimes see deeper realities that other students miss. I like to come up with stories, draw pictures, or think of new ways of doing something. Some people call me a “visual learner” but I just feel more comfortable studying something for a while and understanding how it works before I try to do it or talk about it. I will be the last to volunteer usually, but I will work to master it long after the other students have moved on to something else. I need to be able make connections with the current subject and the previous subjects, so let me know the purpose behind what we are doing before you tell me what to do. If you ask me to do work that is pointless, inconsistent, or irrelevant then you will probably see me become at least a bit cynical and/or irreverent.</p>

From – *Teaching Across Type – Five Principles* © Paragon Consulting

Type Dimension Comparison

Introversion

Withdrawing to peace
 Watching first
 Wait to be approached
 Series of one-on-ones
 Externally reserved
 Inside/Autonomous

Energy from . . .
Learn from . . .
Interaction
Socializing
Expression
Thinking

Extroversion

Immersion into action
 Doing first
 Initiate the interaction
 In groups
 Shows what's going on
 Outside/Accommodating

Sensate

Practical reality
 Respect for what is
 Present
 Experience
 What works

World
Reality
Time orientation
Effectiveness
comes from . . .
Data for tasks

Intuitive

Socially constructed
 Imagine what could be
 Future
 Ingenuity
 What makes sense

Feeling

People
 Wholes/Similarities
 Mostly resist it
 Warm and readable
 Praise and encouragement

Basic Value
Looking at things
Approach to Conflict
Affect
Motivation

Thinking

Rational
 Patterns/Differences
 Can do it casually
 Cool and reserved
 Achievement/Goal attainment

Judging

Decisive
 Convergent
 Linear/Sequential
 Clock time is valid
 Completion

Decision Style
Approach to information
Cognitive Pattern
Time
Comfort in tasks

Perceiving

Open-minded
 Divergent
 Random/Circular
 General/Flexible
 Getting Started

Effective Teaching across Type Dimensions

Introverts teaching Extroverts	Extroverts teaching Introverts
<ul style="list-style-type: none"> • Use group work and cooperative learning • Use wait time with questioning • Provide time for movement • Value expression 	<ul style="list-style-type: none"> • Provide individual tasks • Call on all students regularly • Provide written venues for thinking • Value reflection
Sensates teaching Intuitives	Intuitives teaching Sensates
<ul style="list-style-type: none"> • Provide opportunities for creativity • Give students the “big picture” of their work • Use concept attainment and problem-based strategies on occasion • Teach inductively on occasion • Don't overemphasize the details 	<ul style="list-style-type: none"> • Provide hands on activities • Give clear step-by-step directions • Explain the practical application to work • Avoid long abstract or theoretical lectures • Value the quality of students work
Thinkers teaching Feelers	Feelers teaching Thinkers
<ul style="list-style-type: none"> • Remember to show your warm feelings • Avoid excessive conflict in your teaching style • Include praise in your feedback • Avoid being too critical • Express your joy or pleasure whenever possible • Value feeling in written work 	<ul style="list-style-type: none"> • Do not rely too heavily on praise • Give concrete feedback • Try to accept some degree of healthy conflict • Be consistent in your application of principles • Don't be afraid to give honest feedback/critique • Value logic in written work
Judgers teaching Perceivers	Perceivers teaching Judgers
<ul style="list-style-type: none"> • Allow for some flexibility in assignment format • Use variety • Provide clear written assignment guidelines • Allow for flexible time frames for completion • Value novelty and open-mindedness 	<ul style="list-style-type: none"> • Provide clear written assignment guidelines • Prepare students for changes in plans • Try to keep to the agreed upon schedule • Provide some routine in the day • Value accuracy and punctuality

In general: Teachers who are aware of their own style and those of their students will be more successful with more types of students. Teachers who provide a challenging meaningful curriculum, a safe and communal classroom climate, and clear assessments, using well-designed rubrics, will be more successful with all students. Teaching to a variety of modalities or styles may be the better approach than trying to individualize instruction, especially at the secondary level.

Effects of Each Preference In Work Situations

Extraverts

Like variety and action
Are often good at greeting people
Are sometimes impatient with long slow jobs
Are interested in how others do their jobs
Often enjoy talking on the phone
Like to have people around in the working environment
May prefer to communicate by talking rather than writing
Like to learn a new task by talking it through with someone

Sensing types

Are aware of the uniqueness of each event
Focus on what works now
Like an established way of doing things
Enjoy applying what they have already learned
Work steadily, with a realistic idea of how long it will take
Usually reach a conclusion step by step
Are not often inspired, and may not trust the inspiration when they are
Are careful about the facts
May be good at precise work
Can oversimplify a task
Accept current reality as a given to work with

Thinking types

Are good at putting things in logical order
Respond more to people's ideas than their feelings
Anticipate or predict logical outcomes of choices
Need to be treated fairly
Tend to be firm and tough-minded
Are able to reprimand or fire people when necessary
May hurt people's feelings without knowing it
Have a talent for analyzing a problem or situation

Judging types

Work best when they can plan their work and follow the plan
Like to get things settled and finished
May decide things too quickly
May dislike interrupting one project for a more urgent one
May start too many projects, having difficulty in finishing them
Tend to be satisfied once they reach a judgment on a thing, situation, or person
Want only the essentials needed to begin their work
Schedule projects so that each step gets done on time
Use lists as agendas for action

Introverts

Like quiet for concentration
Have trouble remembering names and faces
Can work on one project for a long time
Are interested in the idea behind the jobs.
Dislike telephone interruptions
Often act quickly, sometimes without thinking
Work alone contentedly
Think before they act, sometimes without acting
May prefer communications to be in writing

Intuitive types

Are aware of new challenges and possibilities
Focus on how things could be improved
Dislike doing the same thing repeatedly
Enjoy learning new skills
Work in bursts of energy powered by enthusiasm, with slack periods in between
May leap to a conclusion quickly
Follow their inspirations and hunches
May get their facts a bit wrong
Dislike taking time for precision
Can "overcomplexify" a task
Ask why things are as they are

Feeling types

Like harmony and will work to make it happen
Respond to people's values as much as to their thoughts
Are good at seeing the effects of choices on people
Need occasional praise Tend to be sympathetic
Dislike telling people unpleasant things
Enjoy pleasing people
Take an interest in the person behind the job or idea

Perceptive types

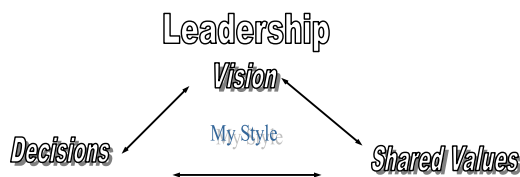
Do not mind leaving things open for last-minute changes
Adapt well to changing situations
May have trouble making decisions
May postpone unpleasant jobs
Want to know all about a new job
Get a lot accomplished at the last minute under deadline pressure
Use lists as reminders of all the things they have to do

From: **A Guide To the Development and Use of the Myers Briggs Type Indicator (1998).**

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Leadership and Cognitive Style

Understanding your cognitive style can be very useful in developing your leadership style. It may be helpful to use the conceptual framework illustrated in the diagram below to assist you in exploring effective leadership behavior within the dimensions of cognitive preference.



This diagram depicts the 3 critical and interrelated dimensions of effective leadership. First, a good leader needs to be able to develop and communicate a *collective vision* for the group as it moves toward its goals. Next, a leader needs to be able to make *decisions* based on good information and the will of the group. Finally, an effective leader is one who understands that no outcome will last unless it is grounded in *shared values* and has high levels of group ownership. It may be helpful to breakdown each of these areas of leadership within the cognitive dimensions that most define them. For example, the way one conceives a vision seems to be most dependent on a combination of the first two dimensions (E/I and S/N), shared values would be the middle two (S/N and T/F), and decisions would be the last two (T/F and J/P).

The following exercise may helpful in the development of your leadership abilities. First, consider how the other type combinations are most comfortable operating in each of the three areas, and then use the set of guiding questions to help you develop a more well-rounded approach to leading.

For each of the 4 type combinations, **VISION** is typically based in:

- ES – shared action and experience
- IS – tasks and accomplishments
- EN – shared principles and action
- IN – an internal interpretation of the big picture

If I were to have any of the other styles, what would be my approach to developing and communicating a vision for the group? What can I learn from the other approaches? What would be the various needs of the other members of my group when it came to feeling as though group action was a reflection of a collective emergent vision?

For each of the 4 type combinations, the priority **VALUES** are typically:

- SF – people's feelings and getting practical needs met
- ST – consistency and practical realities
- NF – meaningful outcomes and emotional harmony
- NT – logical consistency and relevancy

If I were to have any of the other styles, what would be the values I would use to assess if the group was functioning well? If I ignored these other ways of thinking, what important values might I be neglecting? Given the other types, what needs must I address to make the group members comfortable in the process?

For each of the 4 type combinations, the typical **DECISION-Making** style will look like this:

- FP - flexible given the needs of people
- FJ – principle-driven based on how things affect people
- TP – logical but open to change
- TJ – decisive and objective

If I were to have any of the other styles, what would I need to feel comfortable with any decision? If I am a very decisive “judge,” what can I learn from the more measured and/or open-minded group members? If I have a strong “perceiving” preference, what could be accomplished by occasionally making decisions without complete assurance? As a feeler, am I willing to accept the need for logical outcomes? As a “thinker,” am I willing consider the human needs even if they feel less objective?

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Type and Careers: Occupational Trends of the 16 Types

<p style="text-align: center;">ISTJ</p> <p>Management Administration Law Enforcement Accounting</p> <p>Or any other occupations where they can use their experience, attention to detail and dedication to organizational goals to accomplish practical tasks.</p>	<p style="text-align: center;">ISFJ</p> <p>Education Health Care Religious Settings</p> <p>Or any other occupations where they can use their experience and/or their understanding of organizational standards to help others and support the "team."</p>	<p style="text-align: center;">INFJ</p> <p>Religion Counseling Teaching Arts Writing</p> <p>Or any other occupations where they can facilitate the emotional, intellectual and spiritual development of others and/or express their ideas in writing and plans.</p>	<p style="text-align: center;">INTJ</p> <p>Science Computers Law Academics</p> <p>Or any other occupations where they can use their intellectual creativity to create plans and schemes and/or their ease with technology to solve problems.</p>
<p style="text-align: center;">ISTP</p> <p>Skilled Trades Technical Fields Computers Agriculture Military</p> <p>Or any other occupations where they can use their practical expertise to solve technical problems and/or process information effectively.</p>	<p style="text-align: center;">ISFP</p> <p>Health Care Business Law Enforcement</p> <p>Or any other occupations where use their attention to detail in a service-oriented field.</p>	<p style="text-align: center;">INFP</p> <p>Counseling Writing Arts</p> <p>Or any other occupations where they can use their creativity in independent ways and/or where they feel the freedom to grow.</p>	<p style="text-align: center;">INTP</p> <p>Sciences Technical Fields Computers Design</p> <p>Or any other occupations where they can use their analytical ability in independent ways to solve problems, invent and discover.</p>
<p style="text-align: center;">ESTP</p> <p>Marketing Skilled Trades Business Law Enforcement Applied Technology</p> <p>Or any other occupations where they can use their "doer" nature to find technical solutions and make sure practical work is carried out successfully.</p>	<p style="text-align: center;">ESFP</p> <p>Health Care Coaching Skilled Trades Childcare Public Relations</p> <p>Or any other occupations where they can use their outgoing nature and people skills to help people with their practical needs.</p>	<p style="text-align: center;">ENFP</p> <p>Counseling Teaching Religion Arts Public Relations</p> <p>Or any other occupations where they can use their energy and people skills to motivate and help groups and individuals grow and/or work together better.</p>	<p style="text-align: center;">ENTP</p> <p>Science Management Technology Arts Design</p> <p>Or any other occupations where they can use their analytical skills and multiple talents to help groups function more effectively and solve new challenges.</p>
<p style="text-align: center;">ESTJ</p> <p>Management Administration Law Enforcement</p> <p>Or any other occupations where they can use their organizational and leadership skills to help others execute the task in the most efficient manner.</p>	<p style="text-align: center;">ESFJ</p> <p>Education Health Care Religion</p> <p>Or any other occupations where they can use their instinct for teaching and care for others with a primary focus on practical needs and creating harmonious organizations.</p>	<p style="text-align: center;">ENFJ</p> <p>Education Religion Social Work Arts</p> <p>Or any other occupations where they can use their people skills and enthusiasm to help others grow, make meaning and understand the big picture.</p>	<p style="text-align: center;">ENTJ</p> <p>Management Law Leadership Technology</p> <p>Or any other occupations where they can use their natural leadership skills and analytical ability to help organize and marshal the energy needed to get collective tasks done.</p>

Learning Style and Type Dimension Research
Related to Student Characteristics in Counseling Situations

Four Jungian Dimension Comparisons		Combinations of Note
<p style="text-align: center;">Introvert/Reflectives</p> <p>Instinct for privacy Intra-personal sensitivity</p>	<p style="text-align: center;">Extroverts/Experientials</p> <p>Instinct for expression Interpersonal sensitivity</p>	<p>IT- most self-contained, least expressive ES- most expressive. EF- most vivid memory of experience. IN- most reflective</p>
<p style="text-align: center;">Sensates/Concretes</p> <p>Present focus Speak in real/practical terms Often distrustful of therapy Less likely to see value of psychology Lower representation in mental health system</p>	<p style="text-align: center;">Intuitives/Abstracts</p> <p>Future focus Often speak in impressions Often uncomfortably complex More likely to see value of psychology High representation in all areas of mental health sys.</p>	<p>SJ- high group affiliation ESTJ- high achievement w/in system. NP- high creativity SJ- most teachers, NP- least conventional <i>Telling about an event:</i> SF- what the people did ST- accurate order of events NF- how it felt in general NT- patterns and nutshells</p>
<p style="text-align: center;">Thinkers</p> <p>Cool affect Comfortable w/analytical realm Appear self-contained Use thoughts to meet needs</p>	<p style="text-align: center;">Feelers</p> <p>Need to promote harmony Comfortable in affective realm Appear approachable & accepting Use feelings to meet needs</p>	<p>NF- most counselors TJ- rigid thinking NT- most research scientists INT- most analytical ET- most assertive IF- least assertive INT- most academic success IT- dates the least EF- dates the most IT- least group affiliated.</p>
<p style="text-align: center;">Judgers/Sequentials</p> <p>Awareness of convention Higher grades May trust easy or quick "fix"</p>	<p style="text-align: center;">Perceivers/Randoms</p> <p>Adventure/pleasure seeking Higher test scores May mistrust "easy" solution</p>	<p>EFJ- harmonizers ESP- most drop-outs –academics ESP- least analytical IJ- most self-directed EP- most attuned to environment SJ- least likely to seek counseling NP- most prone to fantasy</p>

By John Shindler, February 2007 (adapted in part from research in Manual: A guide to the development and use of the Myers-Briggs Type Indicator. 1992)



Four Types and Writing Style

The four writing styles presented here are typical of four basic approaches to narrative: the Scientific, the Theoretical, the Mythic, and the Phenomenological. Most of the students' writing, to some degree or another, fall into these four basic categories.

THE MYTHIC (SF)

Although myths may carry many symbolic meanings and may serve a number of cultural functions, they are, at their very core, stories about people. It is that sense of a myth that is the focus of this approach to writing history. As you read the **SF's** writing pay attention to how they emphasize the people, and the random events into a story with a beginning, middle and end.

THE THEORETICAL (NT)

Some writers, like many SFs are more concerned about accurately describing concrete reality; others, like **NTs** are more interested in developing ideas or theories that will explain what reality is and what it means. As you read NT writing, pay attention to their efforts to understand and describe "history."

THE PHENOMENOLOGICAL (NF)

Phenomenology is a school of philosophy that holds, in brief, that we cannot know concrete reality with any certainty; what we can know, however, and what philosophers should investigate, is our reactions to concrete reality. As you read the **NF's** writing, pay attention to how they emphasize their reactions to what happened without describing, at least in detail, what actually happened.

THE SCIENTIFIC (ST)

Although the term "science" covers a wide range of meanings, it is used here in its most common and restricted sense: science is the accurate observation of a concrete reality. As you read the **ST's** writing, pay attention to how they try to accurately describe the "things," and how what materially happened and the practical/scientific explanation for why they did.

Classroom Management Tendencies of Each Teaching Style

	Intuitives (N)	Sensates (S)
Perceivers (P)	<p>NPs - Creative - Spontaneous The Intuitive (N)/Perceiver (P) combination tends to be the most creative and free-thinking type. A good term for their classroom management style mentality is "global." They tend to incorporate a broad set of principles and are very comfortable making adjustments on the fly.</p> <p>Things to learn from the NP:</p> <ul style="list-style-type: none"> • A dynamic approach to teaching • How to use data/events to learn to evolve and change • How expectations can be implicit but well-understood • The benefits of reading the students and the situation and not being a slave to the plan <p>Things the NP might need to work on:</p> <ul style="list-style-type: none"> • Making the structure more explicit (especially for the SJ students) • Keeping in mind that changing plans can be really uncomfortable if it happens frequently • Being sensitive that setting and keeping to time frames is helpful for many students • Being very clear and concrete when giving directions 	<p>SPs - Realistic and Spontaneous The sensate (S)/Perceiver (P) combination tends to be the most tuned-in to the present moment reality. Their classroom management can be the most subjective, in the sense that they interpret events on a student-by-student basis. They are the most likely to trust a strategy that has worked in the past, and they rely less on theory than experience.</p> <p>Things to learn from the SP:</p> <ul style="list-style-type: none"> • How to appreciate the subjective nature of teaching and students • How to adjust to the situation • How to project an authentic and "here and now" affect • Practical innovations to the job <p>Things the SP might need to work on:</p> <ul style="list-style-type: none"> • How to be more consistent and principle-driven • How to be less personal and reactive with student misbehavior • Thinking more in terms of long-term outcomes as opposed to what seems to work in the short-term • Communicating a sense of vision and purpose to students
Judgers (J)	<p>NJs - Systematic - Rational The intuitive (N)/Judger (J) combination tends to be the most principle-driven of all the types. Their classroom management style mentality begins with a set of theoretical assumptions as the primary reality, which are then applied to practical situations as needed. They tend to have very strong ideas about what they want and desire all the aspects of their class to fit into an integrated whole.</p> <p>Things to learn from the NJ:</p> <ul style="list-style-type: none"> • How to think more systemically • How to attend to patterns below the surface rather than just what is apparent • Innovative ideas they develop <p>Things the NJ might need to work on:</p> <ul style="list-style-type: none"> • Changing strategies when something is not working • Allowing more flexibility in the day for some students • Being tolerant of the diverse needs and approaches of students • Being concrete when giving directions • Not assuming that a good theoretical explanation will translate into "what to do" for most students. 	<p>SJs - Realistic and Organized The sensate (S)/Judger (J) combination is the most common among teachers possibly for their natural affinity for order and structure, and their comfort with institutional settings. Practical system-thinking comes easily to them, so their classrooms usually reflect a high degree of efficiency. They typically find a set of effective routines and procedures and refine them over time.</p> <p>Things to learn from the SJ:</p> <ul style="list-style-type: none"> • How to create efficient procedures • Practical ideas that save time and energy • Ways to visually display and manage ideas and materials to good advantage • Consistency and Fairness <p>Things the SJ might need to work on:</p> <ul style="list-style-type: none"> • Changing patterns when there is evidence that a need is present • Mistakenly interpreting an efficient practice as one that is inherently effective/healthy for students • Putting more emphasis on promoting intrinsic types of motivation rather than relying on too many extrinsic forms • Being more flexible and spontaneous when it would benefit the situation

APPENDIX K

OKLAHOMA FFA ALUMNI LEADERSHIP CAMP

STUDENT GUIDE

2011 Oklahoma FFA Alumni Leadership Camp



Name _____

Small Group _____



Calendar of Events

2011

July 19-21	OSU Big Three Field Days - Stillwater
July 20	4H/FFA Junior Wheat Show - Stillwater
August 30	SE District COLT Conference - McAlester
September 1	State Wheat Show Banquet - Stillwater
September 6	Central District COLT Conference - OKC
September 13	NE District COLT Conference - Tulsa
Sept. 15-25	State Fair of Oklahoma - OKC
September 20	SW District COLT Conference - Lawton
September 27	NW District COLT Conference - Enid
Sept. 29-Oct. 9	Tulsa State Fair - Tulsa
October 12-13	NE District Sporting Clays - Kellyville
October 19-22	National FFA Convention - Indianapolis, Ind.
October 25	Central District Sporting Clays - Norman/Golsby
October 26	SE District Sporting Clays - Keota
October 27	PI Greenhand Quiz - Statewide
November 1	NW District Sporting Clays - TBD
November 3	SW District AFR Speech Contest - Cache
November 3	SW District Sporting Clays - Altus
November 7	Greenhand Quiz State Finals - Stillwater
November 7	Jr. CDE Events - Stillwater
November 8	OPSU FFA Interscholastics - Goodwell
November 9	State Sporting Clays - Arcadia
November 10	NE District AFR Speech Contest - TBD
November 14	SE District AFR Speech Contest - EOSC/Wilburton
November 17	Central District AFR Speech Contest - TBD
November 21	NW District AFR Speech Contest - Fairview
December 3	State AFR Speech Contest - Stillwater
December 3-4	FFA Made For Excellence - Tulsa
December 3-4	Advanced Leadership Development - Tulsa
December 10-11	FFA Made For Excellence - OKC
December 10-11	Advanced Leadership Development - OKC

2012

January 17-26	State Officer Goodwill Tour - Statewide
January 18	NOC FFA Interscholastics - Tonkawa
February 11-12	State Officer Nominating Committee - OKC
February 18-25	National FFA Week
March 28	State Star Judging - Stillwater
March 29	OSU IT FFA Interscholastics - Okmulgee
April 3	Murray State FFA Interscholastics - Tishomingo
April 3	NE Horse Evaluation CDE - Miami
April 5	Connors FFA Interscholastics - Warner
April 6	NEO FFA Interscholastics - Miami
April 7	NEO Livestock Evaluation CDE - Miami
April 11	Cameron University FFA Interscholastics - Lawton
April 13	Tulsa Community College Interscholastics - Tulsa
April 19	Redlands College FFA Interscholastics - El Reno
April 24	State FFA Forestry Contest - Wilburton
April 27-28	State FFA Interscholastics - Stillwater
May 1-2	State FFA Convention - OKC
May 23-26	State Officer Blast-Off Training - Stillwater
June 18-22	Future Ag-Ed Teacher Academy - Stillwater
July 1-4	Alumni Leadership Camp, Session One - Wagoner
July 4-7	Alumni Leadership Camp, Session Two - Wagoner
July 8-11	Alumni Leadership Camp, Session Three - Wagoner
July 11-14	Alumni Leadership Camp, Session Four - Wagoner

DAY ONE

Encouraging word of the day:

*Courage is being scared to death
but saddling up anyway.*

— John Wayne

2:00 p.m. - 4:30 p.m.	Registration Basketball and volleyball courts open Concession stand open <ul style="list-style-type: none">• Located on the back side of the basketball court	Pavilion
5:00 p.m.	Opening General Session <ul style="list-style-type: none">• Opening Ceremony• State President's Welcome• Kick-off Speaker - Mr. YOGOWYPI• Meet Your Small Group Leader	Pavilion
6:00 p.m.	Small Group Session 1 <ul style="list-style-type: none">• Clear Communication <i>Getting Acquainted</i>	
6:45 p.m.	Dinner <ul style="list-style-type: none">• Sit with your small group• Purchase an awesome camp T-shirt• Sign the camp T-shirt• Flag Ceremony and National Anthem Sign-Up Sheets Available<ul style="list-style-type: none">– May sign up for one or the other, not both– All campers are eligible to try out– Official FFA Dress is required if selected	Cafeteria
8:00 p.m.	Retiring of Colors <ul style="list-style-type: none">• State Officer Team	Flag Pole
8:15 p.m.	Small Group Session 2 <ul style="list-style-type: none">• Clear Communication <i>Personal Communication</i>	
9:00 p.m.	General Session <ul style="list-style-type: none">• Hot Spots• Large Group Mixer - Bill Cordes• Camp Expectations• Reflections and Personal Writing Time• Vespers	Pavilion
10:30 p.m.	Cabin Time <ul style="list-style-type: none">• Cabin Expectations	
11:00 p.m.	Lights Outs!!	

“Clear Communication”



**Small Group Session 1:
“Getting Acquainted”**

My Small Group Name

My Small Group Leader

Campers I Want to Remember



“Clear Communication”



**Small Group Session 2:
“Personal Communication”**

According to the National Science Foundation, the average person thinks about 12,000 thoughts per day. A deeper thinker has 50,000 thoughts daily. Mastering intra-personal communication is all about mastering our thoughts. When presented with a challenge, how do you talk to yourself?

What do you see?



“Our thoughts become things.”

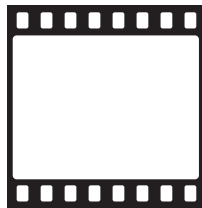
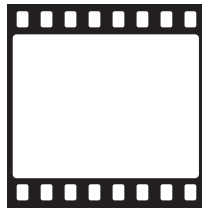
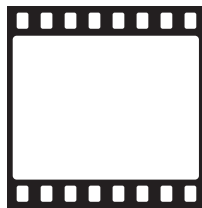
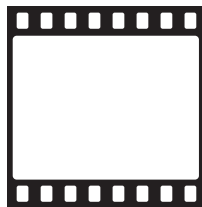
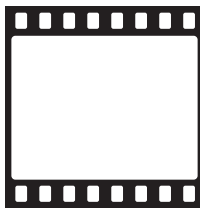
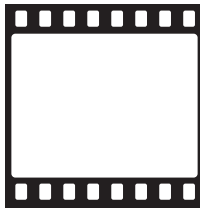
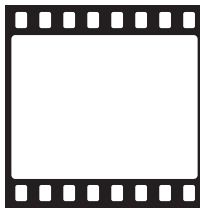
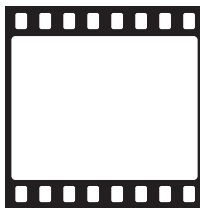
“Clear Communication”



Session 2 (continued):



**CAMP
FOCUS**



DAY ONE

Personal Writing Time



DAY TWO

Encouraging word of the day:

*Keep a smile on your face
and love in your heart!*

7:30 a.m.	Eye Openers Morning Devotion	Pavilion
7:45 a.m.	Flag Raising	Flag Pole
8:00 a.m.	Breakfast <ul style="list-style-type: none"> • Word of Warning!!! <ul style="list-style-type: none"> ❖ <i>During meals, don't sit at a table with someone from your own chapter. Expand your comfort zone. If caught, you will perform for the whole camp:</i> <ul style="list-style-type: none"> – Quack like a duck – Sing about a tea pot – Sizzle like bacon – Hiney write • Flag Ceremony and National Anthem • Sign-Up Sheets Available • Purchase an awesome camp T-shirt • Sign the camp T-shirt • Prepare for the Ropes Course <ul style="list-style-type: none"> – No open-toed shoes – Apply insect repellent – Leave best friend and name tag at your cabin 	Cafeteria
9:00 a.m.	General Session <ul style="list-style-type: none"> • Ropes Course • Expectations – Kelly Barnes • All Small Groups 	Pavilion
12:00 noon	Lunch <ul style="list-style-type: none"> • Deadline for Flag Ceremony and National Anthem Sign-Up 	Cafeteria
1:30 p.m.	General Session <ul style="list-style-type: none"> • Hot Spots • Keynote Speaker – Sam Glenn, The Chalk Guy • Small Group Photos 	Pavilion
2:30 p.m.	Prepare for Water Olympics <ul style="list-style-type: none"> • You will get wet; dress appropriately! • Girls required to wear a T-shirt over bathing suit • Leave best friend and name tag at your cabin 	
2:50 p.m.	Small Groups Assemble <ul style="list-style-type: none"> • March to Water Olympics 	



3:00 p.m.	Water Olympics Opening Ceremony <ul style="list-style-type: none"> • Small Group Olympic Champion Award • Small Group Spirit Award <i>(Awards presented at the Closing General Session)</i>	
4:00 p.m.	Organized Recreation <ul style="list-style-type: none"> • Dodge Ball Tournament Basketball Small group, odd numbers Court • Free Time Small group, even numbers Concession stand, volley ball courts and swimming pool open • Flag and National Anthem Tryouts Adult Conf. Center – Go to your tryout before going to organized recreation – Casual dress is expected 	
6:30 p.m.	Dinner	Cafeteria
7:45 p.m.	Retiring of Colors	Flag Pole
8:00 p.m.	Small Group Session 3 <ul style="list-style-type: none"> • Clear Communication <i>Family Communication</i> 	
9:00 p.m.	General Session <ul style="list-style-type: none"> • Hot Spots • Real People • Announce Flag Ceremony and National Anthem selections • Reflections and Personal Writing Time • Vespers 	Pavilion
10:30 p.m.	Cabin Time <p>Brief meeting with Flag Ceremony and National Anthem Selected Participants</p>	Pavilion
11:00 p.m.	Lights Outs!!	

“Clear Communication”



Small Group Session 3: “Family Communication”

At our age, we are learning and practicing communication skills that can positively or negatively affect the way we communicate with others throughout our life. Naturally, we learn a lot about communication from the way we interact with those closest to us. If your family members are good communicators, you will model those communication patterns in your future. If your family communicates poorly, you can learn what not to do.



Distinction Discussion: “Perfect” vs. “Best It Can Be”



Your goal is not to go home and expect to make your family’s communication perfect. Your goal is to take the situation you are in and make it the best it can be. IN this session, we will focus on our relationship with our parents. The term “parents” will mean something different to everyone here . . . mom, dad, stepmom, stepdad, grandparents, foster parents . . . For simplicity we are going to refer to these people as parents.



“Clear Communication”



Session 3 (continued):

Questions and Answers







“Clear Communication”



**Session 3 (continued):
“Family Communication”**

Rule #1 of Communication in Relationships

We can't _____ what we are not willing to _____ !



Once you have _____ it, you will always _____ it!

Once you know you have the power to make your relationships the “best they can be,” you are responsible for the outcomes of your relationships. You can't undo it and you can't go back . . . so know that you must do what you can to make your relationships the “best they can be.”



“Clear Communication”



**Session 3 (continued):
“Family Communication”**



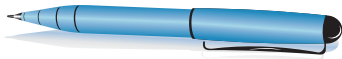
I have seen the light; I know I am responsible for the outcomes of my communication and, as a result, the outcomes of my relationships. I have the tools; however, tools are only useful if you use them!! Our goal is to give you a tool belt full of tools that you can use in a variety of communication situations. Remember, it is not your responsibility to change others or to make all your relationships perfect. Your responsibility is to use your tools to make them the best they can be. If we do this, maybe our future relationships will be the best they can be. Maybe as a result of adding new tools, you will be able to see your parents from a different perspective.

*To your parents, write a letter that may never be sent but is from your heart.
You have the tools . . . what you do with them is your choice.
Get the words down.
This could be a fresh start . . . a new beginning . . . an opportunity to build trust . . .
To make the relationship the best it can be.
Seal it, keep it and if the time is right, give it!*

We get what we give—
Like always attracts like.
We cannot escape the result of our actions.
This is the law—it is inevitable that
We get what we give.

DAY TWO

Personal Writing Time



DAY THREE

Encouraging word of the day:
*When the world knocks you to your knees,
it puts you in a good position to pray.*

7:30 a.m.	Eye Openers Morning Devotion	Pavilion
7:45 a.m.	Flag Raising	Flag Pole
8:00 a.m.	Breakfast • T-shirt shop open	Cafeteria
9:00 a.m.	General Session • Hot Spots • State President's Challenge	Pavilion
9:30 a.m.	Small Group Session 4 • Clear Communication <i>Responsible Communication</i>	
10:30 a.m.	Break	
10:45 a.m.	Small Group Session 5 • Clear Communication <i>Interpersonal Communication</i>	
11:45 p.m.	Lunch • T-shirt shop open	Pavilion
12:45 p.m.	General Session Breakouts • FFA Opportunity Workshops Small group, odd numbers – Adult Conference Center Attend three, 20-minute workshops: ➤ Interviewing Skills ➤ Becoming a National Three-Star Chapter ➤ Agriscience Fair Projects • Service Learning Workshop – Kelly Barnes Small group, even numbers – Pavilion	Pavilion
2:00 p.m.	Rotate Breakouts • FFA Opportunities Workshops – Adult Conference Center Small group, even numbers • Service Learning Workshop – Pavilion Small group, odd numbers	

Day Three continued on next page

DAY THREE *(continued)*

3:15 p.m.	Organized Recreation <ul style="list-style-type: none"> • Dodge Ball Tournament • Free Time 	Basketball Court
6:00 p.m.	Dinner <ul style="list-style-type: none"> • T-shirt shop open • Sign the camp T-shirt 	Cafeteria
7:15 p.m.	Retiring of Colors	Flag Pole
7:30 p.m.	Small Group Session 6 <ul style="list-style-type: none"> • Clear Communication <i>Role Models</i>	
8:30 p.m.	General Session <ul style="list-style-type: none"> • Hypnotist Show – Dr. Al Snyder • Reflections and Personal Writing Time • Vespers 	Pavilion
10:30 p.m.	Cabin Time <ul style="list-style-type: none"> • Sort Happy Grams by small group <ul style="list-style-type: none"> – Small group leader and state officer Happy Grams should be sorted by their small group number.	
Midnight	Lights Out!!	



“Clear Communication”



**Small Group Session 4:
“Responsible Communication”**

What did you notice?

Based on what you just saw, what conclusions can you draw about rumors?

RUMORS



Key for active listening:

1. Practice _____ communication!
2. _____
3. _____
4. _____
5. _____



“Clear Communication”



**Small Group Session 5:
“Interpersonal Communication”**

What are some emotions that you might experience when things do not work out?

The Three R’s

Friendship Scenario

_____ and I are friends.
My friend does something that I feel should not have been done. An emotion I might feel is _____?

Who feels the emotion?

Who has the expectations that were not met?

Who usually gets the blame?

This starts the self-destructive process called the “three R’s.”

Who wins this game?

This game sends the other person into the three R’s.

R _____.

R _____.

R _____.

If you fight fire with fire, what do you get?

HOT

Solution: Take _____ for your feelings.

**Learn to manage the chaos in your life.*

**Avoid accusations (statements starting with you.)*

**When you experience chaos in your life, practice using your communication tools.*

I feel . . . I want . . .

“Clear Communication”



**Small Group Session 6:
“Role Models”**

In all of our lives, there are people we depend on to guide and direct us. In this session we will reflect on those who make an impact on our lives.

	Who	Qualities They Possess	How
Life			
School			
Family			
FFA			

DAY THREE

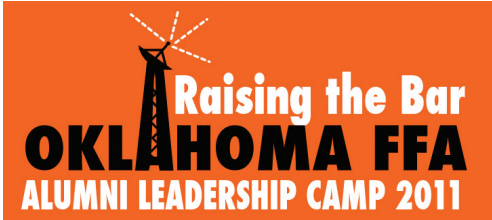
Personal Writing Time



DAY FOUR

*Encouraging word of the day:
Friends are the chocolate chips
in the cookie dough of life.*

- 7:05 a.m. Flag Raising and National Anthem Committee Practice Flag Pole
- 7:30 a.m. Eye Openers Pavilion
- 7:30 a.m. Morning Devotion
- 7:45 a.m. Flag Raising Flag Pole
- 7:45 a.m. Flag Raising and National Anthem Committee
- 8:00 a.m. Breakfast Cafeteria
 - Final Opportunity
 - To mail Happy Grams
 - To purchase an awesome camp T-shirt
 - To sign the camp T-shirt
- 8:45 a.m. General Session Pavilion
 - Hot Spots
 - Environmental Improvement Workshop
- 9:45 a.m. Final Small Group Session 7
 - Clear Communication
 - Lasting Communication*
- 10:45 a.m. Final General Session Pavilion
 - SGL Introductions and Group Photo
 - State Officer Team Introduction
 - Camp Auction
 - Item 1. Sam Glenn Chalk Drawing
 - Item 2. Signed Camp T-shirt
 - Item 3. FFA License Plate
 - *Make sure you have permission from your FFA advisor before bidding!*
 - Camp Awards
 1. Small Group Dodge Ball Champions
 2. Small Group Olympic Champions
 3. Small Group Spirit Award
 - Camp Memories
 - A Final Word
 - Closing Ceremony
- 11:45 a.m. Camp Adjourned



“Clear Communication”



**Small Group Session 7:
“Lasting Communication”**

In our last session together, we are going to practice lasting communication.

Power of _____.

As we go throughout this session, your mission is to notice what emotions come up and to be 100 percent present in these emotions. Remember, some of the most powerful communication we will ever experience is not in the words we use but in the common experiences we share.



Alumni Camp POWERS

1. **STOMP**
2. Raindrop
3. **Clap**
4. **Bullrider**
5. *Lawnmower*
6. **OSU**
7. **Q**
8. **Bam!**
9. Kramer
10. **BEEF**—It's what's for dinner
11. **PORK**—The other white meat
12. *Wassup*
13. **SMILE**
14. **FFA** *Rocks the House*
15. **Wild**
16. **GROOVY BABY**
17. Tarzan
18. *Shower*
19. How you doin'?
20. *Sweet Chicken*
21. Billy Madison
22. **UP** and at 'em



2011-12 State FFA Officer Team

President

Courtney Maye
 HC 60, Box 379, Haworth, OK 74740
 cmaye@okffa.org

Secretary

Brandon Baumgarten
 PO Box 926, Oilton, OK 74052
 bbaumgarten@okffa.org

Reporter

Kaleigh Lynch
 9205 North 103rd East Place, Owasso, OK 74055
 klynch@okffa.org

Northeast District Vice President

Hannah Nemecek
 2808 East 126th Street North, Skiatook, OK 74070
 hnemecek@okffa.org

Northwest District Vice President

Joshua Conaway
 RR 1, Box 159, Ringwood, OK 73768
 jconaway@okffa.org

Central District Vice President

Andrew Aldridge
 PO Box 2064, Duncan, OK 73534
 aaldridge@okffa.org

Southeast District Vice President

Kristal Williams
 22500 Hwy 1W, Fitzhugh, OK 74843
 kwilliams@okffa.org

Southwest District Vice President

Justin Turner
 RR 1, Box 1643, Cement, OK 73017
 jturner@okffa.org

2011 Camp Leadership Team

Camp Director – Owen Hossack
 Technical Director – McKenzie Clifton
 Photographer – Amy Harper

Small Group Leaders – Week 1

Emily Beanland	Jordan Miller
Colton Blehm	Evan Newpher
Robby Branscum	Tara Newton
Caroline Bremer	Charity Penington
Colby Gregg	Lauren Ragsdale
Audrey Gruntmeir	Cody Richison
Jessica Guinn	Sierra Rogers
Kalie Hall	Emily Sewell
Emily Handke	Abigail Shepard
Jody Kester	Lee Stewart
Valerie McKenzie	George Tietz
Lynsey Meharg	McKenzie Walta
Ashton Mese	Bradley Womack

Small Group Leaders – Week 2

Jamie Baumgardner	Riley Pagett
Rashele Blakley	Amy Peel
Tanner Blosser	Tyler Price
Josh Goff	Brooke Ramsey
Marty Jones	Sarah Reasnor
Kela Kelln	Kyle Slagell
Trevor Lucas	Samantha Smith
Robbie Maples	Austin Stacy
Katie McCauley	Stephen Tillinghast
Madison McGolden	Kendra Ward
Dakota Miller	Keisha Williams
Lacey Newlin	Chelsie Wilson
Tara Burchfield	



HOT SPOTS

"Hello! I am John Smith, and I represent the Landmark FFA Chapter. My favorite activities are prepared public speaking and being a member of our chapter livestock judging team. One of my FFA goals is to be the Star Farmer from my district. I am currently our chapter's sentinel. My future plans are to attend Oklahoma State University and study to become a wildlife conservationist."



Member Flag Lowering #1

Music: Randy Travis – America Will Always Stand

1. Our flag has been defended by weapons and words, from the common man to the oval office. All Americans stand tall when Old Glory passes by. Our history is not perfect, but in tragedy we find unity and in unity is the strength of the American people. In the words of great American presidents, may we also find strength.
2. My fellow Americans, ask not what your country can do for you—ask what you can do for your country. My fellow citizens of the world, ask not what America will do for you but what together we can do for the freedom of man.
3. It is the state of the union: free and restless, growing, and full of hope. So it was in the beginning. So it shall always be, while God is willing, and we are strong enough to keep the faith.
4. We cannot learn from one another until we stop shouting at one another—until we speak quietly enough so that our words can be heard as well as our voices.
5. Let us remember that we can do these things not just because of wealth or power but because of who we are: one nation under God, indivisible, with liberty and justice for all.

continued on next page

25

HAPPY GRAM

CLEAN - POWERFUL - POSITIVE



FFA Happy Gram



To: _____

Hi! I've enjoyed getting to know you this week! You are so enthusiastic and fun to be around. It's nice to talk with others about our common interests. I hope you've had as much fun as I have these last few days. Have a great summer and a successful year.

Your friend,

6. For diplomacy to be effective, words must be credible—and no one can now doubt the word of America. We will not tire, we will not falter, and we will not fail.
7. Freedom is never more than one generation away from extinction. We didn't pass it to our children in the bloodstream. It must be fought for, protected, and handed down for them to do the same.
8. Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and the success of liberty.
9. Far better is it to dare mighty things, to win glorious triumphs, even though checkered by failure . . . than to rank with those poor spirits who neither enjoy nor suffer much, because they live in a gray twilight that knows not victory nor defeat.
10. The words of our greatest presidents have changed history throughout the past and will in the future. As we gather to post our nation's colors this morning, let us not forget that it is up to us, the next generation, to continue on in the name of freedom, liberty, and the American spirit.

Member Flag Lowering #2

Music: Randy Travis – America Will Always Stand

1. In 1814, while the War of 1812 raged on, two men were sent to negotiate the release of American prisoners. Unable to contribute to the fight, the two men watched as the enemy bombarded the forts, including Fort McHenry. For 24 hours the horrific bombardment went on.
2. "If Fort McHenry only stands, the city will be safe," Francis Scott Key said to his companion as they stood and gazed anxiously through the smoke to see if the flag was still flying. The firing went on. As daylight passed, they struggled to catch short glimpses of the Stars and Stripes whenever the wind swayed the clouds of smoke.
3. When night came, they could make out the silhouette of Old Glory only by the blaze of the roaring cannons. Shortly after midnight, the firing stopped. Unsure of what the halt meant, the two men were frantic and concerned for the safety of their countrymen. "Can

the fort have surrendered?" they questioned. "Oh, if morning would only come!"

4. At last the faint gray of morning dawn appeared. They could see a flag flying but labored to discern which flag had survived the battle. More and more eagerly, they gazed.
5. Finally, a clear picture of the red, white, and blue could be seen. It was no English flag; their very own Stars and Stripes flew proudly in the morning sky. Fort McHenry had held, and the city was safe. Overwhelmed with joy and pride, Key took an old letter from his pocket and wrote "The Star-Spangled Banner."
6. "O say, can you see,
by the dawn's early light,
What so proudly we hailed
at the twilight's last gleaming,
Whose broad stripes and bright stars,
through the perilous fight,
O'er the ramparts we watch'd
were so gallantly streaming?"
7. "And the rockets' red glare,
the bombs bursting in air,
Gave proof through the night
that our flag was still there.
O say, does the star-spangled banner yet wave
O'er the land of the free and the home of the brave?"
8. There is the national flag. He must be cold indeed who can look upon its folds, rippling in the breeze, without pride of country. If he be in a foreign land, the flag is companionship and country itself, with all its endearments. Its highest beauty is in what it symbolizes. It is because it represents all, that all gaze at it with delight and reverence.
9. The very colors have a language that was officially recognized by our fathers. White is for purity, red for valor, blue for justice; and all together, bunting stripes, stars, and colors, blazing in the sky, make the flag of our country to be cherished by all our hearts, to be upheld by all our hands.
10. The reason we are free to spend time with old friends and develop connections with new ones, the opportunity to learn about leadership and participate freely in organizations like the FFA, and the freedom to simply enjoy life can all be credited to the valor of our American flag. As we enjoy these freedoms, let us reflect and honor our history.

PERSONAL CONDUCT AGREEMENT

General Behavior Expectations

While participating in the FFA Alumni Leadership camp, there are certain behavioral expectations that must be observed by all participants to maintain good standing with the FFA and participation in this program.

All participants in an event or activity sponsored by the FFA are prohibited from involvement in unsafe, irresponsible, and/or illegal conduct. In addition, you must abide by all rules and regulations established by the FFA and Alumni in the leadership camp.

1. I promise that my attitude, conduct, and appearance will be such to reflect credit on my chapter, school, community, and State FFA Association.
2. I agree that my clothing will be appropriate for the duration of camp. If I am told by an adult sponsor to change, I will do so immediately. I will not wear a shirt that has undesirable messages or advertising. I will not wear my hat or cap inside at any time.
3. I will not be in a cabin of another participant of the opposite sex. I will only stay in the designated areas of camp for my particular gender. Failure to abide by this rule will result in immediate dismissal from camp.
4. I will not use drugs, alcohol, or tobacco at any time during the camp. Failure to abide by this rule will result in immediate dismissal from camp.
5. I will respect the property of camp at all times. I will maintain a clean environment in my small group area, my cabin, and at meal times.
6. I will not call a parent or guardian to come pick me up without first contacting an adult staff member. If a parent comes, we must check out with an adult staff member before I am released to go. If I drove a vehicle, it will remain parked until the camp is completed.
7. I realize that the sound equipment in the pavilion and the gym is off limits, and I will not go into those areas.
8. I will respect my small group leader, adults, and camp presenters by providing my attention at all times. I will not use a cell phone or any other electronic device except during the designated times.
9. I will abide by the rules presented by my adult chaperone in my cabin at all times. The FFA and Alumni reserve the right to immediately terminate from the camp anyone who is found to have violated these behavioral expectations. Students terminated from the camp will be sent home, and they will be responsible for the expenses associated with their termination.

Signed _____

2011-2012 Due Dates for FFA Applications

November 15

FFA Membership Roster and Dues
Made for Excellence (MFE) Registration
Advanced Leadership Development
(ALD) Registration

December 1

Goodwill Tour Sign-Up Deadline
Oklahoma Youth Expo Scholarship Deadline

February 1

State Officer Application
State FFA Degree Application
State FFA Degree Academic Excellence Award
State Convention Chorus Application
State Convention Courtesy Corps Application
FFA Foundation Leadership Intern Application

February 15

State Proficiency Award Applications
National FFA Foundation Scholarship Application

March 1

Alumni Leadership Camp Registration Opens
Washington Leadership Conference (WLC)
Scholarship Application
State Secretary and Reporter Contest Applications
State Convention Talent Application
Ag-Ed Career Passport Submission for
Convention Recognition
Agri-Entrepreneurship Award Application
Tulsa State Fair Scholarship Deadline

March 15

Future Ag-Ed Teacher Academy and
Scholarship Application

April 1

Agriscience Fair Entry Form
Alumni Camp Small Group Leader Application
FFA Foundation Chapter Trust Contribution

May 15

American FFA Degree Application
Washington Leadership Conference (WLC)
Bus Trip Registration

July 1

National Band, Chorus, and Talent Applications

www.okffa.org

All I Really Needed to Know I Learned At Oklahoma FFA Alumni Camp



1. Live with a smile on your face and love in your heart.
2. Make each session of anything better than the session you just finished.
3. If someone is hanging back, encourage them.
4. Don't use the "H" word or the "T" word. They only bring yourself and others down.
5. Give hugs.
6. Let others have the glory every chance you get.
7. Be humble and they will remember you in positive ways after you leave.
8. Playing in the water brings people together.
9. You never know when someone really important might be sitting next to you.
10. It really doesn't matter who wins as much as who you become while you're playing.
11. Start off each day with lots of energizers.
12. End each day sitting in a circle talking with people you care about.
13. Use yes sir, no sir, excuse me, Mr., Mrs., please and thank you. It shows respect and the world needs more of it.
14. Take a little time each day to reflect upon our wonderful country.
15. It is amazing who we become when we are put in a clean, powerful and positive environment.
16. Send Happy Grams.
17. Give Thanks before each meal, and always thank the hands that prepared it and those that produced it.
18. Share your "Great Moments" and successes at the end of each day, and reflect upon what you can improve upon.
19. We are blessed to be a blessing for others.
20. Saying good-bye is never easy.
21. Keep your best friend with you at all times!

– Bill Cordes - YOGOWYPI@aol.com

VITA

Nicholas Robert Brown

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN EXAMINATION OF ACADEMIC LEARNING OUTCOMES IN A NON-FORMAL LEARNING ENVIRONMENT: A STUDY OF OKLAHOMA FFA ALUMNI LEADERSHIP CAMP

Major Field: Agricultural Education

Education:

2009 – 2012	Doctor of Philosophy, Agricultural Education Oklahoma State University, Stillwater, Oklahoma
2004 – 2008	Master of Public Administration, Public Administration The University of Oklahoma, Norman, Oklahoma
1998 – 2002	Bachelor of Science, Agricultural Education Oklahoma State University, Stillwater, Oklahoma

Professional Experience:

Graduate Teaching and Research Associate, Department of Agricultural Education, Communications and Leadership, Oklahoma State University, Stillwater, Oklahoma, 2011 - Present. Supervise student teachers, teach undergraduate course labs in teacher education unit, serve as guest lecturer as needed, serve as graduate assistant for graduate level qualitative research methods course, and serve as graduate advisor of OSU Collegiate FFA Chapter.

Research Project Manager, Department of Agricultural Education, Communications and Leadership, Oklahoma State University, Stillwater, Oklahoma, 2011 – Present. Manage a five-state team of researchers and Extension specialists in developing and administering a questionnaire designed to measure wheat producers' current and future technology behaviors related to Web 2.0 tools. Analyze data and prepare written reports. Serve as first author on all resulting manuscripts.

Professional Organizations:

American Association for Agricultural Education (AAAE)
National Association of Agricultural Educators (NAAE)
Association of Leadership Educators (ALE)
Association of Career and Technology Education (ACTE)

Name: Nicholas R. Brown

Date of Degree: May, 2012

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: AN EXAMINATION OF ACADEMIC LEARNING OUTCOMES IN A
NON-FORMAL LEARNING ENVIRONMENT: A STUDY OF
OKLAHOMA FFA ALUMNI LEADERSHIP CAMP

Pages in Study: 206 Candidate for the Degree of Doctor of Philosophy

Major Field: Agricultural Education

Scope and Method of Study: This quasi-experimental study included FFA members from 149 local Oklahoma FFA chapters who attended camp during summer of 2011. These subjects had completed at least the eighth grade, but had not yet graduated from high school. In all, 344 campers participated and were divided into four groups based upon their individual learning styles.

Findings and Conclusions:

1. The typical Oklahoma FFA Alumni Camp attendee is a white, middle or upper class female, who maintains a good GPA. She has completed her sophomore year of high school, holds a local FFA chapter office, and is attending camp for the first time.
2. As with the general population, camper learning styles are varied.
3. On average, campers nearly doubled their score on the CCCE when comparing pretest and posttest results. It is important to note, however, that the average posttest score is a 58%, which would be a failing grade in a formal educational environment.
4. Campers retain a small amount of the information taught during small group time at camp.
5. Learning style does not affect the amount of information campers learn during small group breakout sessions.
6. Learning style has no effect on the amount of information learned or retained by campers when comparing the mean scores of pretests, posttests, and delayed posttests.
7. Overall, campers have a positive attitude toward camp. Two of the three construct scores were greater than 5.0, which means that campers had a positive attitude when asked to evaluate the camp and scale the activeness of the camp experience.
8. Posttest scores are not affected by camper sex, race, grade level, previous camp attendance, or attitudes pertaining to camp. Scores are, however, affected by camper GPA, socioeconomic status, and FFA chapter officer status.
9. Delayed posttest scores are not affected by camper sex, race, age, grade level, socioeconomic status, previous camp attendance, GPA, or attitude. However, campers who hold an FFA chapter office continued to out perform campers who did not hold an office.

ADVISER'S APPROVAL: Dr. Robert Terry, Jr.
