FREQUENCY OF COACHING BEHAVIORS USED BY AGRICULTURE TEACHERS IN RELATION TO THE STATE FLORICULTURE CAREER DEVELOPMENT EVENT TEAM RANK

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The undersigned, appointed by the Dean of the Graduate School, have examined the thesis entitled

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FREQUENCY OF COACHING BEHAVIORS USED BY AGRICULTURE TEACHERS IN RELATION TO THE STATE FLORICULTURE CAREER DEVELOPMENT EVENT TEAM RANK

Amanda Michelle Bowling

Dr. Robert M. Torres, Thesis Supervisor

The purpose of this study was to describe the relationship between the coaching behaviors used by Missouri agriculture teachers and the rank of their 2009 State Floriculture Career Development Event team. To measure the coaching behaviors used, a web-based questionnaire was developed and derived from Coach John Wooden's Pyramid of Success™. The study occurred in spring 2010. From the web-based questionnaire the frequency of use was determined for the coaching behaviors. The top five most frequently used coaching behaviors by agriculture teachers were friendship, confidence, enthusiasm, team spirit, and cooperation. Of the fifteen coaching behaviors, fourteen were positively correlated to the team placing. These fourteen coaching behaviors were industriousness, alertness, friendship, condition, intentness, competitive greatness, skill, cooperation, initiative, confidence, loyalty, team spirit, poise, and enthusiasm. The study suggests that while all coaching behaviors were used, some behaviors were used more frequently than others. However, frequency did not equate to importance when influencing team rank. Based upon the strength of the relationship with team rank, the most influential coaching behavior was industriousness.

Chapter I

Introduction

This chapter outlines the history of student competition, through agriculture contests and activities as the background and setting for the study. It further describes the rationale, for state and national FFA Career Development Events and their connection to classroom instruction. As a theoretical framework, this chapter introduces coaching behaviors and Coach John Wooden's Pyramid of Success™. The significance of the study, definition of terms, limitations of the study, and basic assumptions are addressed.

Background and Setting

Student Competition in Agricultural Education

Agricultural education and FFA programs have a rich history of competition through agricultural activities. Historically, these competitions were created and promoted to test the students' knowledge of the specific agriculture industry the contests represent (White, Mack, Downs, & Fouts, 1939). Early agricultural education competitions where held at the collegiate level where students judged dairy products (White, Mack, Downs, & Fouts, 1939). For example, "The Students' National Contest in the Judging of Dairy Products has been help yearly since 1916, with the exception of the year 1918 when a contest was not sponsored because of World War" (White, Mack, Downs, & Fouts, 1939, p. 379). After the start of the dairy products competition, other agricultural contest began and expanded to include high school vocational agriculture students. In 1926, the American Royal Livestock Show in Kansas City, MO invited vocational high school students to take part in the National Livestock Judging Contest (National FFA Organization, 2008). At the 1928 National

Livestock Judging Contest, 33 students established the Future Farmers of America (FFA) (National FFA Organization, 2008). According to the National FFA Organization's article Key Historical Moments, "Since 1928, FFA has worked to create CDEs that demonstrate the meaningful connections between classroom instruction and real-life scenarios CDEs build on what is learned in agricultural classes and the FFA" (National FFA Organization, 2008, para. 1). For nearly 90 years, agriculture students and FFA members state-wide and across the country have competed against each other in various technical agriculture and leadership areas by utilizing the knowledge and skills they learned in their agriculture classes.

For years, teachers utilize Career Development Events (formerly referenced as "contests") as ways for students to apply different agriculture knowledge and skills. As stated by the National FFA Organization, in their Career Development Event article, "The events are designed to help prepare students for careers in agriculture. Classroom instruction comes alive as students demonstrate their skills in a competitive setting (National FFA Organization, 2008, p. 1). According to the National FFA Organization's Career Development Event Handbook (2006), "National career development events should reflect instruction that currently takes place in the entire agricultural education program, including classroom instructions, laboratory instructions, individualized instruction, and/or supervised agricultural experience" (p. 1). Similarly, according to the Missouri FFA Association's Career Development Event Handbook (2006):

> The purpose of Career Development Events is to provide incentives for students to further develop skills and abilities that are taught in secondary programs of agriculture. Competition at the state level is designed to assess the level of proficiency each student has achieved. (p. 1)

To this end, Career Development Events at all levels: area, district, state, and national, focus on testing the knowledge and skill base of students in specific areas of the agricultural education curriculum.

A variety of Career Development Events are held annually at district, state, and national levels. An example of these areas include: agricultural communications, agricultural issues, agricultural mechanics, agricultural sales, agronomy, creed speaking, dairy cattle evaluation, dairy foods, entomology, farm management, floriculture, forestry, horse evaluation, job interview, livestock judging, meats, nursery/landscaping, poultry, and soils (National FFA Organization, 2008, and Missouri FFA Organization, 2006).

Within each event is a specific purpose and objectives, which, students will demonstrate when they participate in the contest. For example, and central to this study, the purpose of the Floriculture Career Development Event at the Missouri state level contest is to, "The State Floriculture Contest is designed to stimulate student interest in production and retailing of flowers, plants, and foliage in the secondary agriculture curricula" (Missouri FFA Organization, 2006, p. 1). Student success in this event is determined by their ability to perform on various assessments including an exam and several practicums. At the state level, the Floriculture Career Development Event includes a 75-question general knowledge exam, plant disorder diagnosis practicum, tool identification practicum, and plant specimen identification (Missouri FFA Organization, 2006, p. 3). The scores individuals receive and the teams collectively receive for these assessments determine the individual and team rankings at the state level. As a ranking system the team scores are placed in descending order and divided into thirds: Group 1 (Gold), Group 2 (Silver), Group 3 (Bronze) (Missouri FFA Organization, 2006). The top scoring team will then advance to compete at the national

contest, which is held at the National FFA Convention (Missouri FFA Organization, 2006 and National FFA Organization, 2008).

In addition to focusing on students' demonstration of knowledge they developed in the agricultural education classroom, much emphasis is put on how well the teams perform at each contest. Newcomb, McCracken, and Warmbrod (1993) in their book, *Methods of Teaching Agriculture*, stated, "The FFA provides motivation to master many areas of the agricultural education curriculum through its use of awards and recognition" (p. 254). These awards and recognition include medals, plaques, and at the national level scholarships.

Coaching Behaviors

Because of the awards and recognitions students and teachers can potentially receive, much effort is placed on student and team success. As an outgrowth of the curriculum, students learn much of the technical content for each Career Development Event from formal classroom instruction. However, when preparing teams of four individuals to compete, the agriculture teacher transitions his/her role into one of a coaching role. The transition of this role is, in part, due to the change of learning environment. Agriculture teachers no longer confine the learning process to the classroom, nor is the learning confined to the length of the classroom period. Rather, the coaching of Career Development Event teams is dependent on what the agriculture teacher determines to be of value in preparing successful teams. The frequency of the coaching behaviors utilized by the agriculture teachers can affect how well their students do at Career Development Event competitions. As a coach of either a Career Development Event team or a typical athletic team, coaches assume different responsibilities and behaviors. According to Hackman and Wageman (1995):

> Team leaders engage in many different kinds of behaviors intended to foster team effectiveness, including structuring the team and establishing its purpose, arranging for the resources a team needs for its work and removing organizational roadblock that impede the work, helping individual members strengthen their personal contributions to the team, and working with the team as a whole to help members use their collective resources well in pursuing them purposes. (p. 269)

Additionally, Becker and Wrisberg (2008) offer that:

> Over the course of a season, coaches spend a considerable amount of time conveying information to athletes: imparting knowledge, correcting errors, reinforcing behaviors, and motivating effort. However, achieving success is greatly dependent upon a coach's ability to do this effectively. (p. 179)

Consequently, the coaching behaviors exhibited by agriculture teachers can have an effect on how well their team members perform at annual Career Development Event competitions.

Pyramid of Success™: A Theoretical Framework

The theoretical framework used to guide this study was the Pyramid of Success™. Coach John Wooden developed the Pyramid of Success™, from his rich observations and experiences as a successful basketball coach. Through the 40 seasons he coached at Dayton High School, South Bend Central High School, Indiana State Teachers College, and UCLA he carried a .813 winning percentage (Wooden, 2010). During the 40 years Coach Wooden and his teams won ten NCAA men's basketball championships, 16 consecutive Final Fours appearances, 88 consecutive victories, 38 straight victories in the NCAA tournament, and eight perfect PAC 8 Conference seasons (Wooden, 2010). Along with Coach Wooden's

accomplishments, he has received many rewards and recognition. In 1999 Coach Wooden was elected "Coach of the 20th Century" by ESPN (Wooden, 2010). Based on his coaching, teaching, and leadership Coach Wooden received the President Medal of Freedom at the White House in 2003 (Wooden, 2010). Jay Carty stated, "Coach John Wooden has enjoyed legendary success as the greatest coach of the twentieth century and one of the most revered teachers of all time" (Wooden & Carty, 2005, p.15). Through these experiences and successes Coach Wooden developed his Pyramid of Success™ reflecting his approach to coaching and view of success.

Coach John Wooden's definition of success was a, "peace of mind which is a direct result of self-satisfaction in knowing you made the effort to become the best of which you are capable" (Wooden, 2010). The Pyramid of Success™ contained 15 coaching behaviors illustrated as building blocks located in a hierarchical structure. These building blocks (coaching behaviors) included: industriousness, friendship, loyalty, cooperation, enthusiasm, self-control, alertness, initiative, intentness, condition, skill, team spirit, poise, confidence, and competitive greatness (Wooden & Carty, 2005). From these building blocks coaches and agriculture teachers can utilize the Pyramid of Success™ to identify and develop successful coaching behaviors.

Significance of the Problem

In recent months, Career Development Events have been linked to program accountability measures (DESE, 2009). Agricultural education programs, like other career and technical education programs receive federal funds resources allocated by the Carl D. Perkins Career and Technical Education Act (ACTE, 2010). "The purpose of Perkins is to

provide individuals with the academic and technical skills needed to succeed in a knowledge- and skills-based economy" (ACTE, 2010, p. 1). At the national level this funding reflects about $1.3 billion annually to grow and develop programs. After its reauthorization in 2006, the Carl D. Perkins Act placed more emphasis on local accountability and program improvement (ACTE, 2010). Local and state career and technical education programs are required to set performance indicators and meet a certain amount of them (ACTE, 2010). According to the Association for Career and Technical Education (2009):

> If local programs or states fail to meet at least 90 percent of an agreed upon target, they will have to develop and implement an improvement plan. If no improvement is made, or the program fails to meet at least 90 percent of a performance level for 3 years in a row, then a portion of Perkins funding could be withheld. (p, 1)

As a means to the end, the career and technical education leadership within Missouri has determined that performance indicators will be measured by career and technical education students' performance on technical skills assessments or TSA (DESE, 2009). According to Alisha Hyslop (2009), ACTE's Director of Public Policy:

> The law requires that measures be valid and reliable, and the technical skill attainment measure is enhanced to focus on "career and technical skill proficiencies, including student achievement on technical assessments, that are aligned with industry-recognized standards, if available and appropriate. (p. 1)

It is proposed that the technical skills assessments will help provide data to make the teachers and programs more accountable.

Each state determines how the Perkins Act accountability will be met. States will focus on measuring the technical skills, by developing assessments and determining who will

be assessed (Hyslop, 2009). Missouri's Department of Elementary and Secondary Education (DESE, 2009) has determined for the state how the Perkins Act accountability will be assessed as a measure of accountability. A program concentrator is defined as a, "Student who has earned three or more sequential credits in any approved CTE programs grades 9 – 12" (DESE, 2009, p. 12). The Department of Elementary and Secondary determined the technical skills assessments for agricultural education will be determined by the career pathway course sequence the program concentrator has taken (DESE, 2009).

To assess the agricultural education career pathway technical skills assessment, program concentrators are to participate in a Career Development Event that best reflects their concentration (career pathway) (J. Tummons, personal communication, October 5, 2009). Program concentrators (students) participate in the Career Development Events at practice contests around the state of Missouri (J. Tummons, personal communication, October 5, 2009). According to Tummons, for the 2009 – 2010 school year 50 percent of all program concentrators are expected to complete a technical skill assessment. The expected percentage will increase to 75 percent for the 2010 – 2011 school year, then increase to 100 percent for the 2011 – 2012 school year (J. Tummons, personal communication, October 5, 2009). Tummons also noted that for the first year of the technical skills assessment, program concentrators (students) must have obtained a score higher than 65 percent of the lowest group 1 score at the previous year's State Career Development Event competition. The acceptable percent score could increase as Technical Skill Assessments continue through the years (J. Tummons, personal communication, October 5, 2009). The performance level percentage requirements are expected the increase each year (J. Tummons, personal communication, October 5, 2009).

The Floriculture Career Development Event assessed concentrators who have taken the course sequence for the plant science/horticulture systems career pathway (DESE, 2009). The Career Development Events will help determine program accountability and improvement needs. The measures will also help determine Perkins Act funding for agricultural education programs in Missouri.

Program, teacher, and student success is determined by how well Career Development Event teams perform at selected contests. A study was conducted to explore the characteristics of effective agriculture teachers. Of interest to this study one of these characteristics was found to be, the teacher "has sound knowledge of FFA, actively advises the FFA chapter, and effectively prepares students for Career Development Events" (Roberts & Dyer 2004, p. 58). Since teaching Career Development Events contributes to determining teacher effectiveness, research (Roberts & Dyer, 2004, & Layfield & Dobbins, 2002) found teachers feel the need for more in-service training related to teaching Career Development Event teams. By determining coaching behaviors that work best for preparing teams in the Floriculture Career Development Event, inservice education can be tailored to meet these needs. Developing specific agriculture teachers' coaching behaviors will help them better their Career Development Event individuals and teams to be more successful.

The results of this study will further determine the relationship between the frequency of coaching behaviors used and the rank of the Floriculture Career Development Event teams to allow inservice topics to be singled out and focused upon. Agriculture teachers will be better able to apply coaching behaviors to help increase the success of their Career Development Event teams. Further, the results of this study will help program concentrators

to be successful in completing their technical skills assessments to secure Perkins Act funding.

Statement of the Problem

Career Development Events were designed to connect real life situations and classroom instruction (National FFA Organization, 2006). Career Development Events were also designed to increase student interests in agricultural related career fields (National FFA Organization, 2006). Due to the accountability portion of the Carl D. Perkins Act, Missouri agriculture teachers have placed more emphasis on how they coach their Career Development Event teams (Tummons, personal communication, October 5, 2009). The statement of the problem lies with the question: What coaching behaviors contribute to individual and team success in Floriculture Career Development Events? Findings from this study will be able to help guide how agriculture teachers coach their Floriculture Career Development Event teams.

Purpose of the Study

The purpose of this study was to describe the relationship between agriculture teacher coaching behaviors and team placing (rank) within the Floriculture Career Development Event. To guide this study research objectives were developed.

Research Objectives

The research objectives for the study include the following:

1) Describe the characteristics of agriculture teachers in Missouri who prepared a Floriculture Career Development Event team in 2009 in terms of age, sex, years of teaching agriculture, classes taught related to Floriculture, years coaching Floriculture Career Development Event, and previous Career Development Event experiences.
2) Describe the characteristics of students who participated in the 2009 State Floriculture Career Development Event in terms of:
    a. age,
    b. sex,
    c. grade range,
    d. year in school,
    e. agricultural education class enrollment, and
    f. related experience to the Floriculture Career Development Event.
3) Describe the coaching behaviors used by high school agriculture teachers to coach the Floriculture Career Development Event team.
4) Describe the relationship between the fifteen coaching behaviors and the placing (rank) of the 2009 state Floriculture Career Development Event teams.

Definition of Terms

The following terms where defined to aide in the clarity of the study. Each term is used throughout the thesis.

Coaching Behaviors

"Behaviors intended to foster team effectiveness" (Hackman & Wageman, 2005, p. 269).

Pyramid of Success™ (Pyramid)

A pyramid build with a foundation and building blocks of successful coaching and life behaviors (Wooden & Carty, 2005).

Building Block

One of the 15 pieces of the Pyramid of Success™, each piece or building block represents one coaching behavior (Wooden & Carty, 2005).

Industriousness

"There is no substitute for work. Worthwhile results come from hard work and careful planning" (Wooden & Carty, 2005, p. 22).

Friendship

"Comes from mutual esteem, respect, and devotion. Like marriage, it must not be taken for granted but requires a joint effort" (Wooden & Carty, 2005, p.22).

Loyalty

"To yourself and all those depending upon you. Keep your self-respect" (Wooden & Carty, 2005, p. 22-23).

Cooperation

"Will all levels of your coworkers. Listen if you want to be heard. Be interested in finding the best way, not in having your own way" (Wooden & Carty, 2005, p. 23).

Enthusiasm

"Brushes off upon those with whom you come in contact. You must truly enjoy what you are doing" (Wooden & Carty, 2005, p. 23).

Self-Control

"Practice self-discipline and keep emotions under control. Good judgment and common sense are essential" (Wooden & Carty, 2005, p. 22).

Alertness

"Be observing constantly. Stay open minded. Be eager to learn and improve" (Wooden & Carty, 2005, p. 22).

Initiative

"Cultivate the ability to make decisions and think alone. Do not be afraid of failure, but learn from it" (Wooden & Carty, 2005, p. 23).

Intentness

"Set a realistic goal. Concentrate on its achievement by resisting all temptations and being determined and persistent" (Wooden & Carty, 2005, p. 23).

Condition

"Mental-moral-physical. Rest, exercise, and diet must be considered. Moderation must be practiced. Dissipation must be eliminated" (Wooden & Carty, 2005, p. 22).

Skill

"A knowledge of and the ability to properly and quickly execute the fundamentals. Be prepared and cover every little detail" (Wooden & Carty, 2005, p. 22-23).

Team Spirit

"A genuine consideration for others. An eagerness to sacrifice personally interest of glory for the welfare of all" (Wooden & Carty, 2005, p. 23).

Poise

"Just being yourself. Being at ease in any situation. Never fighting yourself" (Wooden & Carty, 2005, p. 22).

Confidence

"Respect without fear. May come from being prepared and keeping all things in proper perspective" (Wooden & Carty, 2005, p. 23).

Competitive Greatness

"Be at your best when your best is needed. Enjoyment of a difficult challenge" (Wooden & Carty, 2005, p. 22-23).

Limitation of the Study

The researcher acknowledges the following limitations of the study:

1. This study will only include secondary agricultural education teachers, teaching in Missouri who coached a Floriculture Career Development Event team, which competed at the state level in 2009.
2. Many agriculture teachers choose to leave the profession from year to year due to various reasons. Because of this some of the agriculture teachers who coached a State Floriculture Career Development Event team in 2009, may not be reachable. This inability to contact these teachers can result in sampling error.
3. Student participation in Career Development Events is different from program to program. Some programs require all members to participate and some programs the student competition participation is completely voluntary.

4. Once a student has participated in a state Career Development Event, they cannot compete in the same area again. If a student does not qualify for state at the district level, they can compete in that career development event area again.
5. Students participating in Career Development Events will perform some amount of independent studies at home or away from their agricultural education class.

Basic Assumptions

The following assumptions lead this study:

1. Many agriculture teachers are protective of how they coach and what information they cover with their Career Development Event teams. Due to this, some agriculture teachers may be inclined to withhold or be dishonest about information requested on parts of the questionnaire.

Chapter II

Review of Literature

This chapter provides a review of the related literature that will construct the theoretical basis of this study. A better understanding of Career Development Events is provided in order to examine the coaching behaviors used by agriculture teachers. The relationship between coaching and teaching will be explored. It is necessary to then examine coaching behaviors used by athletic coaches to determine what behaviors are being used. The Pyramid of Success™ will be explored and described by examining the coaching behaviors it outlines. Finally, research related to coaching will be reviewed.

Career Development Events

Background

Career Development Events are laboratory experiences where students' apply their knowledge base in specific areas of agriculture. Career Development Events are a part of the FFA program, which is a component of a secondary agricultural education program. According to Newcomb, McCracken, and Warmbrod (1993):

> FFA is an integral part of the total agricultural education program and contributes best to the attainment of the objectives of agricultural education and the school when the organization and its activities are planned as laboratory activities that are a part of well planned and executed instruction in agriculture. (p. 14)

Career Development Events are meant to mirror the instruction the students receive in their agricultural classes, laboratory settings, and their supervised agricultural experience program (National FFA Organization, 2006). The Career Development Events held at the state level

in Missouri are meant to develop the skills, which are taught in secondary agriculture programs (Missouri FFA Organization, 2006). Along with enhancing students' knowledge related to their agriculture classes, Career Development Events also increase student's interest in agriculture careers and foster competition.

Besides providing an opportunity to apply the knowledge and skills of students, Career Development Events were meant to allow competition between students. Many Career Development Events at the national level not only develop teamwork and competition through team activities, but also encourage individual competition and achievement through individual events (National FFA Organization, 2006). The National FFA Organization's Career Development Event Handbook (2006) also stated, "The primary goal of career development events is to develop individual responsibilities, foster teamwork, and promote communications while recognizing the value of ethical competition and the value of individual achievement" (p. 6). Career Development Events were also meant to increase students' interests in agricultural related careers (National FFA Organization, 2006). Career Development Events were meant to foster competition, teamwork between students, and increase career interests.

Floriculture Career Development Event

Just as with the other Career Development Events, the Floriculture Career Development Event was designed to measure students' knowledge, foster competition, and increase career interests. The Missouri FFA State Career Development Events Handbook (2006) stated, "The State Floriculture Contest is designed to stimulate interest in production and retailing of flowers, plants, and foliage in the secondary agriculture curricula" (p. 1).

The Missouri FFA State Career Development Events Handbook (2006) also stated the objectives of the Floriculture contest were:

1) Identify floriculture and bedding plants commonly grown in Missouri.
2) Identify unhealthy plants due to pest, nutritional, mechanical, or chemical injury.
3) Understand principles of and develop skills underlying propagation, growth requirements, growing techniques, harvesting, marketing, and maintenance of established floriculture plants. (p. 1)

The Missouri Floriculture competition consisted of four parts, each designed to measure different aspects of the students' knowledge related to the floriculture and greenhouse curriculum (Missouri FFA Organization, 2006). These four parts were: a 75 question general knowledge exam covering greenhouse design and equipment, plant growth and function, propagation, production techniques, diseases and insects, and basic business management, plant identification of 60 specimen, plant disorders and diagnosis consisting of 5 specimen, and a tool and product identification consisting of 25 items (Missouri FFA Organization, 2006). Each contest component is designated a point value, which contestants earn as individual scores and are then combined as team scores (see Table 1) (Missouri FFA Organization, 2006).

Table 1

Floriculture Competition Event Scoring

Event	Points
General Knowledge – 75 questions at 4 pts each	300
Plant Identification – 60 specimen at 5 pts each	300
Plant Disorder and Diagnosis – 5 specimen at 10 points each	50
Tool and Product Identification – 25 items at 2 points each	50
Total Points	700

Based on the team score received, teams are ranked compared to the other teams scores. In the state of Missouri students compete at the district level to qualify to compete at state. The district Floriculture competitions are meant to resemble the state competition. Each district is allowed a certain number of qualifying teams and a total of 50 teams compete at state (see Table 2) (Missouri FFA Organization, 2006).

Table 2

Allocation of Teams from Each FFA District in Missouri

Missouri FFA District	Number of Teams to State
Northwest District	10
Northeast District	9
Central District	9
South Central District	8
Southeast District	5
Southwest District	9
Total Teams	50

The district and state Floriculture competitions are meant to measure students' knowledge, increase their career interests, and foster competition. In order to prepare the students to compete in the district and state competition both teaching and coaching techniques are used by the agriculture teachers.

Teaching and Coaching

Teaching and Coaching Similarities

Teaching and coaching are very similar professions, and each area can learn from one another. According to Hunter (1997) in her article "Teaching & Coaching, Is There a Difference?", "The terms teaching and coaching are often used interchangeably to imply the transference of knowledge of a subject from one person (the 'teacher' or 'coach') to another

(the ‘student’, ‘pupil’, or ‘athlete’)” (para. 2). Ferguson and Jubenville (2001), in their article, Coaching, Teaching, and Critiquing, stated:

> Coaching is teaching, and in a sense, teaching is coaching. Each profession can draw upon the other to enhance and improve their respective domains. Some of the intensity and motivation from the world of sport can benefit teachers as they engage learners. Coaches can, on the other hand, strengthen their team’s performance through the use of specific congruent feedback and recognition of different types of learners and how to best instruct performances in both areas by leaders and participants. (para. 14)

In “Teaching & Coaching – Is There a Difference?” Hunter (1997) stated, “Good communication skills are also important in both teaching and coaching and the ability to use different methods of communications (such as visual demonstrations) accurately is essential” (para. 19). Besides good communication skills both teaching and coaching require good planning skills (Hunter, 1997). Because both coaching and teaching involve learners and the transfer of knowledge, they do share some similarities.

Teaching and Coaching Differences

Even though teaching and coaching shared some similarities, they had some distinct differences. Each profession had distinct characteristics with distinct goals (Drewe, 2000). Drewe (2000) stated in her article, “An Examination of the Relationship Between Coaching and Teaching:”

> This distinction is perhaps more evident in sports circles where coaches are always referred to as “the coach” and never “a teacher,” even though their job entails, to a

> large degree, the teaching of skills, technique, and strategy. The "coach not teacher" attitude prevalent in sports circle is, in part, due to the higher value placed on sports as opposed to education in our society. (p. 79)

The main focus of teaching is to deliver information to the students. "Teaching tends to be a mainly one-way process. The teacher transfers his or her knowledge to the pupil. The pupil may question in order to clarify, however the knowledge transfer is all one-way" (Hunter, 1997, p. 2). Coaching was focused on refined skills and competition. "In today's highly intense sport world coaches push athletes to their limits. Performance is measured by wins and losses and competition among teams has led coaches to continually refine their techniques" (Ferguson & Jubenville, 2001, para. 3). Hunter (1997) stated, "Coaching is a two-way process. The coach provides the athlete with the benefit of his or her knowledge and experience. The athlete then takes as much or as little of that information to use in their training" (p. 3). Coaches focus more on the improvement of existing skills, were teachers focus more on the development of new skills (Hunter, 1997). Drewe (2000) stated, "In order to examine the relationship between coaching and teaching, two other distinctions must also be addressed: the distinction between education and training and the distinction between education and competition" (p. 79). Teaching and coaching are two distinct professions, but share more similarities than differences.

Coaching Behaviors

Coaches exhibited certain behaviors that have helped them and their teams become more successful. Even though there are many types of sports, certain coaching behaviors promote more success throughout all sports. Success for many coaches was exhibited

through their athletes' success. As stated in the article Successful Leadership Behavior in Sport (2010), "These functions (athlete success) are normally accomplished by the coach engaging in leadership behavior that effectively elicits appropriate actions from the athlete towards achieving set goals, in competitive or practice situations" (Lin, Jui-Chia, & Esposito, 2010, p. 1). According to Hackman and Wageman (1995):

> Team leaders engage in many different kinds of behaviors intended to foster team effectiveness, including structuring the team and establishing its purpose, arranging for the resources a team needs for its work and removing organizational roadblock that impede the work, helping individual members strengthen their personal contributions to the team, and working with the team as a whole to help members use their collective resources well in pursuing them purposes. (p. 269)

Successful coaches have spent a considerable amount of time with their athletes instructing, correcting, and motivating (Becker & Wrisberg, 2008). Success was dependant on how well the coach's utilized these successful coaching behaviors (Becker & Wrisberg, 2008). Successful coaches have exhibited certain coaching behaviors, which have helped make them and their team more successful. The theoretical framework was developed based upon the successful coaching behaviors developed by Coach John Wooden.

Theoretical Framework

Pyramid of Success™

Successful basketball coach John Wooden developed the Pyramid of Success™; to assist coaches identify successful coaching behaviors (Wooden & Carty, 2005). Coach Wooden's Pyramid of Success™ was based on his view of success, "Success is peace of

mind which is a direct result of self-satisfaction in knowing you did your best to become the nest that you are capable of becoming" (Wooden & Carty, 2005, p. 23). Coach Wooden utilized a pyramid or triangle shape to emphasize the foundation and the building blocks of the pyramid (Wooden & Carty, 2005). The Pyramid of Success™ contains 15 building blocks including: industriousness, friendship, loyalty, cooperation, enthusiasm, self-control, alertness, initiative, intentness, condition, skill, team spirit, poise confidence, and competitive greatness (Figure 1). The Pyramid of Success™ and related expert opinion provided the theoretical framework for this study.

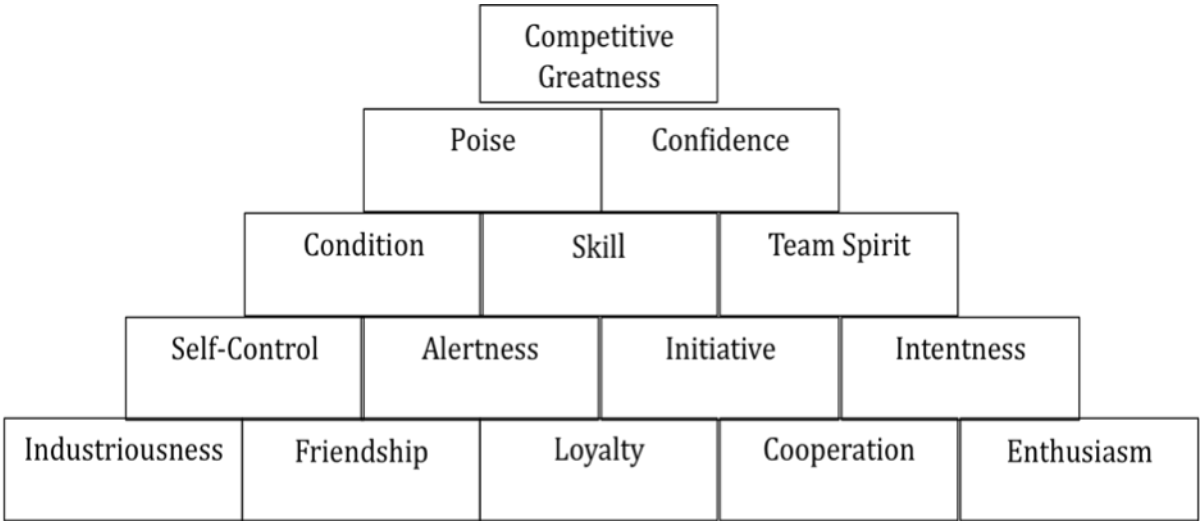

Figure 1. *Pyramid of Success™ with the fifteen building blocks in the hierarchical order*

Industriousness

The Pyramid of Success™ began at one of its cornerstone foundation building blocks, industriousness. Industriousness consisted of two components, work and planning (Wooden & Carty, 2005). Coach Wooden (2005) stated industriousness was, "There is no substitute for work. Worthwhile results come from hard work and careful planning" (p.22). Wooden

and Carty went on to state, “If we only put out a minimum effort we might get by in some situations, but in the long run we won’t fully develop the talents that lie within us” (p. 26). Related to planning Wooden and Carty stated, “Undirected diligence isn’t very efficient; therefore, an element of planning must go into hard work. It is the combination of the two that results in industriousness” (p. 30). Goals are obtained through hard work and careful planning (Palmer & Smith, 1990). Successful coaches created carefully structured situations so athletes can achieve their goals (May, 2003). Through hard work and careful planning coaches can help their team meet their goals and be more successful.

Enthusiasm

The next cornerstone building block of the Pyramid of Success™ was enthusiasm. Coach Wooden (2005) defined enthusiasm as, “Brushes off upon those with whom you come in contact. You must truly enjoy what you are doing” (Wooden & Carty, 2005, p. 23). Wooden and Carty stated:

> We almost have to force or drive ourselves to work hard if we are to reach our potential. If we don’t enjoy what we do, we won’t be able to push as hard as we need to push for as long as we need to push to achieve our best. However, if we do enjoy what we do, and if we’re enthusiastic about it, we’ll do it better and come closer to becoming the best we can be. (p. 34)

When people are involved in tasks they enjoy, they are more productive and being an enthusiastic leader could stimulate others (Wooden & Carty, 2005). Wooden and Carty discussed enthusiasm in leaders:

> I'm convinced that regardless of task, leaders must be enthusiastic and really enjoy what they're doing if they expect those under their supervision to work near their respective levels of competency. With few expectations, an unenthusiastic leader will keep those under his or her charge from achieving their collective best. (p. 35)

Emotional highs and lows related to enthusiasm can be counterproductive to success (Wooden & Carty, 2005). Palmer and Smith (1990) stated:

> Coaches generate tremendous enthusiasm for their sport and their enthusiasm is contagious because motivated people influence those with whom they come in contact. Successful coaches, according to Wooden, have their hearts in their work (Wooden, 1980). (p. 517)

Since enthusiasm is contagious, enthusiastic coaches lead to enthusiastic players.

Friendship

Coach Wooden's next foundation building block was, friendship. Friendship was defined as, "Comes from mutual esteem, respect and devotion. Like marriage, it must not be taken for granted but requires a joint effort" (Wooden & Carty, 2005, p.22). Wooden further stated about friendship, "People make us better. It is easier to reach our potential when we learn the value of including others in our quest. We can accomplish so much more when we work with others" (Wooden & Carty, 2005, p. 38). Friendship is helping others, "Friendship is doing for others while they are doing for you" (Wooden & Carty, 2005, p. 39). Wooden stated, "Friends help to complete us, and we'll be better for having taken them along on our journey to becoming all we are capable of becoming" (Wooden & Carty, 2005, p. 39). Regarding friendship, Palmer and Smith (1990) stated, "There is a certain closeness that

develops between a coach and a player which comes from mutual respect" (p. 516). Coaches and athletes spend extra time together through practice and games, and this generates a type of friendship and loyalty between them (Palmer & Smith, 1990). Friendship is developed from mutual esteem and respect from both the coach and the players.

Cooperation

The next foundation building block of the Pyramid of Success™ was, cooperation. Wooden defined cooperation as, "With all levels of your coworkers. Listen if you want to be heard. Be interest in finding the best way, not in having your own way" (Wooden & Carty, 2005, p. 23). Wooden stated, "Cooperation is working with others for the benefit of all. It is sacrificing for someone else's benefit" (Wooden & Carty, 2005, p. 42). "No championship or goal was ever obtained by a one-man effort. Team work leads to unity" (Palmer & Smith, 1990). Goals are more likely to be met or surpassed if a team if cohesive (May, 2008). By working together and listening to each other a team can be more successful.

Loyalty

The last foundation building block was, loyalty. Loyalty was defined by Wooden and Carty (2005) as, "To yourself and to all those depending upon you. Keep your self-respect" (p. 22-23). Regarding loyalty, Wooden stated, "he depth of the word "loyalty" comes to play when we add concepts such as devotion, duty, faithfulness, and commitment" (Wooden & Carty, 2005, p. 46). He went on to state, "Loyalty is the force that forges individuals into a team. It's the component that moves teams toward great achievements" (Wooden & Carty, 2005, p. 47). Without loyalty greatness cannot be achieved either by an individual or a team

(Wooden & Carty, 2005, p. 46). Being there for others and depending on others could develop a stronger team.

Self-Control

Self-control was the next building block of coaching behaviors and is found on the second tier of Wooden's Pyramid of Success™. Coach Wooden defined self-control as, "Practice self-discipline and keep emotions under control. Good judgment and common sense are essential" (Wooden & Carty, 2005, p. 22). Wooden and Carty also stated:

> Self-control is the ability to discipline ourselves and keep our emotions under control. To become our best, good judgment and common sense are essential. No matter the task – whether physical or mental – if our emotions take over, we're not going to execute near our personal level of competency, because both judgment and common sense will be impaired. When our emotions dominate our actions, we make mistakes. (p. 50)

Individual and team achievement could be hindered with a lack of self-control (Wooden & Carty, 2005, p. 50). By having used good judgment and self-control a coach would have better managed their team.

Alertness

Alertness was the next coaching behavior building block on the second level of the Pyramid of Success™. Alertness was defined as, "Be observing constantly. Stay open minded. Be eager to learn and improve" (Wooden & Carty, 2005, p. 22). Wooden and Carty stated, "We must be alert. We can do that by observing what is going on around us. Except

for what we garnered through personal experience, none of us knows anything that we didn't learn from somebody else" (p. 54). Wooden and Carty also stated:

> When we aren't alert we miss opportunities to improve ourselves. If we remain attentive, not only can we improve ourselves, but we can also learn not to repeat the errors of others. We should always watch for circumstances or situations that can help or harm us and be eager to learn from our encounters. (p. 54)

By constantly observing what is happening and by not repeating the mistakes of others, teams and individuals could be more successful.

Initiative

Following alertness on the second tier of the Pyramid of Success™ was initiative. Initiative was defined as, "Cultivate the ability to make decisions and think alone. Do not be afraid of failure, but learn from it" (Wooden & Carty, 2005, p. 23). Initiative was taken action when action is needed (Wooden & Carty, 2005, p. 58). Wooden stated, "People with initiative use all the information that they've previously acquired in regards to any particular situation, and they act with self-control. People with initiative move forward without fear of failure, even though they might make mistakes or fail" (Wooden & Carty, 2005, p.58). Teams and individuals have never reached their full potential if they did not act because they were afraid of failure (Wooden & Carty, 2005). A successful coach will have been constantly observing, learning, improving, and acting.

Intentness

The final building block on the second level of the Pyramid of Success™ was intentness. Coach Wooden defined intentness as, "Set a realistic goal. Concentrate on its achievement by resisting all temptations and being determined and persistent" (Wooden & Carty, 2005, p. 23). Intentness was also connected to determination and persistence (Wooden & Carty, 2005, p. 62). Related to intentness, Wooden and Carty stated:

> Intentness is the ability to resist temptation and to avoid rabbit trails of distraction. An intent person will stay the course and go the distance. He or she will concentrate on objectives with determination, stamina and resolve. Intentness is the quality that won't permit us to quit, even when our goal is going to take a while to accomplish. (p. 62)

Coaches, who have set realistic goals for their teams, should present a greater chance for success.

Condition

The first building block for the third tier of the Pyramid of Success™ was condition. Condition was defined by Wooden as, "Mental – Moral – Physical. Rest, exercise, and diet must be considered. Moderation must be practiced. Dissipation must be eliminated" (Wooden & Carty, 2005, p.22). Wooden and Carty also stated, "Specific activities require specific conditioning" (p. 66). Condition does not just include physical fitness, but also moral and spiritual condition (Wooden & Carty, 2005, p. 66). Being successful stemmed from metal, physical, and moral fitness and condition.

Skill

Skill was the middle building block of the third tier of the Pyramid of Success™. Skill was defined as, "A knowledge of and the ability to properly and quickly execute the fundamentals. Be prepared and cover every little detail" (Wooden & Carty, 2005, p. 22 & 23). Wooden and Carty (2005) stated:

> Skill is knowing what to do and being able to execute all of the fundamentals important to a particular task. However, skill is more than knowledge and execution. A skillful person usually has a sense of timing and the ability to quickly perform a skill. (p. 70)

Coach Wooden also stated, "There are countless activities in which we not only need to know the fundamentals, but we also must be able to execute our skill properly, quickly and at the right time" (Wooden & Carty, 2005, p. 70). Successful coaches and teams could execute the fundamentals of their area and could perform these fundamentals quickly (Wooden & Carty, 2005, p.71). Those who have prepared thoroughly could have greater success.

Team Spirit

The final building block of the third level of the Pyramid of Success™ was team spirit. This was defined as, "A genuine consideration for others. An eagerness to sacrifice personal interests of glory for the welfare of all" (Wooden & Carty, 2005, p. 23). "Team respect is consideration, respect and dignity for others" (Wooden & Carty, 2005, p. 75). Wooden stated, "Team spirit is the ultimate expression of interdependence. Just as team spirit embraces an element of enthusiasm, it also houses a component of cooperation. But

where cooperation makes others better, team spirit makes the group better" (Wooden & Carty, 2005, p. 74). Wooden also stated:

> When we willing perform a task that we should or must do for the good of the group, our heart isn't completely in it. This slight reluctance holds back our teammates. By contrast, when every member of the team eagerly performs every task, the group rises to a new level of accomplishment. (Wooden & Carty, 2005, p. 74)

Successful coaches have found ways for their players to work together for the good of the team (May, 2008). Successful teams have been build from respect and personal sacrifice from all members of those teams.

Poise

The building block, which started the fourth tier of the Pyramid of Success™, was poise. Wooden and Carty (2005) defined poise as, "Just being yourself. Being at ease in any situation. Never fighting yourself" (p. 22). Wooden and Carty (2005) stated regarding poise:

> Most people think of poise as calm, self-assured dignity; but I call it "just being yourself." When we have poise, we're not acting, faking or pretending. We're not trying to be something we're not. Nor are we attempting to live up to others' expectations. Therefore, when we are being who we really are, we'll have a greater likelihood of functioning nearer our own level of competency. (p. 78).

Wooden also stated, "Poise keeps us true to ourselves. We're at ease with ourselves, and as long as we're at ease with ourselves, we're going to function nearer to our own ability" (Wooden & Carty, 2005, p.78). An individual will poise is confident and stay quietly in

control in all situations (Wooden & Carty, 2005). Those who have stayed true to themselves, could have had a greater chance of success.

Confidence

Finishing the fourth tier of the Pyramid of coaching behaviors was confidence. Confidence was defined as, "Respect without fear. May come from being prepared and keeping all things in proper perspective" (Wooden & Carty, 2005, p. 23). Coach Wooden and Carty discussed his basketball teams' confidence:

> I always wanted my teams to be confident, but not overconfident. I did not want them to be cocky or whistling in the dark. Solid respect without fear is what I was after. I wanted them to believe in themselves without being self-centered, intimidated or naïve. (p.82)

"A positive approach to teaching is the best way to build confidence" (Wooden & Carty, 2005, p. 82). Successful teams and players have been built on from confidence and a respect of their competition.

Competitive Greatness

At the peak of the pyramid was competitive greatness. Competitive greatness was defined as, "Be your best, when your best is needed. Enjoyment of a difficult challenge" (Wooden & Carty, 2005, p. 22 & 23). Wooden and Carty stated,

> If we demonstrate all of the preceding qualities, we have the potential for success; but without competitive greatness, we won't be the best we can be. Competitive greatness is the pinnacle of the Pyramid. With competitive greatness, we can deliver

> our best when our best is needed; at the same time, we can make those around us better, too. A person with this quality love a challenge – tougher the better. (p. 86)

In regards to some of the great basketball players such as Michael Jordon, Larry Bird, and Magic Johnson, Wooden and Carty stated, "They seemed to enjoy the difficult situations. The tougher the circumstances, the higher they rose; and in doing so, they always made those around them better" (p. 86). Wooden and Carty stated, "All we have to do is learn to rise to every occasion, give our best effort and make those around us better as we do it. It's not about winning. It's about learning to give all we have to give" (p.87). Successful coaches have found ways to bring the best out of their players (May, 2003). Only those who have performed at their best, when it was needed have reached the highest level of success, which is competitive greatness.

Related Research

Career Development Events

Much research has been conducted regarding Career Development Events. In the study, "Career Development Events: An Example of Authentic Learning", Beekley and Moody (2002) stated:

> The key to having your students succeed is to determine what resources are readily available in your community or area and engage your students with these business and industry representatives. If you have expertise in a subject area, teach it to the students, remembering that the success of your students will be determined by how well you understand and can apply community culture to the curriculum. (p. 17)

A study was conducted to test student perceptions of preparing for Career Development Events. This study focuses on asking students if they felt their agricultural classes prepared them for their contests and if the classroom instruction prepared them for the Career Development Event (AAAE, 2009). Research recommends students participate in Career Development Events, which are correlated with the classroom instruction they are receiving (AAAE, 2009). Even though there is little research to support Career Development Events, they are still considered to have been a way to assess students' knowledge related to the agricultural class.

Research has been conducted related to Career Development Event in regards to teacher in-service needs. Research has found teachers feel the need for more in-service training related to teaching Career Development Event teams (Roberts & Dyer, 2004 and Layfield & Dobbins, 2002). Whether the teachers were traditional certified or alternatively certified, young or old, research indicated the need for Career Development Event in-service for all agriculture educators (Roberts & Dyer, 2004, and Layfield & Dobbins, 2002).

In addition to in-service needs, research was conducted on effective teacher characteristics related to Career Development Events. In a study performed by Roberts and Dyer (2004), they stated, "Characteristics of effective agriculture teachers can be categorized into instruction, FFA, SAE, building community partnerships, marketing, professional growth/professionalism, program planning, and personal qualities" (p. 60). Some of the characteristics Roberts and Dyer found agriculture teachers to have exhibited include:

> Effectively determines students needs, uses a variety of teaching techniques, has excellent knowledge of subject matter, has a sound knowledge of FFA actively

> advises the FFA chapter, and effectively prepares students for CDEs and other FFA activities, and works well with parents. (p. 60)

Teaching was focused on delivering and assessing student knowledge, and effective teachers have exhibited certain characteristics, which have made them successful.

Teaching Behaviors Related to Coaching

Since teaching and coaching were considered to be similar disciplines, coaches have used many teaching behaviors in their specific athletic setting. Since both disciplines focused on the success of the student or athlete both teachers and coaches used many similar behaviors (Hunter, 1997). Some research has been conducted on the teaching characteristics used by coaches in the athletic setting.

One successful coach has used teaching behaviors to relay information and better instruct his many championship teams. Successful basketball Coach John Wooden believed coachers were first of all teachers (Palmer & Smith, 1990). Coach John Wooden developed ten criteria for successful teachers: knowledge of your subject, general knowledge, teaching skill, professional attitude, discipline, classroom organization, school and community relations, teacher-pupil relationships, warm personality and genuine consideration of other, and desire to improve (Palmer & Smith, 1990). From their research on Coach John Wooden's teaching characteristics, Palmer and Smith stated:

> Research indicates that teenagers described influential teachers as those who had the ability to generate enthusiasm for learning, and possess a positive attitude toward their job, subject matter, and their students. A classroom with a positive atmosphere will generate more learning. (p. 517)

Tharp and Gallimore (as cited in Palmer & Smith, 1990) were the first researchers to have observed Coach John Wooden to determine his effective teaching characteristics (p. 518). Tharp and Gallimore noted five effective teaching characteristics demonstrated by Coach Wooden: 1) giving instruction, 2) modeling behaviors, 3) practicing a skill after it was taught, 4) verbal cues to increase energy and intensity, and 5) scold and reinstruct (cite in Palmer & Smith, 1990). The teaching behaviors used by Coach John Wooden helped him be a more successful coach. Teaching behaviors used by coaches did help them become more successful, but the coaching behaviors used by coaches also play a role in how successful they were.

Coaching Behaviors

Successful coaches have exhibited certain behaviors that helped them and their teams meet their goals and become more successful. Much research has been conducted on these successful coaching behaviors. To determine these coaching behaviors many researchers observed successful coaches and documented their behaviors.

In 1975, Tharp and Gallimore conducted a study, which observed the coaching behaviors used by the successful basketball coach, John Wooden (Tharp & Gallimore, 2004). Through their observations they developed a list of coaching behaviors utilized by Coach Wooden, in order of the frequency which they were used, "Instructions, hustles, modeling – positive, modeling – negative, praises, reproofs, nonverbal reward, nonverbal punishment, "Wooden" (reproof/reinstruct), other, and un-codable" (Tharp & Gallimore, 2004, p. 122). Tharp and Gallimore described the behaviors as:

1) Instruction: What to do, how to do it.

2) Hustles: Activate or intensify previous instructed behavior.
3) Modeling – positive: Demonstration of how to perform.
4) Modeling – negative: Demonstration of how not to perform.
5) Praises: Compliments.
6) Reproofs: Expression of displeasure.
7) Nonverbal reward: Smiles, pats, etc.
8) Nonverbal punishment: Scowls, despairing gestures, temporary removal of player from scrimmage.
9) Wooden (Reproof/reinstruct): Combination category: Scold, modeling – positive, followed by modeling – negative, ending with a modeling – positive.
10) Other: Anything not above.
11) Un-codable: Could not be seen or heard. (p. 120)

Tharp and Gallimore continued to state, "The positive approach in Coach's practice was to focus players' attention on specific, fine points of how to properly play basketball" (p. 123). Wooden displayed many different behaviors, which helped his teams become some successful.

According to Becker and Wrisberg (2008), coaching behaviors exhibited by Pat Summit, the winningest NCAA basketball coach of all time were, "Instruction, praise, scold, questioning, hustle, management, positive modeling, negative modeling, and manipulation" (p. 202). Instruction was a very important part of Coach Summit's coaching process, especially with players transitioning to college play (Becker & Wrisberg, 2008, p. 205). Becker and Wrisberg continued on to state:

> We found that the most common form of instruction that Summit provided during her practices was concurrent instruction. As players executed various tasks, she frequently provided them with technical and tactical information. Doing so allowed players to actively adjust their behaviors and make corrections without interrupting the flow of action. (p. 205)

Becker & Wrisberg further stated regarding the instruction she provided, "Another interesting aspect of Summitt's instructional feedback was the higher frequency of pre-instruction (before action) and lower frequency of post-instruciton directed toward the team compared with individual players" (p. 205). Coach Summit also exhibited a high degree of intensity and demonstrated the "practice like you play" attitude during practice (Becker & Wrisberg, 2008, p. 206). Instruction and intensity were key behaviors used by Coach Summitt.

Bloom, Crumpton, and Anderson (1999) observed teaching behaviors of successful basketball coach, Jerry Tarkanian of Fresno state, and ranked them by usage, "Tactical instructions, hustles, technical instructions, praise/encouragement, general instructions scolds, uncodable, modeling, criticism/reinstruction, humor, nonverbal punishments, and nonverbal rewards" (p. 162). These coaching behaviors were defined as:

1. Technical instruction: The skill-based dimension that encompasses the pedagogical aspects of coaching and often involves correcting individual skills.
2. Tactical instruction: Teaching the cognitive strategies used by coaches to outsmart their opponents (e.g., teaching plays and offensive and defensive formations).

3. General instruction: Verbal statements outside the guidelines of technical or tactical instruction. These include repeating drills, player substitutions, water breaks, injury stoppages, and instruction to assistants.
4. Hustles: Verbal statements that activate, intensify, or energize the athletes. These statements do not necessarily contain any positive or negative aspects.
5. Praise/encouragement: Verbal statements that are positive and encouraging. These include statements about players' effort and performance.
6. Scolds: Verbal statements of displeasure and anger.
7. Nonverbal punishment: Nonverbal acts that include scowls and gestures of despair.
8. Criticism/reinstruction: Verbal statements that relay players' inappropriate acts or behavior. Statements that explain the correct act or behavior sought by the coach immediately follow.
9. Modeling: A demonstration of how or how to perform.
10. Nonverbal rewards: Nonverbal compliments or encouragement (e.g., smiles, nods, pats)
11. Humor: Verbal statements that include jokes or contain content designed to relax the players and make them smile or laugh
12. Uncodable: Behaviors that could not be clearly heard or seen. (Crumpton & Anderson, 1999, p. 162)

According to Bloom, Crumpton, and Anderson, Tarkanian used several different types of instruction while coaching his teams. Successful college coaches have exhibited behaviors

which helped them become successful, but successful high school coaches also exhibit certain behaviors which have helped them be more successful.

High School Coaches

Much research has been conducted exploring the coaching behaviors used by high school or other youth coaches. These studies have discovered information concerning coaching behaviors in youth sports. De Marco and Mancini (1997) in their article "Reflections on Change: a Qualitative and Quantitative Analysis of a Baseball Coach's Behavior" stated the behaviors they observed exhibited by the coaches were, "Praise, praise/reinstruct, acceptance, questions, instruction during performance, gives directions, hustle behavior, criticism, constructive criticism, criticism reinstruct, constructive criticism reinstruct, and overall use of profanity and or colorful language" (p. 5). The essential coaching skills found for youth sport coaches were the ability to motivate a team, develop cohesion, set effective goals, and communicate effectively (May, 2003). According to Drewe (2000) knowledge of the subject matter, which was being coached was the highest ranked effective coaching characteristic. According to Millard, (1996) male and female coaches expressed different behaviors, "Male coaches in this study engaged more frequently in technical instruction than did females and less frequently in general encouragement" (p. 5). The coaching behaviors used by youth sport coaches are similar to the behaviors used by successful college coaches.

With relation to coaching behavior research, all of the information found was based in athletics. No research has been conducted related to coaching behaviors used to coach Career Development Events. Also, no research was found in relation to coaching behaviors

used by agricultural teachers. Furthermore, no coaching behavior research was discovered in relation to Career and Technical Education teachers or high school core teachers.

Summary

Career Development Events were laboratory experiences, which assessed students' knowledge obtained in their agricultural education classes. These competitions are meant to represent the content covered in the agricultural classrooms, laboratories and Supervised Agricultural Experiences. In addition to assessing students' knowledge Career Development Events also fostered competition and increased students' interest in agriculture careers. Many different areas of the agricultural education curriculum are addressed by different Career Development Events, such as Floriculture, Dairy Cattle, Agronomy, Agricultural Mechanics, Livestock, etc. The Floriculture Career Development Event consists of four parts to assess different areas of the Floriculture and Greenhouse curriculum.

Teaching and coaching are closely related, but have some differences. Both disciplines focus on the success of the student/athlete. Teaching was based more on the transfer of knowledge to the student. Also, teaching was more of a one-way process, where as coaching is a two way process. Coaching was focused on building the skills and techniques of the athletes.

Coaches have exhibited certain behaviors, which have helped make them and their teams more successful. Coaches who have exhibited these leadership behaviors have helped their teams be successful in meeting their goals. In order to be successful coaches have spent considerable amounts of time with their athletes instructing and motivating them.

Through his experiences and observations successful coach, John Wooden, developed a Pyramid of Success™ of successful coaching behaviors. Fifteen coaching behaviors, each that represent a building block, made up the Pyramid of Success™. The Pyramid is built on Coach Wooden's view of success, so other coaches can reach what they believe is success.

Unfortunately, little research has been conducted on Career Development Events and their ability to assessment of students' knowledge. Much related research has been conducted on coaching behaviors in the athletic discipline by having observed college and youth coaches to determine what behaviors helped make them successful.

Chapter III

Methodology

This chapter reviews the research methodology utilized during the study. Included in this chapter is the purpose of the study, research objectives, research design, subject selection, errors related to subject selection, institutional review board, instrumentation, data collection, and data analysis.

Purpose of the Study

The purpose of this study was to describe the relationship between agriculture teacher coaching behaviors and team placing (rank) within the Floriculture Career Development Event. To guide this study research objectives and hypothesis were developed.

Research Objectives

The research objectives for the study include the following:

1) Describe the characteristics of agriculture teachers in Missouri who prepared a Floriculture Career Development Event team in 2009 in terms of age, sex, years of teaching agriculture, classes taught related to Floriculture, years coaching Floriculture Career Development Event, and previous Career Development Event experiences.
2) Describe the characteristics of students who participated in the 2009 State Floriculture Career Development Event in terms of:
    a. age,
    b. sex,
    c. grade range,
    d. year in school,

e. agricultural education class enrollment, and

f. related experience to the Floriculture Career Development Event.

3) Describe the coaching behaviors used by high school agriculture teachers to coach the Floriculture Career Development Event team.

4) Describe the relationship between the fifteen coaching behaviors and the placing (rank) of the 2009 state Floriculture Career Development Event teams.

Research Design

The design used for this study was an ex post facto study. According to Ary, Jacobs, Razavieh, and Sorensen (2006), "The designation *ex post facto,* from Latin for "after the fact," indicates that ex post facto research is conducted after variation in the variable of interest has already been determined in the natural course of events" (p. 356). *Ex post Facto* studies were utilized when the variables could not be manipulated by the researcher (Ary et al., 2006). Variables may not have been manipulated because it was impossible or unethical to manipulate them (Ary et al., 2006). The researcher has observed the end result, which is the dependent variable. After the observed dependent variable, the researcher then moved backward to attempt to determine what caused the dependent variable. The cause of the dependent variable was the independent variable.

Subject Selection

Population and Sampling

For this study, the target population was secondary agriculture teachers in Missouri who coached a State Floriculture Career Development Event team in 2009. The population consisted of 51 secondary agriculture teachers ($N = 51$).

A census of the population was conducted, as opposed to sampling from the target population. This was done because of the small number of teachers in the population. Due to the availability of the contact information for all agriculture teachers in Missouri, all agriculture teachers who coached a 2009 State Floriculture Career Development Event team were included in the study.

Error Related to Subject Selection

Because a target population was used in the study, no sampling occurred. Since no sampling took place, no sampling error could occur. To avoid selection and frame error a list of agriculture teachers who coached a state Floriculture Career Development Event team in 2009 was compiled. This was done by contacting all schools which had a 2009 state Floriculture Career Development Event team. From this contact the teachers at each school were asked who coached the Floriculture team in 2009. This list was then compared to the 2009 – 21010 agriculture educator directory, to determine up-to-date contact information. This list was also compared to the directory from 2008 – 2009 to determine if any teachers had left the profession.

Institutional Review Board

According to federal regulations the Institutional Review Board reviews all research studies that involved human participants. This has been done to protect the individuals who participated in research studies. The University of Missouri's Institutional Review Board reviewed this study. This study was reviewed and received as exempt due to the minimal risk participants were exposed to through this study. The Institutional Review Board exemption approval number for this study was 1165837.

Instrumentation

Instrument

A web questionnaire (Appendix A) was the data collection instrument for this study. The questionnaire was distributed by e-mail to the population using the web-based questionnaire software, Survey Monkey™. The questionnaire consisted of three sections and a total of nine screen pages. The screen page of the questionnaire offered participants instructions for completing the questionnaire and prompted the participants to enter a participant code. This code was used track the respondents.

Section one consisted of 45 statements related to coaching behaviors. This section of the questionnaire was designed to measure the frequency of the coaching behaviors used by agriculture teachers while coaching a State Floriculture Career Development Event team in 2009. To develop the statements of this section, the building blocks of the Pyramid of Success™ were used. Each building block and its definition were put into a crosswalk and then examined to create the questions (Appendix B). To measure the frequency of behaviors, a 5-point Likert scale was utilized for each statement. The five points of frequency included:

never, rarely, sometimes, very often, and always and coded as 1, 2, 3, 4, and 5, respectively. To select the level of frequency, participants selected a radio button, associated with the appropriate frequency level.

Section two of the questionnaire consisted of questions related to the agriculture teacher's characteristics. These questions pertained to the teacher's sex, age, years of teaching agriculture education, years of coaching the Floriculture Career Development Event, number of classes taught related to the Floriculture Career Development Event, and whether they participated in the Floriculture Career Development Event as a student. The questions related to sex and participation in the Floriculture Career Development Event as a student were forced response questions. The questions related to age, years of teaching agricultural education, years of coaching the Floriculture Career Development Event, and the number of classes taught related to the Floriculture Career Development Event were open-ended response questions.

The third section of the questionnaire consisted of questions related to the characteristics of the students who competed on the State Floriculture Career Development Event team in 2009. This sections asked questions related to the students' sex, age, year in school, grade range, agriculture class enrolled in, whether they had competed in another CDE related to plant science, whether the competed in the Floriculture CDE at the district level before, the students' Supervised Agricultural Experience program, and whether they completed ay directed experience related to the Floriculture CDE. The agriculture teachers were asked to fill out the information regarding their students' characteristics. For this section each question had four parts, Team Member 1, Team Member 2, Team Member 3, and Team Member 4, each part representing one member of the Career Development Event

team. The agriculture teachers were asked to designate one part of the question to each team member and keep this constant throughout each question for this part of the questionnaire. The questions related to sex, year in school, grade range, previous Career Development Event experience, and directed experience the questions were forced responses. The questions related to age, agricultural class enrolled in, and the Supervised Agricultural Experience questions were all open-ended.

Validity Procedures

According to Ary, Jacobs, Razavich, and Sorensen (2006), "Validity is the most important consideration in developing and evaluating measuring instruments. Historically, validity is defined as the extent to which an instrument measured what it claimed to measure" (p. 243). The validity of the questionnaire was determined through a panel of experts who had expertise and knowledge in the area of agriculture education, Career Development Events, and statistics. The panel of experts consisted of University of Missouri faculty and one former agriculture educator (Appendix C). The members of the panel examined the questionnaire to determine its face and content validity. Face validity was defined as, "It should appear valid for its intended purpose" (Ary et al, 2006, p. 439). Content validity was defined as, "measuring what they are supposed to measure" (Ary et al., 2006, p. 440). In early February, the panel of experts was contacted by e-mail (Appendix D). This e-mail included the thesis problem statement and the research objectives. It also included the instrument crosswalk to add clarity for the panel of experts. The panel was asked to compare the construct definitions with the instrument statements, to determine if the statements lined up with the definitions. The panel was also asked to determine if the instrument statements

measured the Pyramid of Success™ building blocks. The members also reviewed the validity of the questionnaire related to agriculture education and Career Development Events.

The Panel of Experts reviewed the instrument and provided suggestions and comments regarding the face and construct validity. From them suggestions and comments, the instrument statements were reworded to measure the Pyramid of Success™ building blocks. Changes were also made to increase the clarity regarding the instrument directions and statements.

Reliability Procedures

According to Ary et al., (2006), "the reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring" (p. 254). Ary et al. stated regarding a pilot study, "This trial run, or pilot study, will, first of all help the researcher to decide whether the study is feasible and whether it is worthwhile to continue. It provides an opportunity to assess the appropriateness of the operational definitions and the research methodology" (p. 111-112).

Prior to sending out the online questionnaire to the agriculture teachers who coached a Floriculture Career Development Event team at the state level in 2009, a pilot study was conducted in mid February 2010. The pilot study consisted of sixteen agriculture teachers who were similar to the population of this study, but were not a part of it. The agriculture teachers in the pilot study coached a Floriculture Career Development Event team in 2009, which only competed at either the Northeast or Central district contest. The pilot study participants received the same web questionnaire the study population received.

To assess the reliability of the questionnaire the test-retest method was used for individual items and internal consistency method was used for the coaching behavior constructs. According to Ary et al., (2006), "An obvious way to estimate the reliability of a test is to administer it to the same group of individuals on tow occasions and correlate the sets of scores" (p.259). Twenty agriculture teachers were contacted by e-mail regarding their participation in the pilot study (Appendix E). From this twenty, sixteen teachers participated in the first questionnaire for the test methods. After these responses where received, a second e-mail was sent to the sixteen participants a week later. From these sixteen, fifteen teachers completed the retest portion of the pilot study.

From the sixteen participants of the pilot study, data for section one of the questionnaire were collected and analyzed to determine the reliability of the questionnaire. The data was analyzed using SPSS 17.0 for Windows and was analyzed to look at the percent agreement for each statement item. The results of the test-retest expressed, as percent agreement, ranged from 80% to 100%, with 98% of the questions falling in this range (Appendix F). One questionnaire statement was out of this range at 68.8% agreement. With the high range of percent agreement for section one data, the statements on the questionnaire related to coaching behaviors were not adjusted.

Reliability estimates were also calculated on the 15 coaching behavior constructs derived from three statement items. Of the 15 coaching behavior constructs, 11 yielded a Cronbach's alpha above .60. These coaching behavior constructs included: industriousness (α = .84), friendship (α = .68), loyalty (α = .85), cooperation (α = .79), enthusiasm (α = .74), self-control (α = .65), alertness (α = .65), initiative (α = .79), condition (α = .61), skill (α = .85), and confidence (α = .70). Four of the 15 coaching behavior constructs yielded

questionable reliability estimates: intentness (α = .12), team spirit (α = .11), poise (α = .18), and competitive greatness (α = .19). Because of the low reliability estimates of these constructs caution should be taken when interpreting their results.

Questions in section two and three sought to measure teacher and student characteristics. Because of the static nature of the data offered, these sections were not subject to reliability issues.

Data Collection

Procedures

The web questionnaire was delivered to the population via e-mail. The data collection process included five potential contact points: pre-notice e-mail, e-mail with link to web questionnaire, first reminder e-mail, second reminder e-mail, and third reminder e-mail. The pre-notice e-mail was sent to the population to ensure the correctness of the e-mails and to inform them of the upcoming invitation to participate in the study with e-mail with the web link. The pre-notice e-mail was sent on Friday, March 26th (Appendix G). The first e-mail sent which contained the web link to the web questionnaire was sent on Monday March 29th (Appendix G). This e-mail discussed the importance of the study and the benefit the agriculture teacher could see from the participation/completion of the study. This e-mail also discussed how their information was kept confidential and gave contact information if the participants had any questions regarding the questionnaire or study. This e-mail contained a participant code, which the agriculture teachers entered at the beginning of the questionnaire. The code was used for tracking respondents.

After 48 hours from the original e-mail being sent, the first reminder e-mail was sent to the remainder of the population who had yet to complete the questionnaire on Wednesday March 31st (Appendix G). The first reminder e-mail contained the web questionnaire link and a reminder of the importance of the study. The second reminder e-mail was sent out 48 hours after the first reminder e-mail on Friday, April 2nd (Appendix G). This e-mail again contained the link to the web questionnaire and contact information if the participants had any questions. The third and final e-mail reminder was sent on Tuesday April 6th (Appendix G). After the 5 points of contact 40 of the 51 (78.43%) agriculture teachers in the study submitted the online questionnaire and comprised the accepting sample.

Non-Response Error

Non-response error was a concern for this study. To increase responses from the population, multiple points of contact were made with the population. These points of contact discussed the importance of the study and also gave participants the web link to the web questionnaire. The response rate from the population was considerably large at 40 out of 51 participants (78.43%). Since the number of non-respondents was so small and many contact points were made to the population, the non-respondents were not contacted again regarding the study. Due to the very small likelihood that the non-respondents would complete the questionnaire after more contact points, non-response error was not addressed. Thus, these efforts yielded an accepting sample of 40. Because of the likely event of non-response error, care should be applied when extrapolating the findings to similar subjects.

Data Analysis

Data were analyzed for this study using SPSS 17.0 for Windows. To analyze the data, different types of descriptive statistics were used such as frequency, mean, standard deviation, range, and correlation.

Objective One

The first objective sought to describe the characteristics of the agriculture teachers in Missouri who taught a Floriculture Career Development Event team at the state level in 2009. The characteristics were described in terms of age, sex, years of teaching agriculture, classes taught related to Floriculture, years coaching the Floriculture Career Development Event, and previous Career Development Event experiences. Descriptive statistics were used to describe the demographics of the population of the study. Age, years of teaching agriculture, number of classes taught related to the Floriculture Career Development Event, and years coaching the Floriculture Career Development Event were all analyzed by mean, standard deviation, and range. Sex and previous Career Development Event experiences were analyzed by frequencies and percents.

Objective Two

Objective two sought to describe the characteristics of the students who participated in the State Floriculture Career Development Event in 2009. The characteristics were described in terms of age, sex, grade range, year in school, agricultural education class enrollment, and related experiences to the Floriculture Career Development Event. To receive data for this objective, the agriculture teachers of the population were asked to

describe the characteristics of their students. To analyze the data related to the student characteristics, frequencies and percent, as well as other descriptive statistic measures. Age was summarized by reporting the mean, standard deviation, and range. Sex, grade range, year in school, agricultural education class enrollment, and related experiences to the Floriculture Career Development Event were summarized using frequencies and percents

Objective Three

The third objective sought to describe the coaching behaviors used by the high school agriculture teachers to coach the 2009 Floriculture Career Development Event. To analyze this objective, each of the 15 coaching behavior constructs were summarized by means and standard deviations. The coaching behavior items were then grouped according to their corresponding Pyramid of Success™ coaching behavior building blocks. The coaching behavior building blocks were then summarized by percent, frequency, means, standard deviations, and range. They were then ranked from highest to lowest mean.

Objective Four

The fourth objective sought to describe the relationship between the fifteen coaching behaviors and the placing (rank) of the 2009 state Floriculture Career Development Event teams. In order to determine if a relationship exists, a *Spearmen rho* correlation was run between the fifteen building block coaching behaviors' means for every participant and the rank of their Career Development Event team. To describe the correlations Davis', Adjectives to Describe Correlations was utilized. A correlation of 1.00 was perfect, .70 to

.99 was very high, .50 to .69 was substantial, .30 to .49 was moderate, .10 to .29 is low, and .01 to .09 is negligible (Davis, 1971).

Chapter IV

Findings

This chapter presents the findings of the study by research objective.

Objective One

Research objective one sought to describe the characteristics of agriculture teachers in Missouri who taught a Floriculture Career Development Event team at the state level in 2009. Table 3 describes the teachers' characteristics.

Of the teacher in the study, 25 (62.50%) were male and the remaining 15 (37.50%) were female. Age of the teachers ranged from 25 to 51 years with a mean of 33.98 and a standard deviation of 7.30. In regards to the number of years teaching agricultural education, it ranged from 3 to 29 years with a mean of 10.70 and a standard deviation of 6.41. The teachers' years of coaching the Floriculture Career Development Event ranged from 1 to 22 years with a mean of 8.15 and a standard deviation of 5.71. The number of classes taught by the teachers, which related to the Floriculture Career Development Event ranged from 1 to 7 classes with a mean of 1.90 and a standard deviation of 1.27. In regards to the teachers' previous experience in the Floriculture Career Development Event as a student 12 (30.00%) teachers did compete in the Floriculture Career Development Event as a student, with 28 (70.00%) not having competed as a student.

Table 3

Characteristics of Teachers Who Coached a 2009 State Floriculture Career Development Event Team (*n* = 40)

Teacher Characteristic	*f*	%	*M*	*SD*	Range
Sex					
Male	25	62.50			
Female	15	37.50			
Age			33.98	7.30	25.00-51.00
Years teaching agricultural education			10.70	6.41	3.00-29.00
Years coaching the Floriculture CDE			8.15	5.71	1.00-22.00
Number of classes taught related to the Floriculture CDE			1.90	1.26	1.00-7.00
Teachers with Previous Experience in Floriculture CDE as student	12	30.00			

Objective Two

Research objective two sought to describe the characteristics of students who participated in the 2009 State Floriculture Career Development Event in terms of age, sex, year in school, grade range, agricultural education class enrollment, and related experience to the Floriculture Career Development Event. Table 4 describes the students' characteristics.

Table 4

Characteristics of Students Who Participated in the 2009 State Floriculture Career Development Event (n = 151)

Student Characteristic	*f*	%	*M*	*SD*	Range
Sex					
Female	128.00	84.77			
Male	23.00	15.23			
Age			16.66	0.91	14.00-18.00
Year In School					
9th Grade	14.00	9.93			
10th Grade	21.00	14.89			
11th Grade	57.00	40.43			
12th Grade	49.00	34.75			
Grade Range					
A's	43.00	30.50			
A's & B's	74.00	52.48			
B's	14.00	9.93			
B's & C's	10.00	7.09			
Agricultural Education Class Enrolled In Related to Floriculture CDE	103.00	75.18			
Number of students who competed in another plant science CDE	46.00	30.87			
Number of student who competed in the Floriculture CDE at the district level before	24.00	16.11			
Number of students with SAE Related to Floriculture CDE	11.00	7.80			
Number of directed experience related to the Floriculture CDE	35.00	25.00			

Of the students who participated on a 2009 State Floriculture Career Development event team, 128 (84.77%) were female and 23 (15.23%) were male. The age of the students ranged from 14 to 18 with a mean of 16.66 and a standard deviation of 0.91. In regards to students' year in school, 14 students (9.93%) were in the 9th grade, 21 students (14.89%) were in the 10th grade, 57 students (40.43%) were in the 11th grade, and 49 (34.75%) were in the 12th grade. For the students' grade range 43 students (30.50%) had A's, 74 students (52.48%) had A's and B's, 14 students (9.93%) had B's, and 10 students (7.09%) had B's and C's.

Additionally, students who were enrolled in an agricultural education class which was related to the Floriculture Career Development Event consisted of 103 (75.18%) and 34 students (24.82%) were enrolled in non-related classes. The number of students who previously participated in a plant science related Career Development event was 46 (30.87%) and 103 students (69.13) did not compete in another plant science related Career Development Event. 24 students (16.11%) had competed in the Floriculture Career Development Event at the district level before and 125 students (83.89%) had not. In regards to the students having a Supervised Agricultural Experience related to the Floriculture Career Development Event, 11 students (7.80%) had a related Supervised Agricultural Experience program and 130 (92.20%) had a non-related Supervised Agricultural Experience program. Students who completed directed experience hours related to the Floriculture Career Development Event were 35 (25.00%) and 105 (75.00%) did not complete any related directed experience hours.

Objective Three

Research objective three sought to describe the coaching behaviors used by the high school agricultural educator to coach the Floriculture Career Development Event. Table five describes the coaching behaviors used by agriculture teachers and are arranged the average mean frequency of use. The top five most frequently used coaching behaviors were friendship (M = 4.57; SD = 0.57), confidence (M = 4.47; SD = 0.48), enthusiasm (M = 4.44; SD = 0.64), team spirit (M = 4.43; SD = 0.58), and cooperation (M = 4.39; SD = 0.64).

The construct, friendship, was measured by the following constructs: I build rapport between the CDE team members and myself (M = 4.65; SD = 0.62), I build a mutual respect between the CDE team members and myself (M = 4.60; SD = 0.55), and I encourage the CDE team members to be devoted to each other (M = 4.45; SD = 0.78). Similarly, the construct, confidence, was measured by the following constructs: I respect but do not fear the competition (M = 4.53; SD = 0.60), I instill confidence in Floriculture CDE team members (M = 4.45; SD = 0.55), and when coaching I keep things in proper perspective (M = 4.43; SD = 0.55). Additionally, enthusiasm was measured by the following statements: I display enthusiasm when working with the CDE team members (M = 4.40; SD= 0.68), I believe my enthusiasm will positively impact the Floriculture CDE team members (M = 4.38; SD = 0.64), and I genuinely enjoy coaching the Floriculture CDE (M = 4.28; SD = 0.77). Whereas, team spirit was measured by the following constructs, I promote teamwork among the Floriculture CDE team members (M = 4.55; SD = 0.64), I encourage CDE team members to be considerate of one another (M = 4.50; SD = 0.68), and I focus on the whole CDE team's success as opposed to individual achievement (M = 4.25; SD = 0.71). Lastly, the construct, cooperation, was measured by the following constructs, I encourage the CDE team members

to work together (*M* = 4.53; *SD* = 0.55), I encourage the CDE team members avoid selfishness (*M* = 4.35; *SD* = 0.80), and I encourage the CDE team members to listen to each other (*M* = 4.30; *SD* = 0.79).

The bottom five and least used coaching behaviors were skill (*M* = 3.64; *SD* = 0.65), industriousness (*M* = 3.97; *SD* = 0.85), condition (*M* = 3.99; *SD* = 0.73), poise (*M* = 4.17; *SD* = 0.65), and initiative (*M* = 4.18; *SD* = 0.63). Skill was measured by the following constructs, I constantly find resources to develop the CDE team member's knowledge (*M* = 4.00; *SD* = 0.68), I cover every detail in preparing students for the Floriculture CDE contest, (*M* = 3.48; *SD* = 0.99), and I have mastered the content used in the Floriculture CDE contest (*M* = 3.45; *SD* = 0.81). Similarly, industriousness, was measured by the following constructs: in planning for the Floriculture CDE I put in extra time before or after school (*M* = 4.08; *SD* = 1.00), I put in extra time to take the CDE team members to resources outside of the school (*M* = 3.98; *SD* = 1.07), and I have a carefully planned approach for coaching the Floriculture CDE team (*M* = 3.85; *SD* = 1.00). Additionally, condition, was measured by the following constructed: I maintain a positive mental attitude towards my role in coaching the Floriculture CDE (*M* = 4.45; *SD* = 0.64), I encourage Floriculture CDE team members to be in good health, (*M* = 3.88; *SD* = 1.09), and I coach Floriculture CDE team members to eliminate unhealthy habits (*M* = 3.65; *SD* = 0.98). Whereas, poise, was measured by the following constructs: I am comfortable in my role as a Floriculture CDE coach (*M* = 4.35; *SD* = 0.80), I remain calm in every situation related to the Floriculture CDE (*M* = 4.05; *SD* = 0.71), and I work to manage the stress associated with coaching the Floriculture CDE (*M* = 4.10; *SD* = 0.78). Finally, the following statements measured initiative: I encourage Floriculture CDE team members to learn from failure (*M* = 4.45; *SD* = 0.68), I cultivate

independent decision-making among the Floriculture CDE team members (*M* = 4.15; *SD* = 0.74), and I encourage Floriculture CDE team members to learn from failure (*M* = 3.95; *SD* = 0.90).

Table 5

Use of Coaching Behaviors by Agriculture Teachers (n = 40)

	Level of Frequency											
	1		2		3		4		5			
Coaching Behavior Construct	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*M*	*SD*
Friendship											4.57	0.57
I build rapport between the CDE team members and myself.	1	2.50	1	2.50	9	22.50	12	30.00	17	42.50	4.65	0.62
I build a mutual respect between the CDE team members and myself.	0	0.00	4	10.00	11	27.50	12	30.00	13	32.50	4.60	0.55
I encourage the CDE team members to be devoted to each other.	1	2.50	3	7.50	8	20.00	12	30.00	16	40.00	4.45	0.78
Confidence											4.47	0.48
I respect but do not fear the competition.	0	0.00	0	0.00	1	2.50	14	35.00	25	60.00	4.53	0.60
I instill confidence in Floriculture CDE team members.	0	0.00	0	0.00	3	7.50	8	20.00	29	72.50	4.45	0.55
When coaching I keep things in proper perspective.	0	0.00	1	2.50	4	10.00	11	27.50	24	60.00	4.43	0.55

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always

Table 5 (Continued)

Coaching Behavior Construct	Level of Frequency 1 *f*	1 %	2 *f*	2 %	3 *f*	3 %	4 *f*	4 %	5 *f*	5 %	*M*	*SD*
Enthusiasm											4.44	0.64
I display enthusiasm when working with the CDE team members.	0	0.00	0	0.00	4	10.00	13	32.50	23	57.50	4.40	0.68
I believe my enthusiasm will positively impact the Floriculture CDE team members.	0	0.00	0	0.00	6	15.00	11	27.50	23	57.50	4.38	0.64
I genuinely enjoy coaching the Floriculture CDE.	0	0.00	0	0.00	9	22.50	15	37.50	16	40.00	4.28	0.77
Team Spirit											4.43	0.58
I promote teamwork among the Floriculture CDE team members.	0	0.00	0	0.00	1	2.50	17	42.50	22	55.00	4.55	0.64
I encourage CDE team members to be considerate of one another.	0	0.00	1	2.50	5	12.50	13	32.50	21	52.50	4.50	0.68
I focus on the whole CDE team's success as opposed to individual achievement.	0	0.00	1	2.50	5	12.50	15	37.50	19	47.50	4.25	0.71

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always.

Coaching Behavior Construct	Level of Frequency										*M*	*SD*
	1		2		3		4		5			
	f	%	*f*	%	*f*	%	*f*	%	*f*	%		
Cooperation											4.39	0.64

Table 5 (Continued)

I encourage the CDE team members to work together.	0	0.00	0	0.00	3	7.50	15	37.50	22	55.00	4.53	0.55
I encourage the CDE team members avoid selfishness.	0	0.00	0	0.00	7	17.50	12	30.00	21	52.50	4.35	0.80
I encourage the CDE team members to listen to each other.	0	0.00	0	0.00	4	10.00	12	30.00	24	60.00	4.30	0.79
Loyalty											4.36	0.64
I instill team loyalty between the CDE team members.	0	0.00	1	2.50	1	2.50	20	50.00	18	45.00	4.60	0.75
I promote dependability between the CDE team members.	0	0.00	0	0.00	4	10.00	16	40.00	20	50.00	4.48	0.68
I encourage interdependency among the CDE team members.	0	0.00	0	0.00	3	7.50	23	57.50	14	35.00	4.45	0.78

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always.

	Level of Frequency											
	1		2		3		4		5			
Coaching Behavior Construct	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*M*	*SD*
Competitive Greatness											4.36	0.59

Table 5 (Continued)

I coach the Floriculture CDE team members to be their best when it counts most.	0	0.00	0	0.00	4	10.00	15	37.50	21	52.50	4.28	0.75
I enjoy the challenges which come from coaching a Floriculture CDE team.	0	0.00	0	0.00	9	22.50	15	37.50	16	40.00	4.43	0.71
I believe best performances come from competitive situations.	0	0.00	0	0.00	4	10.00	16	40.00	20	50.00	4.38	0.67
Self-Control											4.35	0.48
I refrain from losing my temper while working with the Floriculture CDE team members.	0	0.00	1	2.50	5	12.50	21	52.50	13	32.50	4.40	0.67
I display a high level of self-discipline with coaching the Floriculture CDE team.	0	0.00	0	0.00	4	10.00	14	35.00	22	55.00	4.38	0.67
I display self-restraint in responding to undesirable CDE team member outcomes.	0	0.00	3	7.50	8	20.00	17	42.50	12	30.00	4.28	0.60

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always.

Coaching Behavior Construct	Level of Frequency											
	1		2		3		4		5			
	f	%	*f*	%	*f*	%	*f*	%	*f*	%	*M*	*SD*

Table 5 (Continued)

Alertness											4.33	0.64
I make adjustments in my coaching by observing the progress of the CDE team members.	1	2.50	2	5.00	7	17.50	16	40.00	14	35.00	4.43	0.68
I constantly monitor how the CDE team members are doing.	0	0.00	0	0.00	1	2.50	22	55.00	17	42.50	4.40	0.67
I constantly seek ways to improve my coaching skills for the Floriculture CDE.	0	0.00	0	0.00	4	10.00	20	50.00	16	40.00	4.18	0.78
Intentness											4.23	0.60
I set realistic goals for the Floriculture CDE team members.	0	0.00	0	0.00	3	7.50	16	40.00	21	52.50	4.40	0.55
I exemplify persistence to the Floriculture CDE team members.	0	0.00	6	15.00	10	25.00	16	40.00	8	20.00	4.30	0.65
I encourage Floriculture CDE team members to concentrate on its achievement by resisting temptations.	1	2.50	4	10.00	8	20.00	13	32.50	14	35.00	4.00	0.99

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always.

Coaching Behavior Construct	Level of Frequency										*M*	*SD*
	1		2		3		4		5			
	f	%	*f*	%	*f*	%	*f*	%	*f*	%		
Initiative											4.18	0.63

Table 5 (Continued)

I encourage Floriculture CDE team members to learn from failure.	2	5.00	3	7.50	14	35.00	16	40.00	5	12.50	4.45	0.68
I cultivate independent decision-making among the Floriculture CDE team members.	0	0.00	5	12.50	15	37.50	17	42.50	3	7.50	4.15	0.74
I coach Floriculture CDE team members to avoid fear of failure.	0	0.00	0	0.00	9	22.50	22	55.00	9	22.50	3.95	0.90
Poise											4.17	0.65
I am comfortable in my role as a Floriculture CDE coach.	0	0.00	0	0.00	6	15.00	18	45.00	16	40.00	4.35	0.80
I work to manage the stress associated with coaching the Floriculture CDE.	0	0.00	0	0.00	4	10.00	12	30.00	24	60.00	4.10	0.78
I remain calm in every situation related to the Floriculture CDE.	0	0.00	0	0.00	3	7.50	12	30.00	25	62.50	4.05	0.71

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always.

Table 5 (Continued)

Coaching Behavior Construct	Level of Frequency 1 *f*	1 %	2 *f*	2 %	3 *f*	3 %	4 *f*	4 %	5 *f*	5 %	*M*	*SD*
Condition											3.99	0.73
I maintain a positive mental attitude towards my role in coaching the Floriculture CDE.	0	0.00	2	5.00	2	5.00	16	40.00	20	50.00	4.45	0.64
I encourage Floriculture CDE team members to be in good health.	0	0.00	0	0.00	9	22.50	20	50.00	11	27.50	3.88	1.09
I coach Floriculture CDE team members to eliminate unhealthy habits.	0	0.00	1	2.50	7	17.50	19	47.50	13	32.50	3.65	0.98
Industriousness											3.97	0.85
In planning for the Floriculture CDE I put in extra time before or after school.	0	0.00	0	0.00	1	2.50	20	50.00	19	47.50	4.08	1.00
I put in extra time to take the CDE team members to resources outside of the school.	0	0.00	0	0.00	1	2.50	21	52.50	18	45.00	3.98	1.07
I have a carefully planned approach for coaching the Floriculture CDE team.	0	0.00	0	0.00	2	5.00	15	37.50	23	57.50	3.85	1.00

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always.

Coaching Behavior Construct	Level of Frequency											
	1		2		3		4		5			
	f	%	*f*	%	*f*	%	*f*	%	*f*	%	*M*	*SD*

Table 5 (Continued)

Skill											3.64	0.65
I constantly find resources to develop the CDE team member's knowledge.	0	0.00	0	0.00	4	10.00	17	42.50	19	47.50	4.00	0.68
I cover every detail in preparing students for the Floriculture CDE contest.	0	0.00	0	0.00	5	12.50	13	32.50	22	55.00	3.48	0.99
I have mastered the content used in the Floriculture CDE contest.	0	0.00	0	0.00	7	17.50	15	37.50	18	45.00	3.45	0.81

Note. Scale based upon 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Very Often, and 5 = Always.

Objective Four

Research objective four sought to describe the relationship between the fifteen coaching behaviors and the placing (rank) of the 2009 State Floriculture Career Development Event teams. For each relationship, a Spearman' rho correlation coefficient was calculated. The strengths of the correlations were described using Davis' (1971) descriptors. Table 6 displays the results arranged by level of magnitude.

Table 6

Correlation Between Teachers' Coaching Behaviors and Floriculture CDE Team Rank (n = 40)

Coaching Behavior	r_s	Magnitude
Industriousness	.73	Very High
Alertness	.48	Moderate
Friendship	.45	Moderate
Condition	.41	Moderate
Intentness	.34	Moderate
Competitive Greatness	.33	Moderate
Skill	.33	Moderate
Cooperation	.31	Moderate
Initiative	.30	Moderate
Confidence	.29	Low
Loyalty	.28	Low
Team Spirit	.25	Low
Poise	.19	Low
Enthusiasm	.16	Low
Self-Control	-.06	Negligible

Note. Davis (1971) correlation descriptors were used

Industriousness (r_s = .73) was the only coaching behavior which had a positive correlation and a magnitude of very high. Alertness (r_s = .48), friendship (r_s = .45), condition (r_s =.41), intentness (r_s =.34), competitive greatness (r_s =.33), skill (r_s =.33), cooperation (r_s =.31), and initiative (r_s =.30) had a positive and a moderate correlation. Confidence (r_s =.29), loyalty (r_s =.28), team spirit (r_s =.25), poise (r_s =.19), and enthusiasm (r_s =.16) had a positive and a low correlation. Self-control was the only coaching behavior, which had a negative and a negligible correlation with placing (rank) of the 2009 State Floriculture Career Development Event teams.

Chapter IV

Summary, Conclusions, and Recommendations

This chapter presents an overview of the study, including the purpose, objectives, population, instrumentation, and data collection. It also includes a summary of the findings for the research objectives. Finally, recommendation for action and further research will be discussed. Conclusions and recommendations can only be generalized to the sample.

Purpose of the Study

The purpose of this study was to determine agriculture teacher coaching behaviors related to students' team placing (rank) Floriculture Career Development Event. To guide this study, research objectives were developed.

Research Objectives

The research objectives for the study include the following:

1) Describe the characteristics of agriculture teachers in Missouri who prepared a Floriculture Career Development Event team in 2009 in terms of age, sex, years of teaching agriculture, classes taught related to Floriculture, years coaching Floriculture Career Development Event, and previous Career Development Event experiences.
2) Describe the characteristics of students who participated in the 2009 State Floriculture Career Development Event in terms of
    a. age,
    b. sex,
    c. grade range,

d. year in school,

e. agricultural education class enrollment, and

f. related experience to the Floriculture Career Development Event.

3) Describe the coaching behaviors used by the high school agricultural educator to coach the Floriculture Career Development Event.

4) Describe the relationship between the fifteen coaching behaviors and the placing (rank) of the 2009 State Floriculture Career Development Event teams.

Population

The target population for this study consisted of high school agriculture teachers who coached a 2009 State Floriculture Career Development Event team ($N = 51$). The frame of this study was obtained from the Missouri directory of agriculture teachers. Due to the small population size, a census was conducted of the population. Since a census was conducted no sampling was used.

Instrumentation

The coaching behaviors instrument was developed to measure the frequency of coaching behaviors used by agriculture teachers. The instrument was an online questionnaire delivered to the population through e-mail. The first section of the instrument consisted of statements related to the coaching behaviors used. In order to measure the frequency of the use of coaching behaviors, a 5-point Likert scale was utilized. To select the level of frequency, participants selected a radio button, associated with the appropriate frequency level. The second section of the instrument consisted of questions regarding the

characteristics of the agriculture teachers. These questions collected data regarding age, sex, years of teaching agricultural education, years of coaching the Floriculture Career Development Event, number of classes taught related to the competition, and related Career Development Event experience. This section consisted of open-ended questions and statements with radio buttons. The third section of the instrument collected data regarding the students' characteristics that competed on a 2009 State Floriculture Career Development Event team. This section collected data on the students' age, sex, grade in school, grade range, previous Career Development Event experience, Supervised Agricultural Experience, and directed experience hours. To collect this data open-ended questions and statements with radio buttons were both used.

Data Collection

To collect the data from the participants, five contact points were made. The first contact point was a pre-notice e-mail sent to all participants. This e-mail introduced the participants to the study. The second contact point was the first e-mail sent to the population with the link to the questionnaire. This e-mail also included their participant codes, the importance of the study, and contact information if the participants had any questions. The third contact point was the first reminder e-mail sent to participants who had yet to submit the questionnaire. This e-mail included the web questionnaire link, participant codes, and contact information. The fourth contact point was the second reminder e-mail sent to participants who had yet to submit the questionnaire. This e-mail contained the web questionnaire link, participant codes, and contact information. The final contact point was the third reminder e-mail sent. This e-mail contained the web questionnaire link, participant

codes, and contact information. Of the 51 agriculture teachers in the population, 40 (78.43%) completed the questionnaire and comprised the accepting sample.

Summary of the Findings with Conclusions, Implications, and Recommendations

Objective One

Of the agriculture teachers who coached a 2009 State Floriculture Career Development Event team, 25 (62.505) were males and 15 (37.50%) were females. In regards of the age of the participants who submitted the questionnaire the mean was 33.98 with a standard deviation of 7.30 and a range of 25 to 51. For the number of years teaching agricultural education, the mean was 10.70 with a standard deviation of 6.41 and a range of 3 to 29. Agriculture teachers had a mean of 8.15 with a standard deviation and a range of 1 to 22 for years of coaching the Floriculture Career Development Event. In regards to the number of classes taught related to the Floriculture Career Development Event, the mean was 1.90 with a standard deviation of 1.26 and a range of 1 to 7. In regard to whether the agriculture educator had competed in the Floriculture Career Development Event as a student, 12 (30.00%) had and 28 (70.00%) had not.

From these findings it can be concluded the typical agriculture educator in this study was male and was 33.98 years old. The typical educator had taught for 10.70 years and coached the Floriculture Career Development Event team for 8.15 years. The typical agriculture educator taught 1.9 classes related to the Floriculture Career Development Event and did not compete in the Floriculture Career Development Event as a student.

Objective Two

Of the students who competed on a 2009 State Floriculture Career Development Event team, 128 (84.77%) were female and 23 (15.23%) were male. In regards to the age of the students the mean was 16.66 with a standard deviation of 0.91 and a range of 14 to 18. For the students' year in school, 14 (9.93%) were in the 9th grade, 21 (14.89%) were in the 10th grade, 57 (40.43%) were in the 11th grade, and 49 (34.75%) were in the 12th grade. For the students' grade range, 43 (30.50%) had A's, 74 (52.48%) had A's and B's, 14 (9.93%) B's, and 10 (7.09%) had B's and C's.

The number of students who were enrolled in an agricultural education class, which was related to the Floriculture Career Development Event, was 103 (75.18%). In regards to whether the students had competed in another plant science related Career Development Event, 46 (30.87%) had competed. The number of students who had competed in the Floriculture Career Development Event prior to the 2009 district and state competition was 24 (16.11%). In regards to the students' Supervised Agricultural Experience, 11 (7.80%) students had Supervised Agricultural Experiences related to the Floriculture Career Development Event. Of the students who competed, 35 (25.00%) completed directed experience hours related to the Floriculture Career Development Event.

From these findings it can be concluded the typical student on a 2009 state Floriculture Career Development Event team was female, approximately 17 years old, and was in the 11th grade. The typical student had a grade range of A's and B's and was enrolled in an agricultural education class related to the Floriculture Career Development Event. The typical student had not competed in another plant science related Career Development Event or had previously competed in the Floriculture Career Development Event. The typical

student did not have a Supervised Agricultural Experience and did not complete any directed experience related to the Floriculture Career Development Event.

Objective Three

The five coaching behaviors with the highest means related to the frequency of use were friendship (M = 4.57; SD = 0.57), confidence (M = 4.47; SD = 0.48), enthusiasm (M = 4.44; SD = 0.64), team spirit (M = 4.43; SD = 0.58), and cooperation (M = 4.39; SD = 0.64). The least high coaching behaviors means related to the frequency of use were skill (M = 3.64, SD = 0.65), industriousness (M = 3.97, SD = 0.85), condition (M = 3.99, SD = 0.73), poise (M = 4.17, SD = 0.65), and initiative (M = 4.18, SD = 0.63). The five coaching behaviors with a middle level mean, which were used by agriculture teachers, were loyalty (M = 4.36, SD = 0.64), competitive greatness (M = 4.36, SD = 0.59), self-control (M = 4.35, SD = 0.48), alertness (M = 4.33, SD = 0.64), and intentness (M = 4.23, SD = 0.60).

From these findings it can be concluded the top five most frequently used coaching behaviors by agriculture teachers were friendship, confidence, enthusiasm, team spirit, and cooperation. The least used five coaching behaviors used by agriculture teachers were skill, industriousness, condition, poise, and initiative. The coaching behaviors with a middle frequency level by agriculture teachers were loyalty, competitive greatness, self-control, alertness, and intentness. It can also be concluded due to the different level of frequencies, each coaching behavior requires a different level of use.

The top five frequently used coaching behaviors appear to be reflective of motivational efforts. Through the use of these coaching behaviors, teachers appear to be motivating their team members. Four of the five top used behaviors make up part of the

foundation of the Pyramid of Success™. The foundation represents the base the Pyramid is built on, and this expresses the importance of these behaviors. This in turn expresses the importance of using motivating behaviors early in the team formation stage and throughout the team performance. The least used coaching behaviors appear to be reflective of personal ability. When used these coaching behaviors focused on increasing the personal ability of the Floriculture Career Development Event team members. The middle five behaviors are used less by teachers, but still held some value since they had a higher frequency then the last five. The mid-level behaviors appear to be reflective of personal attributes of the Floriculture Career Development Event team members. Each coaching behavior will have a different level of use depending on the agriculture teacher.

Therefore, it is recommended for teachers to use these coaching behaviors related to motivation, personal ability, and personal attributes with varied frequency. For teachers who wish to motivate their team members, it would be recommended to use the top five coaching behaviors: friendship, confidence, enthusiasm, team spirit, and cooperation. Due to four of these behaviors being part of the Pyramid's foundation, it is recommended to use these behaviors at the beginning and all through the competitive process. For teachers who wish to focus on personal ability, it would be recommended to use to last five behaviors: skill, industriousness, condition, poise, and initiative. For teachers who wish to focus on personal attributes, it would be recommended to use the middle five coaching behaviors: loyalty, competitive greatness, self-control, alertness, and intentness. It is also recommended to use the behaviors at different frequency levels. Students have to be motivated throughout the entire competition process so in turn the behaviors related to motivation will be used more frequently. Coaching behaviors related to personal ability and attributes, perhaps should

used less frequently and at strategic times in preparing students to compete in the Career Development Events.

These coaching behaviors can be further developed through in-service workshops. These workshops should be available to the largest number of agriculture teachers at one time, which would be the Missouri Vocational Agricultural Teachers Association Summer Conference. These workshops should be a joint effort between agriculture teachers and agriculture teachers who have been successful in Career Development Events from around Missouri. These workshops should focus on teaching all of the coaching behaviors with a focus on the top five most frequently used.

Objective Four

To determine the relationship between the coaching behaviors (15) and the placing (rank) of the Floriculture Career Development Event teams, correlations were calculated. Of the fifteen coaching behaviors, fourteen were positively correlated to the team placing. These fourteen coaching behaviors were industriousness, alertness, friendship, condition, intentness, competitive greatness, skill, cooperation, initiative, confidence, loyalty, team spirit, poise, and enthusiasm. The only coaching behavior to have a negative correlation is self-control. Of the fifteen coaching behaviors, nine had a magnitude of very high or moderate. Industriousness had a magnitude of very high and alertness, friendship, condition, intentness, competitive greatness, skill, cooperation, and initiative all had a magnitude of moderate. Six of the fifteen behaviors had a magnitude of low or negligible. Confidence, loyalty, team spirit, poise, and enthusiasm all had a low magnitude. Self-control had a magnitude of negligible.

From these findings it can be concluded that the 15 coaching behaviors do not equally influence team ranking, rather some coaching behaviors can be considered more important than other based upon their level of influence. All the coaching behaviors except self-control, positively affect the placing of the Floriculture Career Development Event. It is also concluded nine (industriousness, alertness, friendship, condition, intentness, competitive greatness, skill, cooperation, and initiative) of the 15 coaching behaviors have a greater affect on the placing of the teams, compared to the six coaching behaviors (confidence, loyalty, team spirit, poise, enthusiasm, and self-control) with a magnitude of low or negligible.

Because of the positive correlation of the 14 coaching behaviors, these will positively affect the placing of the teams. When used, these behaviors will influence the placing of the Floriculture Career Development Event team. The more these behaviors are used the greater the benefit is for the Career Development Event team. Team success is dependent on the use of successful coaching behaviors (Becker & Wrisberg, 2008). With the negatively correlated behavior, the more it is used, the lower the placing will be or the less it is used the higher the placing will be. Or said differently, these behaviors are counterproductive. These behaviors would not benefit the Career Development Event team placing if used by the agriculture educator. With the very high or moderate correlation magnitude, the greater the relationship is between those behaviors and the team placing. These behaviors will have the greatest benefit to the Career Development Event teams' placing. Compared to the lower correlations, the more these are used the higher the rank will be. The behaviors with lower correlations will require more use to increase the rank then the higher correlated behaviors. These behaviors will have less of a benefit than the higher correlated behaviors.

Therefore, it is recommended to use all of the behaviors, which have a positive correlation. Since, these are positively correlated, when they are used the Floriculture Career Development Event rank should be higher. Moreover, it is also recommended to use the coaching behaviors with the highest correlations most frequently. The more these are used the more the individual scores and team placing will increase. An increase of the individual scores and team placing will help more students pass the technical skills assessment. This will in turn help agriculture teachers and agricultural education programs increase the ability to receive their Perkins Act funding (DESE, 2010). Increasing student scores and team placing will also help students receive more rewards and recognition through the Career Development Events (National FFA Organization, 2006). These coaching behaviors can be further developed through in-service workshops. These workshops need to be available to the largest number of agriculture teachers at one time, which would be the Missouri Vocational Agricultural Teachers Association Summer Conference. These workshops should be a joint effort between agriculture teachers and agriculture teachers who have been successful in Career Development Events from around Missouri. This workshop should build upon the nine highest correlated behaviors.

Recommendations for Future Research

Due to the development of Technical Skill Assessments, student rewards, and student recognitions Career Development Events have gained much importance in the past few years. Missouri was using the Career Development Events as a way to have measured the knowledge students' have retained from their agricultural education classes (DESE, 2010). Career Development Events are also being used as a way to make agricultural education

departments and agriculture teachers more accountable (DESE, 2010). Through successful Career Development Event teams students can receive many different types of rewards and recognition (National FFA Organization, 2006). These circumstances have put a great deal of emphasis on the success of Career Development Event teams in the past few years.

Due to the increased emphasis on the success of Career Development Event teams, much research needs to be conducted related to the Career Development Events. First, research needs to be conducted on what educator characteristics have the greatest affect on how well their Career Development Event teams do. Secondly, research also needs to be conducted on what student characteristics make their teams more successful than others. Much more research needs to be conducted on what coaching behaviors are used by agriculture teachers, and their relationship with the team placing. Due to the recent use of Career Development Events as a way for programs and teachers to be accountable, much research is needed to determine if Career Development Events are a way to assess the agricultural education curriculum. Even though this study focused on the Floriculture Career Development Event, research is needed in all of the different Career Development Event areas.

Much research is needed related to Career Development Events, due to the increased amount of importance placed on them. Much research is needed related to teacher and student characteristics. Research is also needed related to coaching behaviors used and if Career Development Events are an effective assessment tool. Research is needed related to the Floriculture and all Career Development Event areas.

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Appendices

Appendix A:

Web-based Coaching Behaviors Questionnaire

1. Introduction (Screen 1 of 1)

This study will investigate the frequency of the coaching behaviors used by agriculture educators when coaching Floriculture CDE teams. All responses will be confidential. The web questionnaire is composed of three (3) sections. Section I seeks to asses your coaching behaviors, section II seeks to obtain the characteristics of the respondents, and Section III hopes to measure student related information.

Please proceed with your participation by clicking the "next" button after you enter your participant number below.

1. Please enter your participant code here:

2. Behaviors Used in Coaching Floriculture CDE Teams (Screen 1 of 5)

Directions:

This section contains statements regarding the coaching behaviors exhibited by agriculture educators who coached a Floriculture CDE team. Please select the response by clicking the radio button that you feel best describes the level of frequency which you exhibit when coaching.

2. In planning for the Floriculture CDE I put in extra time before or after school.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

3. I have a carefully planned approach for coaching the Floriculture CDE team.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

4. I put in extra time to take the CDE team members to resources outside of the school.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

5. I build rapport between the CDE team members and myself.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

6. I build a mutual respect between the CDE team members and myself.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

7. I encourage the CDE team members to be devoted to each other.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

8. I promote dependability between the CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

9. I instill team loyalty between the CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

10. I encourage interdependency among the CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

11. I encourage the CDE team members to listen to each other.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

3. Behaviors Used in Coaching Floriculture CDE Teams (Screen 2 of 5)

12. I encourage the CDE team members to work together.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

13. I encourage the CDE team members avoid selfishness.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

14. I display enthusiasm when working with the CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

15. I believe my enthusiasm will positively impact the Floriculture CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

16. I genuinely enjoy coaching the Floriculture CDE.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

17. I refrain from losing my temper while working with the Floriculture CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

18. I display a high level of self-discipline with coaching the Floriculture CDE team.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

19. I display self-restraint in responding to undesirable CDE team member outcomes.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

20. I constantly monitor how the CDE team members are doing.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

21. I make adjustments in my coaching by observing the progress of the CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

4. Behaviors Used in Coaching Floriculture CDE Teams (Screen 3 of 5)

22. I constantly seek ways to improve my coaching skills for the Floriculture CDE.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

23. I cultivate independent decision-making among the Floriculture CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

24. I encourage Floriculture CDE team members to learn from failure.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

25. I coach Floriculture CDE team members to avoid fear of failure.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

26. I set realistic goals for the Floriculture CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

27. I encourage Floriculture CDE team members to concentrate on its achievement by resisting temptations.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

28. I exemplify persistence to the Floriculture CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

29. I maintain a positive mental attitude towards my role in coaching the Floriculture CDE.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

30. I encourage Floriculture CDE team members to be in good health.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

31. I coach Floriculture CDE team members to eliminate unhealthy habits.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

5. Behaviors Used in Coaching Floriculture CDE Teams (Screen 4 of 5)

32. I have mastered the content used in the Floriculture CDE contest.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

33. I cover every detail in preparing students for the Floriculture CDE contest.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

34. I constantly find resources to develop the CDE team member's knowledge.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

35. I focus on the whole CDE team's success as opposed to individual achievement.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

36. I promote teamwork among the Floriculture CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

37. I encourage CDE team members to be considerate of one another.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

38. I am comfortable in my role as a Floriculture CDE coach.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

39. I remain calm in every situation related to the Floriculture CDE.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

40. I work to manage the stress associated with coaching the Floriculture CDE.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

41. I instill confidence in Floriculture CDE team members.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

6. Behaviors Used in Coaching Floriculture CDE Teams (Screen 5 of 5)

42. I respect but do not fear the competition.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

43. When coaching I keep things in proper perspective.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

44. I believe best performances come from competitive situations.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

45. I coach the Floriculture CDE team members to be their best when it counts most.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

46. I enjoy the challenges which come from coaching a Floriculture CDE team.

○ Never ○ Rarely ○ Sometimes ○ Very Often ○ Always

7. Teacher Characteristics (Screen 1 of 1)

This section consists of questions related to your characteristics. Please fully answer the questions by selecting the appropriate choice or filling in the blanks.

47. Sex:

○ Male ○ Female

48. Age:

49. Years of Teaching Agricultural Education, including this year:

50. Years of Coaching the Floriculture CDE, including this year:

51. Classes taught related to the Floriculture CDE:

52. Did you compete in the Floriculture CDE as a student?

○ Yes ○ No

8. Student Characteristics (Screen 1 of 1)

This section consists of questions related to the characteristics of the team members on the 2009 Floriculture CDE team. For this section four parts are given for each question. Each part is designated by a team member number. Please designate each of the team members to one number and keep this constant throughout this section. If the team had four team members, all blanks should be filled. If the team only consisted of three members the last blank should be left blank. Please fully answer the questions by selecting the proper choice or filling in the blanks for each team members.

53. Team member sex:

	Team Member 1	Team Member 2	Team Member 3	Team Member 4
Male	☐	☐	☐	☐
Female	☐	☐	☐	☐

54. Team Member Age (At the time of the contest):

Team Member 1	
Team Member 2	
Team Member 3	
Team Member 4	

55. Team Member Year in School (At the time of the contest):

	Team Member 1	Team Member 2	Team Member 3	Team Member 4
9th Grade	☐	☐	☐	☐
10th Grade	☐	☐	☐	☐
11th Grade	☐	☐	☐	☐
12th Grade	☐	☐	☐	☐

56. Team Member Grade Range (At the time of the contest):

	Team Member 1	Team Member 2	Team Member 3	Team Member 4
A's	☐	☐	☐	☐
A's & B's	☐	☐	☐	☐
B's	☐	☐	☐	☐
B's & C's	☐	☐	☐	☐
C's	☐	☐	☐	☐
C's & D's	☐	☐	☐	☐
D's	☐	☐	☐	☐
D's & F's	☐	☐	☐	☐
F's	☐	☐	☐	☐

57. Agricultural Education Class Enrolled in (At the time of the contest):

Team Member 1	
Team Member 2	
Team Member 3	
Team Member 4	

58. Has the team member competed in another plant science related CDE?

	Team Member 1	Team Member 2	Team Member 3	Team Member 4
Yes	☐	☐	☐	☐
No	☐	☐	☐	☐

59. Has the team member competed in the district level Floriculture CDE contest before?

	Team Member 1	Team Member 2	Team Member 3	Team Member 4
Yes	☐	☐	☐	☐
No	☐	☐	☐	☐

60. Team Member's Supervised Agricultural Experience Program:

Team Member 1 _____

Team Member 2 _____

Team Member 3 _____

Team Member 4 _____

61. Has the team member completed any direct experience hours related to the Floriculture CDE?

	Team Member 1	Team Member 2	Team Member 3	Team Member 4
Yes	☐	☐	☐	☐
No	☐	☐	☐	☐

Appendix B:

Instrument Crosswalk

Table 7

Thesis Instrument Crosswalk

Instrument Statement	Construct	Construct Definition
In planning for the Floriculture CDE I put in extra time before or after school.	Industriousness	There is no substitute for work. Worthwhile results come from hard work and careful planning.
I have a carefully planned approach for coaching the Floriculture CDE team.		
I put in extra time to take the CDE team members to resources outside of the school.		
I build rapport between the CDE team members and myself.	Friendship	Comes from mutual esteem, respect, and devotion. Like marriage, it must not be taken for granted but requires a joint effort.
I build a mutual respect between the CDE team members and myself.		
I encourage the CDE team members to be devoted to each other.		
I promote dependability between the CDE team members.	Loyalty	To yourself and all those depending upon you. Keep your self-respect.
I instill team loyalty between the CDE team members.		
I encourage interdependency among the CDE team members.		

Table 7 (Continued)

Instrument Statement	Construct	Construct Definition
I encourage the CDE team members to listen to each other.	Cooperation	Will all levels of your coworkers. Listen if you want to be heard. Be interested in finding the best way, not in having your own way.
I encourage the CDE team members to work together.		
I encourage the CDE team members avoid selfishness.		
I display enthusiasm when working with the CDE team members.	Enthusiasm	Brushes off upon those with whom you come in contact. You must truly enjoy what you are doing.
I believe my enthusiasm will positively impact the Floriculture CDE team members.		
I genuinely enjoy coaching the Floriculture CDE.		
I refrain from losing my temper while working with the Floriculture CDE team members.	Self-Control	Practice self-discipline and keep emotions under control. Good judgment and common sense are essential.
I display a high level of self-discipline with coaching the Floriculture CDE team.		
I display self-restraint in responding to undesirable CDE team member outcomes.		
I constantly monitor how the CDE team members are doing.	Alertness	Be observing constantly. Stay open minded. Be eager to learn and improve.

Table 7 (Continued)

Instrument Statement	Construct	Construct Definition
I make adjustments in my coaching by observing the progress of the CDE team members.		
I constantly seek ways to improve my coaching skills for the Floriculture CDE.		
I cultivate independent decision-making among the Floriculture CDE team members.	Initiative	Cultivate the ability to make decisions and think alone. Do not be afraid of failure, but learn from it.
I encourage Floriculture CDE team members to learn from failure.		
I coach Floriculture CDE team members to avoid fear of failure.		
I set realistic goals for the Floriculture CDE team members.	Intentness	Set a realistic goal. Concentrate on its achievement by resisting all temptations and being determined and persistent.
I encourage Floriculture CDE team members to concentrate on its achievement by resisting temptations.		
I exemplify persistence to the Floriculture CDE team members.		
I maintain a positive mental attitude towards my role in coaching the Floriculture CDE.	Condition	Mental-moral-physical. Rest, exercise, and diet must be considered. Moderation must be practiced. Dissipation must be eliminated.
I encourage Floriculture CDE team members to be in good health.		

Table 7 (Continued)

Instrument Statement	Construct	Construct Definition
I coach Floriculture CDE team members to eliminate unhealthy habits.		
I have mastered the content used in the Floriculture CDE contest.	Skill	A knowledge of and the ability to properly and quickly execute the fundamentals. Be prepared and cover every little detail.
I cover every detail in preparing students for the Floriculture CDE contest.		
I constantly find resources to develop the CDE team member's knowledge.		
I focus on the whole CDE team's success as opposed to individual achievement.	Team Spirit	A genuine consideration for others. An eagerness to sacrifice personally interest of glory for the welfare of all.
I promote teamwork among the Floriculture CDE team members.		
I encourage CDE team members to be considerate of one another.		
I am comfortable in my role as a Floriculture CDE coach.	Poise	Just being yourself. Being at ease in any situation. Never fighting yourself.
I remain calm in every situation related to the Floriculture CDE.		
I work to manage the stress associated with coaching the Floriculture CDE.		

Table 7 (Continued)

Instrument Statement	Construct	Construct Definition
I instill confidence in Floriculture CDE team members.	Confidence	Respect without fear. May come from being prepared and keeping all things in proper perspective.
I respect but do not fear the competition.		
When coaching I keep things in proper perspective.		
I believe best performances come from competitive situations.	Competitive Greatness	Be at your best when your best is needed. Enjoyment of a difficult challenge.
I coach the Floriculture CDE team members to be their best when it counts most.		
I enjoy the challenges which come from coaching a Floriculture CDE team.		

Appendix C:

Table of Experts for Panel of Experts

Table 8

Panel of Experts

Name	Department	Position	Expertise Area
Dr. Robert Torres	Agricultural Education	Professor	Agricultural Education/ Career Development Events/ Statistics
Dr. Rob Terry	Agricultural Education	Professor	Agricultural Education/ Career Development Events
Dr. Anna Ball	Agricultural Education	Professor	Agricultural Education/ Career Development Events
Dr. Christopher Starbuck	Plant Science	Professor	Career Development Events
Dr. David Trinklein	Plant Science	Professor	Career Development Events
Erica Thieman	Agricultural Education	Former Agriculture Educator	Agricultural Education/ Career Development Events

Appendix D:

Letters Sent to Panel of Experts

Sent to the Panel of Experts by E-mail

(Date)

Dear (insert name):

My name is Amanda Bowling, I am an Agricultural Educator at South Callaway and a masters student at the University of Missouri currently working on my thesis. I will be conducting an ex post facto study looking at the relationship between the coaching methods used by agricultural educators and the rankings of their state Floriculture Career Development Event team. Since you are a former high school agricultural educator, your knowledge and experiences will be very beneficial resources for my "panel of experts". Currently, I am in the final stage of preparing the data collection instrument for my thesis and would appreciate your input in determining the validity of the instrument. I realize that this is a busy time of year, however I hope you will be able to assist me with this.

I would greatly appreciate your feedback regarding both construct and face validity of the instrument I will be using. The instrument will be delivered in an online format, and I have included the link to the questionnaire at the bottom of this email. The item statements in the questionnaire have been developed from 15 coaching behaviors identified by former UCLA Basketball Coach John Wooden. For the 15 coaching behaviors, three item statements have been developed. When the instrument goes out to the population, I want to drop one item statement from each coaching method to decrease the length of the instrument. With your knowledge and expertise please select the one item statement from each coaching behavior, which you feel should be removed. To help you determine this, I have attached a document, which states the coaching behaviors, the author's definitions, and the item statement number, which they are associated with. Also please comment on word choice, ambiguity, and whether the item statements line up with the coaching behaviors. To help with this process I have attached a document with my purpose statement, hypothesis, and objectives.

To address face validity please address the general appearance and affect of the questionnaire. There are three sections to the questionnaire. The first section consists of questions looking at the frequency of coaching behaviors used. The second section contains questions about the agricultural educator's characteristics. The third section contains questions related to the CDE team members' characteristics. So you can see all of the pages, no questions have to have responses.

Feel free to draft comments or concerns in a reply message to this email. Also, in this email please include the number of the 15 questions, which should be removed from the questionnaire. If you have any questions please contact me at ambwd6@mail.missouri.edu or at 636-359-3231. I would appreciate feedback by Thursday, February 4th. I realize this is a tight timeline, and if you are unable to participate, I understand.

Thanks in advance for your help with this. Hopefully, with your feedback, the questionnaire will be useful in determining the affects of the coaching behaviors used on the rank of the state Floriculture CDE teams.
Survey URL:
http://www.surveymonkey.com/s/X29QY6N

Amanda Bowling
Masters Student
Department of Agricultural Education
University of Missouri

(Date)

Dear (insert name):

My name is Amanda Bowling, I am an Agricultural Educator at South Callaway and a masters student at the University of Missouri currently working on my thesis. I will be conducting an ex post facto study looking at the relationship between the coaching methods used by agricultural educators and the rankings of their state Floriculture Career Development Event team. Since you are a university supervisor for one of the state level Career Development Events, your knowledge and experiences will be very beneficial resources for my "panel of experts". Currently, I am in the final stage of preparing the instrument for my thesis and would appreciate your input in determining the validity of the instrument. I realize that this is a busy time of year, however I hope you will be able to assist me with this.

I would greatly appreciate your feedback regarding both construct and face validity of the instrument I will be using. The instrument will be delivered in an online format, and I have included the link to the questionnaire at the bottom of this email. The item statements in the questionnaire have been developed from 15 coaching behaviors identified by former UCLA Basketball Coach John Wooden. For the 15 coaching behaviors, three item statements have been developed. When the instrument goes out to the population, I want to drop one item statement from each coaching method to decrease the length of the instrument. With your knowledge and expertise please select the one item statement from each coaching behavior, which you feel should be removed. To help you determine this, I have attached a document, which states the coaching behaviors, the author's definitions, and the item statement number, which they are associated with. Also please comment on word choice, ambiguity, and whether the item statements line up with the coaching behaviors. To help with this process I have attached a document with my purpose statement, hypothesis, and objectives.

To address face validity please address the general appearance and affect of the questionnaire. There are three sections to the questionnaire. The first section consists of questions looking at the frequency of coaching behaviors used. The second section contains questions about the agricultural educator's characteristics. The third section contains questions related to the CDE team members' characteristics. So you can see all of the pages, no questions have to have responses.

Feel free to draft comments or concerns in a reply message to this email. Also, in this email please include the number of the 15 questions, which should be removed from the questionnaire. If you have any questions please contact me at ambwd6@mail.missouri.edu or at 636-359-3231. I would appreciate feedback by Thursday, February 4th. I realize this is a tight timeline, and if you are unable to participate, I understand.

Thanks in advance for your help with this. Hopefully, with your feedback, the questionnaire will be useful in determining the affects of the coaching behaviors used on the rank of the state Floriculture CDE teams.
Survey URL:

http://www.surveymonkey.com/s/X29QY6N

Amanda Bowling
Masters Student
Department of Agricultural Education
University of Missouri

Appendix E:

Letters Sent to Pilot Study

Sent to Pilot Study by E-mail

(Date)

Dear (Insert name):

My name is Amanda Bowling, I am an high school agriculture educator in the Northeast District and a masters student at the University of Missouri currently working on my thesis. I am investigating the coaching behaviors used by high school agriculture teachers when preparing a Career Development Team for competition. You have been identified as a coach to a Floriculture 2009 CDE team, and have been selected to participate in this pilot study. The pilot study will assist me in developing the questionnaire to obtain valid and reliable results. Listed below is the link to the web questionnaire I will be using for the data collection phase of my thesis. I would greatly appreciate if you would take a few minutes to complete the web questionnaire and submit it by March 3rd.

I am establishing a test-retest reliability so once I receive your responses, I will wait about one week and share the questionnaire to you to complete a second time. You will be asked to complete the exact questionnaire a second time; thus enabling me to establish reliability for each question. I know that spring schedules are hectic; however, I hope that you can take a few minutes to assist me in this effort. Your expertise and experience will help me greatly.

All responses will be kept confidential and reported only as group results for establishing reliability. I would like to say thank you in advance. Please enter the following participant code when prompted: (code).

Please proceed to the web questionnaire by clicking the following hyperlink: http://www.surveymonkey.com/s/X29QY6N.

If you have any questions, I can be reached via email at amanda.bowling@sc.k12.mo.us or by phone at 636-359-3231. If you are unable to assist in this process, please contact me and let me know.

Thank you for your participation,

Amanda Bowling
Masters Student
Department of Agricultural Education
University of Missouri

(Date)

Dear (Insert name):

I want to thank you for participating in the pilot testing for my thesis questionnaire. As stated in the previous email, I am using the test-retest method to establish reliability of the instrument. I am asking you to complete the same questionnaire for the second time. This will allow me to compare your first and second answers, thus determining if the questions are reliable. As with the first part of pilot study I have included the link to the survey. Please complete the questionnaire and submit it by Thursday March 11th. Please enter your participant code when prompted: (code).

After completing the questionnaire a second time, your participation in the pilot study will be complete. Again, all responses will be kept confidential. If you have any questions, please contact by email at amanda.bowling@sc.k12.mo.us or by phone at 636-359-3231. Thank you so much for your participation in my pilot testing.

Survey URL:
http://www.surveymonkey.com/s/X29QY6N

Sincerely,

Amanda Bowling
Masters Student
Department of Agricultural Education
University of Missouri

Appendix F:
Percent Agreement of Pilot Study
Used to Determine the Reliability of the Instrument

Table 9

Pilot Study Percent Agreement for the Instrument Statements

Instrument Statement	Percent (%) Agreement
1. In planning for the Floriculture CDE I put in extra time before or after school.	100.00
2. I have a carefully planned approach for coaching the Floriculture CDE team.	93.10
3. I put in extra time to take the CDE team members to resources outside of the school.	93.30
4. I build rapport between the CDE team members and myself.	100.00
5. I build a mutual respect between the CDE team members and myself.	93.30
6. I encourage the CDE team members to be devoted to each other.	100.00
7. I promote dependability between the CDE team members.	93.40
8. I instill team loyalty between the CDE team members.	100.00
9. I encourage interdependency among the CDE team members.	100.00
10. I encourage the CDE team members to listen to each other.	93.40
11. I encourage the CDE team members to work together.	100.00
12. I encourage the CDE team members to work together.	100.00
13. I encourage the CDE team members avoid selfishness.	100.00
14. I display enthusiasm when working with the CDE team members.	100.00
15. I believe my enthusiasm will positively impact the Floriculture CDE team members.	100.00
16. I genuinely enjoy coaching the Floriculture CDE.	100.00
17. I refrain from losing my temper while working with the Floriculture CDE team members.	86.70
18. I display a high level of self-discipline with coaching the Floriculture CDE team.	92.80

Table 9 (Continued)

Instrument Statement	Percent (%) Agreement
19. I display self-restraint in responding to undesirable CDE team member outcomes.	100.00
20. I constantly monitor how the CDE team members are doing.	93.30
21. I make adjustments in my coaching by observing the progress of the CDE team members.	100.00
22. I constantly seek ways to improve my coaching skills for the Floriculture CDE.	100.00
23. I cultivate independent decision-making among the Floriculture CDE team members.	100.00
24. I encourage Floriculture CDE team members to learn from failure.	100.00
25. I coach Floriculture CDE team members to avoid fear of failure.	100.00
26. I set realistic goals for the Floriculture CDE team members.	100.00
27. I encourage Floriculture CDE team members to concentrate on its achievement by resisting temptations.	86.70
28. I exemplify persistence to the Floriculture CDE team members.	93.30
29. I maintain a positive mental attitude towards my role in coaching the Floriculture CDE.	93.30
30. I encourage Floriculture CDE team members to be in good health.	68.80
31. I coach Floriculture CDE team members to eliminate unhealthy habits.	80.00
32. I have mastered the content used in the Floriculture CDE contest.	100.00
33. I cover every detail in preparing students for the Floriculture CDE contest.	93.30
34. I constantly find resources to develop the CDE team member's knowledge.	100.00

Table 9 (Continued)

Instrument Statement	Percent (%) Agreement
35. I focus on the whole CDE team's success as opposed to individual achievement.	93.30
36. I promote teamwork among the Floriculture CDE team members.	92.80
37. I encourage CDE team members to be considerate of one another.	93.30
38. I am comfortable in my role as a Floriculture CDE coach.	93.40
39. I remain calm in every situation related to the Floriculture CDE.	93.40
40. I work to manage the stress associated with coaching the Floriculture CDE.	100.00
41. I instill confidence in Floriculture CDE team members.	100.00
42. I respect but do not fear the competition.	100.00
43. When coaching I keep things in proper perspective.	100.00
44. I believe best performances come from competitive situations.	92.80
45. I coach the Floriculture CDE team members to be their best when it counts most.	92.90
46. I enjoy the challenges which come from coaching a Floriculture CDE team.	100.00

Appendix G:

Data Collection Letters

Submitted to the Population by E-mail

Dear (Insert Name):

In a few days you will be receiving an e-mail requesting your participation regarding a study I am conducting. The study will be investigating the coaching behaviors used by agriculture educators when coaching the Floriculture CDE. The outcome of this study will yield meaningful information about coaching practices. Your participation will only require a small amount of your time. The e-mail you receive will contain the web link to the online questionnaire. Please contact me if you have any questions.
I look forward to your participation.

Sincerely,

Amanda Bowling
South Callaway Agricultural Instructor and FFA Advisor
10135 State Road C
Mokane, MO 65059
Office: 573-676-5211
Cell: 1-636-359-3231

Dear (Insert Name):

My name is Amanda Bowling, I am an agriculture educator in the Northeast district and I am currently working on a research project at the University of Missouri where I am investigating agriculture educator's coaching behaviors while training the Floriculture CDE team. You have been selected to participate in a study. The findings of this study will help agriculture educators better coach their future Floriculture CDE teams.

Below is the link to the web questionnaire which consists of three sections. The first section pertains to the coaching behaviors used while coaching the Floriculture CDE. The second section consists of questions related to your characteristics. The third section consists of questions related to the students who were on your 2009 Floriculture team.

All responses will be kept confidential. I realize this time of year is very busy for agriculture educators with training CDE teams, but this timing will also help you recall the coaching behaviors you use will working with your Floriculture team. Please complete the online questionnaire by **(date).** When prompted please enter your participant code: (code).

(Questionnaire Link)

If you have any questions regarding this study, please contact me at amanda.bowling@sc.k12.mo.us or at 1-636-359-3231. Thank you for your time and participation. I look forward to receiving your response.

Sincerely,

Amanda Bowling
South Callaway Agricultural Instructor and FFA Advisor
10135 State Road C
Mokane, MO 65059
Office: 573-676-5211
Cell: 1-636-359-3231

Dear (Insert Name):

Recently, you received an email regarding your participation in a study investigating agricultural educators used to prepare their Floriculture CDE teams. As of today I have no record of your participation. If you would please take some time to complete the online questionnaire.

Because your input is very valuable to this study, I have again provided the link to the web questionnaire below. As stated in the previous email all results will be kept confidential. Please complete the questionnaire by **date.** When prompted please enter your participant code: (code).

(QUESTIONNAIRE URL)

If you have any questions about this study please feel free to contact me at amanda.bowling@sc.k12.mo.us or 1-636-359-3231.

Thank you in advance for your participation.

Sincerely,

Amanda Bowling
South Callaway Agricultural Instructor and FFA Advisor
10135 State Road C
Mokane, MO 65059
Office: 573-676-5211
Cell: 1-636-359-3231

Dear (Insert Name):

During the past week, you have received a couple of emails from me regarding your participation in a research study. This study is investigating the coaching behaviors used by agriculture educators to prepare their Floriculture CDE teams. As an agriculture teacher who has coached a Floriculture CDE team, your information is important to me and to this study. Please take a few minutes to complete the online questionnaire by **Monday April 5th**. When prompted please enter your participant code: (code).

http://www.surveymonkey.com/s/X29QY6N

If you have any questions about this study please feel free to contact me at amanda.bowling@sc.k12.mo.us or 1-636-359-3231.

Thank you in advance for your participation.

Sincerely,

Amanda Bowling
South Callaway Agricultural Instructor and FFA Advisor
10135 State Road C
Mokane, MO 65059
Office: 573-676-5211
Cell: 1-636-359-3231

Dear (Insert Name):

Last week you received a few emails from me regarding a study I was performing looking at the coaching behaviors used by agriculture teachers to coach Career Development Event teams. The deadline to complete the survey was yesterday, but it has been extended for one day. Please take some time to fill out the survey. Your input is very important to me. Your participant code is: (code).

Survey Link:

http://www.surveymonkey.com/s/X29QY6N

Thank You,

Amanda Bowling
Agriculture Instructor and FFA Advisor
South Callaway R-II Public Schools
Email: amanda.bowling@sc.k12.mo.us
Office: 573-676-5211
Cell: 636-359-3231