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# Comparing Texas Principal and Agricultural Education Teacher Perceptions of the Importance of Teaching Activities in Agricultural Education Programs

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**Abstract**

*The relationship between school administrators and agricultural education teachers has historically been considered to be important. Past studies have indicated mixed results when comparing principal and teacher perceptions of the importance of agricultural education teaching activities. Agreement between both parties and support from the principal is important to overall student achievement according to educational leadership theory. With the gap in time since previous research on the topic, a comparison of principal and teacher perceptions of teaching activities in agricultural education was conducted. Findings included significant differences in principal and teacher opinions of the importance of lesson planning, filing local reports and keeping records, conducting parent/teacher conferences, and teaching agribusiness courses. Recommendations included continued communication on topics of disagreement and inclusion of administrators in agricultural program activities that highlight student achievement.*

***Keywords:*** principal perceptions; teaching; agricultural education program

## Introduction

The relationship between school administrators and secondary agricultural education teachers has historically been considered to be an important component of agricultural education program success (Shoemake, 1972; Talbert et al., 2007). During the 1970s and 1980s there was a substantial amount of research conducted to determine perceptions held by local administrators of agricultural education programs. Since this time period, there have been few studies addressing this area of inquiry. Under the American Association for Agricultural Education's (AAAE) Research Priority 3 lies the question "What methods, models, and practices are effective in recruiting agricultural leadership, education, and communication practitioners and supporting their success at all stages of their careers (Roberts et al., 2016)? To help address this research priority, knowledge of how secondary school principals view current classroom and laboratory teaching activities in agricultural education is needed to help better prepare future teachers and support the current practitioners in the field. Teaching activities would include courses taught by agricultural education teachers, activities involved in delivering daily instruction and contribution to the school system, and activities aimed at improving instructor abilities in teaching.

Principals play a critical role in setting the school climate (Barth, 1984). Rush and Foster (1984) believed principals' attitudes were important since principals are usually responsible for day-to-day oversight of instruction and curriculum. They saw value in knowing how agricultural education teachers

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and their administrators perceived activities in agricultural education because it would help teacher educators better prepare new teachers. In the past, teacher conflict with administrators was a major reason agricultural education teachers left the field (Mattox, 1974). Over 40 years later, poor relationships with administrators continues to be a reason agricultural education teachers leave the field (Boone, 2003; Boone & Boone, 2009; Clark et al., 2014; Walker et al., 2004). Even when studying first-year teachers, a lack of administrator support and involvement was found as a major concern (Greiman et al., 2005; Touchstone, 2015). On the other hand, Clark et al. (2014) found that good relationships with administrators is a reason some agricultural education teachers continue for a long career in the profession. Relationships with administrators could be an area of improvement to help with the ongoing teacher attrition problem.

Historically, studies comparing principal perceptions to agricultural education teacher perceptions of agricultural education program components have shown mixed results. In a study of Mississippi administrators, principals viewed components of agricultural education programs more negatively than agricultural education teachers (Shoemake, 1972). This included perceived importance of participating in FFA activities and teaching production agriculture, agricultural mechanics, and agribusiness courses. Later, Dowell (1980) concluded principals did not have favorable attitudes toward vocational education at the time. While the study did not identify reasons why, it did point out that as principals age, their attitude toward vocational education becomes more positive. Dowell (1980) also found that principals located in rural schools had a more positive attitude toward vocational education compared to those in suburban and urban schools. This was echoed 20 years later in a study of Texas superintendents (Pavelock, 2000). Rural superintendents were generally more supportive and viewed agricultural education programs more positively than urban superintendents.

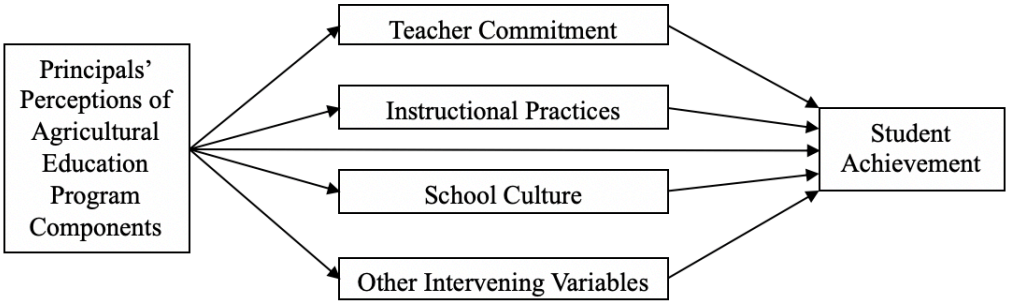
Other early studies found that principals viewed agricultural education positively when asked to rate their attitudes toward programs in their schools (Barnett, 1985; Marrs, 1983; Pryor, 1984). Kalme and Dyer (2000) as well as Rayfield and Wilson (2009) found that principals generally viewed areas within agricultural education positively and that agricultural education provides benefits to students. More recently Florida principals had positive perceptions of agricultural education programs (Smith & Myers, 2012). This leads to the question, are these perceptions still held today? Are principal perceptions of agricultural education in Texas different from other states? What specific areas within teaching agriculture are perceived more positively than others and do these perceptions align when comparing teachers and principals?

One of the most common recommendations from previous work comparing teacher and principal perceptions of agricultural education is the need to improve communication between agricultural education teachers and principals (Boone & Boone, 2009; Foster & Riensenberg, 1985; Greiman et al., 2005; Martin et al., 1986; Rush & Foster, 1984; Shoemake, 1972). Another major recommendation was agricultural education teachers should educate their administrators to improve their perceptions of agricultural education programs (Kalme & Dyer, 2000; Martin et al., 1986; Rush & Foster, 1984; Thompson, 2001). After years of recommendations, have we made progress as indicated by principal perceptions? Recently, the executive director of the Agriculture Teachers Association of Texas called attention to the need for agricultural education teachers in the state to communicate with school administrators to gain program support (Pieniazek, 2019). This begs the question; how do administrators view agricultural education programs today? The purpose of this study was to compare agricultural education teacher and principal viewpoints concerning this topic. If there is in fact a difference of opinion, educators may collaboratively identify areas for needed improvement.

## Theoretical Framework

The theoretical framework underpinning this study is a review of literature tied to educational leadership theory. When comparing principal and agricultural education teacher perceptions of teaching responsibilities, Pitner's (1988) educational leadership theory on the reciprocal effects between school leadership and student achievement ties in well. Pitner's (1988) model suggests that principal behaviors are related to student performance through their interactions with teachers. School leaders can also affect outcomes within the school both directly and indirectly. The results of the principal's actions on student achievement or outcomes then influence future behaviors of the principal. In the context of Pitner's educational leadership theory, Rayfield and Wilson (2009) proposed that if principals have a positive perception of supervised agricultural experiences, their perceptions could indirectly increase student achievement. Leithwood and Montgomery (1982) proposed that principals can indirectly influence student achievement by influencing variables such as school culture, instructional practices used in the classroom, and teacher commitment. Given this information on educational leadership theory, an adaptation of Pitner's model shown in Figure 1 was used to guide this study, similar to that of Rayfield and Wilson (2009).

**Figure 1**
*Direct and Indirect Principal Perception Effects on Student Achievement*




The three-circle model of agricultural education includes classroom and laboratory instruction, FFA participation, and supervised agricultural experience participation (National FFA Organization, 2018). While principal perceptions of any portion of the agricultural education program could indirectly influence student achievement, instructional activities will be the focus of this study. A review of literature was conducted in an attempt to identify different teaching activities common in agricultural education programs. Once these activities are identified, they can be directly applied to the model in Figure 1 as the component of agricultural education principals have perceptions about. These perceptions, whether positive of negative, would then have an effect on teacher commitment, instructional practices, school culture, and other intervening variables, ultimately influencing student achievement.

Literature revealed agricultural education programs in Texas offer courses in the career pathways of agribusiness systems, animal systems, environmental service systems, food products and processing systems, natural resources systems, plant systems, and power, structural, and technical systems (Texas Education Agency, 2019). Naturally, agricultural education teachers must teach classes in these career pathways as well as offer laboratory experience. Laboratory experience commonly occurs in an animal science facility, greenhouse, school farm, or an agricultural mechanics laboratory, all falling under agricultural instructor responsibilities (Talbert et al., 2007).

When reviewing principal perceptions of specific agricultural education courses, a past study of Nebraska principals and agricultural education teachers found that courses in agribusiness management was viewed by both groups as important (Foster et al., 1995). An earlier study found that Mississippi principals viewed agribusiness classes as more important than agricultural mechanics or production agriculture classes (Shoemake, 1972). The same study revealed agricultural education teachers, on the other hand, thought agribusiness classes were the least important compared to agricultural mechanics and production agriculture classes. Shoemake (1972) went on to recommend teachers place more emphasis on agribusiness courses in an attempt to improve principal perceptions of the subject.

Foster et al.'s (1995) Nebraska study was one of the only studies found that compared teacher and principal perceptions of all the different agricultural education courses offered. Animal science courses were important to both principals and agricultural education teachers (Foster et al., 1995). This was higher compared to perceptions on environmental, natural resource, food products and processing, and power, structural, and technical systems courses where both principals and agricultural education teachers viewed them as somewhat important. Finally, the study showed that plant science courses related to floral or greenhouse production were generally viewed as of little importance to somewhat important by agricultural education teachers and principals (Foster et al., 1995). Agricultural education teachers also generally held a more negative attitude toward plant systems courses than principals.

Another teaching activity other than teaching classes identified by Talbert et al. (2007) is the continuation of learning throughout a teaching career. This often comes in the form of professional development. Rush and Foster (1984) concluded principals and agricultural education teachers both viewed professional development within the context of agriculture to be important. Today, agricultural education teachers are many times required to justify the need for professional development to secure funding from school administrators so that they may attend the event (Agriculture Teachers Association of Texas, 2020). Nevertheless, Easterly and Myers (2019) found that agricultural education teachers are engaging in professional development and place value upon it. Professional development is often a state and/or local requirement that can be provided in the specific context of agriculture by state or national agriculture teacher associations (National Association of Agricultural Educators, 2020). Participation in professional organizations is another area related to classroom instruction (Talbert et al., 2007). Principals have had mixed views in previous studies about the importance of this activity. Mississippi agricultural education teachers viewed participation in professional organizations more positively than principals (Shoemake, 1972) while the opposite was found with Idaho agricultural education teachers and principals (Rush & Foster, 1984).

Instructional planning is another classroom responsibility required by agricultural education teachers (Talbert et al., 2007). Davis and Jayaratne (2015) identified several different professional development needs of agricultural education teachers related to instructional planning including planning lessons for higher order thinking and multi-tasking students. In today's education system, this is becoming more important because of the need to align with common standards and show documented achievement and growth. This leads into maintaining local records and filing reports. In previous studies, principals consistently viewed filing reports as more important than did agricultural education teachers (Foster & Riensenberg, 1985; Rush & Foster, 1984). Falling in line with instructional planning and filing reports is conducting parent/teacher conferences. Layfield and Dobbins (2002) identified parent/teacher conferences as an activity that teachers must do, however limited literature was found on this subject relating to agricultural education. Nevertheless, Talbert et al. (2007) suggested that working with parents is an important component of agricultural education.

The final area examined related to classroom teaching responsibilities was the use of promotional materials specific to classroom and laboratory instruction. Talbert et al. (2007) suggested

taking advantage of this to help recruit students into the program. In the past this probably most commonly happened with printed material, while today a social media account showing images of class activities is common. Rush and Foster (1984) found Idaho agricultural education teachers viewed program public relations as more important than did principals.

Having a clear understanding of principal perceptions toward teaching activities in agricultural education can help provide an idea of how much influence they will have directly on student achievement and indirectly through commitment to teachers, instructional practices, and school culture. The following teaching activities related to agricultural education were identified through a review of literature and were used for this study: teaching courses in animal science, plant science, power systems, food products and processing, natural resource management, agribusiness, and environmental systems, providing laboratory experience in animal science, plant systems, and power systems, participating in professional organization, engaging in professional development, lesson planning, conducting parent/teacher conferences, filing local reports and keeping records, and engaging in public relations through social media.

In the past there have been many recommendations to educate principals, involve them more directly in the agricultural education program, and work together with them to set goals (Foster & Riensenberg, 1985; Rush & Foster, 1984; Smith & Myers, 2012; Shoemake, 1972). For principals to make good decisions they need information on the program (Martin et al., 1986). According to Kalme and Dyer (2000), principals that are interested, knowledgeable, and positively view the agricultural education program are likely to support it.

With a gap in modern literature directly related to this topic, this study was developed to gain an understanding of principal perceptions of teaching activities in agricultural education in Texas compared to the perceptions of agricultural education teachers. Improvements can be made on areas of disagreement to enhance overall student achievement. Information on this subject can also shed light on progress or the lack of progress in communication between principals and agricultural education teachers. Findings from this study could help teacher preparation programs support agricultural education teachers at all points in their career, a research priority of the American Association for Agricultural Education (Roberts et al., 2016).

## Purpose and Objectives

The purpose of this study was to compare high school principal and agricultural education teacher perceptions of the importance of teaching activities in agricultural education programs in Texas secondary education schools. The following objectives were used to guide this study:

1. Determine demographic characteristics including years of experience, previous enrollment in agricultural education, and school district location of high school principals and agricultural education teachers sampled.
2. Determine agricultural education program teaching activities currently in practice at secondary schools as reported by high school principals and agricultural education teachers.
3. Compare high school principal and agricultural education teacher perceptions of the importance of agricultural education program teaching activities.
   $H_0$: There is no statistically significant difference in principal and teacher perceptions of the importance of agricultural education program teaching activities.
4. Determine the relationship between years of job experience and perceived importance of teaching activities in high school principals and agricultural education teachers.

$H_0$: There is no statistically significant relationship between years of job experience and perceived importance of teaching activities in high school principals and agricultural education teachers.

5. Determine the relationship between school district location (rural, suburban, and urban) and perceived importance of teaching activities with high school principals and agricultural education teachers.
   $H_0$: There is no statistically significant relationship between school district location and perceived importance of teaching activities with high school principals and agricultural education teachers.

## Methods

To compare high school principal and agricultural education teacher perceptions of the importance of teaching activities in agricultural education programs, a cross-sectional, descriptive, survey design (Fraenkel, Wallen, & Hyun, 2015) was employed to achieve the research objectives. The online instrument used for data collection was designed by the researchers as part of a larger study analyzing high school principal and agricultural education teacher perceptions of the overall agricultural education program.

The target population of this study was high school principals and high school agricultural education teachers in Texas who work at a school with an FFA chapter. According to the National FFA Organization (2018), there were 1,055 FFA chapters in the state. It was determined a sample size of 285 schools with FFA chapters was needed to achieve a 95% confidence interval (Krejcie & Morgan, 1971). A simple random sample of 285 schools with FFA chapters was selected from a list of FFA chapters in the state. Contact information was obtained for one agricultural education teacher and one high school principal from each of the 285 selected schools. This resulted in the establishment of two groups; one group with 285 agricultural education teachers and the other group with 285 high school principals.

The instrument used in this study intended to capture information concerning activities currently in practice in secondary agricultural education programs. Instrument items were determined by examining information about possible agricultural pathways offered in secondary schools and a review of literature on the subject. From descriptions by the Texas Education Agency (2019) and Talbert et al. (2007) of course offerings and laboratory activities offered in agricultural education, the following instrument items were developed: 1) Teaching Animal Science Courses, 2) Providing Animal Science Laboratory Experience, 3) Teaching Plant Science Courses, 4) Providing Plant Systems Laboratory Experience, 5) Teaching Power Systems Courses, 6) Providing Power Systems Laboratory Experience, 7) Teaching Food Products and Processing Courses, 8) Teaching Natural Resource Management Courses, 9) Teaching Agribusiness Courses, and 10) Teaching Environmental Systems Courses. Additional descriptions of agricultural education teacher responsibilities by Talbert et al. (2007) and items included in the previous studies of Rush and Foster (1984) and Foster and Riensenberg (1985) lead to the development of the following additional items: 11) Participating in Agricultural Education Professional Organizations, 12) Engaging in Professional Development Related to Agricultural Education, 13) Lesson Planning, 14) Conducting Parent/Teacher Conferences, 15) Filing Local Reports and Keeping Records, and 16) Public Relations Through Social Media Advertising of Classroom Activities. Both principals and teachers were asked a series of yes/no/not aware questions to determine if their programs had the 16 various teaching components. Participants were then asked to rate their perceived level of importance of the 16 items on a 5-point Likert scale where 1 = Unimportant, 2 = Somewhat Unimportant, 3 = No Opinion, 4 = Somewhat Important, and 5 = Important. Demographic information such as previous agricultural education enrollment, years of experience, and high school location were collected as well.

Instrument content validity was established by a panel of three experts in agricultural teacher education at Texas Tech University. This panel of experts had a combined experience of over 30 years in secondary school agricultural education and a combined experience of over 50 years in university level agricultural education teacher preparation. With their experience, they were able to provide input for instrument item selection in order to meet the objectives of the study and align items with what is currently practiced in the field of secondary school agricultural education in Texas. Face validity was established by a separate panel of five experts at Texas Tech University in survey questionnaire design. This panel included a professor of survey research methods and instrumentation as well as four other individuals who had received training in survey methodology and instrumentation. These individuals were able to provide a more comprehensive review of overall survey appearance, flow, and usability.

Instrument reliability was established by conducting a pilot test with a mixture of high school principals ($n = 7$) and agricultural education teachers ($n = 25$) not included in the main study for a total of 32 participants. A Cronbach's alpha was calculated for the construct of teaching activities ($\alpha = 0.77$). According to Friedenberg (1995), a Cronbach's alpha is appropriate for calculating internal consistency reliability coefficients for both dichotomous and scale items. Reliability was interpreted to be acceptable according to alpha levels recommended by Field (2018).

Study data were collected using a Qualtrics online instrument. Responses were solicited through email using Dillman's tailored design method (Dillman et al., 2014). Five total contacts were made through email beginning with an initial invitation to participate, followed by four reminder emails, each one week apart. At the conclusion of five weeks of data collection a total of 76 principals completed the instrument out of the 285 contacted for a response rate of 27% and 86 agricultural education teachers completed the instrument out of the 285 contacted for a response rate of 30%. To control for nonresponse error, a comparison of early to late respondents was conducted because the response rates were below 85% (Lindner et al., 2001). For both high school principals and agricultural education teachers, week one and two responses were compared to week three, four, and five responses to obtain group sizes of 30. No statistically significant differences were found when comparing early to late responses for each instrument item.

Descriptive statistics such as means, standard deviations, frequencies, and percentages were calculated for demographics and yes/no questions. Pearson correlations were calculated to determine relationships between years of job experience and school district location compared to perceived importance of teaching activities. This study met the minimum requirements outlined by Fraenkel et al. (2015) for correlational research due to the sample size being greater than 30. Statistical significance for all *p*-values were established *a priori* at .05. A one-way analysis of variance was conducted to determine differences between the group of responding principals and the groups of responding teachers on perceived views of agricultural education program activities. Assumptions described by Field (2018) for ANOVA were met. Effect size was reported for each ANOVA calculation. Individual identifying information was not collected due to IRB restrictions and therefore no matched principal-teacher pairs were analyzed. All data were analyzed in IBM SPSS version 25.0.

## Findings

To address the first objective of this study, years of experience in the participants' current job position was determined. High school principals averaged 5.31 ($SD = 6.31$) years of experience in their position as a principal. Secondary school agricultural education teachers averaged higher levels of experience in their job at 10.37 ($SD = 10.15$) years. Both participant groups were also asked to indicate if they were ever enrolled in a middle or high school agricultural education class during their secondary

school experience. Principals indicated previously taking agricultural education courses (*f* = 35, 46.05%) less frequently than agricultural education teachers (*f* = 78, 90.70%).

To determine where school districts were located, participants indicated rural, suburban, or urban. For participating principals and agricultural education teachers, rural school districts were the most common with (*f* = 50, 65.79%) and (*f* = 54, 62.79%) respectively. A comprehensive summary of high school location is presented in Table 1.

**Table 1**

*High School Location Reported by Participants (N = 162)*

| | Principals (*n* = 76) | | Teachers (*n* = 86) | |
|---|---|---|---|---|
| Location | *f* | % | *f* | % |
| Rural (Pop. < 2,500) | 50 | 65.79 | 54 | 62.79 |
| Suburban (Pop. 2,500-50,000) | 23 | 30.26 | 23 | 26.74 |
| Urban (Pop. > 50,000) | 3 | 3.95 | 9 | 10.47 |

The second research objective was to determine agricultural education program teaching activities in practice as reported by high school principals and agricultural education teachers. Principals reported parent/teacher conferences most frequently take place within agricultural education programs at their school (*f* = 73, 96.05%). The activity least reported was teaching environmental systems courses (*f* = 36, 47%). A complete list of frequencies of teaching activities in agricultural education programs reported by principals is presented in Table 2.

**Table 2**

*Agricultural Education Program Teaching Activities Reported by Principals (N = 76)*

| | Yes | | No | | Not Aware | |
|---|---|---|---|---|---|---|
| Teaching Activity | *f* | % | *f* | % | *f* | % |
| Parent/Teacher Conferences | 73 | 96.05 | 3 | 3.95 | 0 | 0.00 |
| Lesson Planning | 72 | 94.74 | 4 | 5.26 | 0 | 0.00 |
| Local Reports/Records | 72 | 94.74 | 3 | 3.95 | 1 | 1.32 |
| Professional Ag Organization Participation | 70 | 92.11 | 4 | 5.26 | 2 | 2.63 |
| Animal Science Courses | 69 | 90.79 | 6 | 7.89 | 1 | 1.32 |
| Agriculture Professional Development | 64 | 84.21 | 11 | 14.47 | 1 | 1.32 |
| Social Media Advertising of Class Activities | 64 | 84.21 | 9 | 11.84 | 3 | 3.95 |
| Power Systems Laboratory Experience | 57 | 75.00 | 17 | 22.37 | 2 | 2.63 |
| Power Systems Courses | 55 | 72.37 | 18 | 23.68 | 3 | 3.95 |
| Animal Systems Laboratory Experience | 52 | 68.42 | 24 | 31.58 | 0 | 0.00 |
| Plant Science Courses | 51 | 67.11 | 25 | 32.89 | 0 | 0.00 |
| Plant Systems Laboratory Experience | 42 | 55.26 | 34 | 44.74 | 0 | 0.00 |
| Food Products & Processing Courses | 42 | 55.26 | 34 | 44.74 | 0 | 0.00 |
| Natural Resource Courses | 40 | 52.63 | 35 | 46.05 | 1 | 1.32 |
| Agribusiness Courses | 37 | 48.68 | 39 | 51.32 | 0 | 0.00 |
| Environmental Systems Courses | 36 | 47.37 | 37 | 48.68 | 3 | 3.95 |

When agricultural education teachers were asked to report their teaching activities, teaching animal science courses and parent/teacher conferences tied for the most common teaching activity ($f$ = 80, 93.02%). The lowest reported activity was teaching food products and processing courses ($f$ = 18, 20.93%). Table 3 displays the complete list of frequencies for teaching activities reported by agricultural education teachers within their programs.

**Table 3**

*Agricultural Education Program Teaching Activities Reported by Teachers (N = 86)*

| | Yes | | No | | Not Aware | |
|---|---|---|---|---|---|---|
| Teaching Activity | *f* | % | *f* | % | *f* | % |
| Animal Science Courses | 80 | 93.02 | 6 | 6.98 | 0 | 0.00 |
| Parent/Teacher Conferences | 80 | 93.02 | 6 | 6.98 | 0 | 0.00 |
| Professional Ag Organization Participation | 78 | 90.70 | 8 | 9.30 | 0 | 0.00 |
| Power Systems Laboratory Experience | 77 | 89.53 | 9 | 10.47 | 0 | 0.00 |
| Lesson Planning | 74 | 86.05 | 12 | 13.95 | 0 | 0.00 |
| Power Systems Courses | 73 | 84.88 | 13 | 15.12 | 0 | 0.00 |
| Social Media Advertising of Class Activities | 68 | 79.07 | 18 | 20.93 | 0 | 0.00 |
| Local Reports/Records | 68 | 79.07 | 11 | 12.79 | 7 | 8.14 |
| Agriculture Professional Development | 65 | 75.58 | 21 | 24.42 | 0 | 0.00 |
| Animal Systems Laboratory Experience | 61 | 70.93 | 25 | 29.07 | 0 | 0.00 |
| Plant Science Courses | 54 | 62.79 | 32 | 37.21 | 0 | 0.00 |
| Natural Resource Courses | 47 | 54.65 | 39 | 45.35 | 0 | 0.00 |
| Plant Systems Laboratory Experience | 43 | 50.00 | 42 | 48.84 | 1 | 1.16 |
| Agribusiness Courses | 31 | 36.05 | 54 | 62.79 | 1 | 1.16 |
| Environmental Systems Courses | 20 | 23.26 | 65 | 75.58 | 1 | 1.16 |
| Food Products & Processing Courses | 18 | 20.93 | 68 | 79.07 | 0 | 0.00 |

For the third objective, both principals and agricultural education teachers were asked to rate their level of perceived importance for each of the 16 teaching activities. All items were perceived to be somewhat important to important by both principals and teachers. Teaching animal science courses was perceived to be the most important by both the principals ($M$ = 4.91, $SD$ = 0.33) and agricultural education teachers ($M$ = 4.92, $SD$ = 0.28). The item with the lowest importance to principals was teaching environmental systems courses ($M$ = 4.43, $SD$ = 0.84). For agricultural education teachers the item with the lowest importance was lesson planning ($M$ = 4.07, $SD$ = 1.10). Perceptions of the importance of lesson planning was significantly different between principals and teachers ($F(1, 160)$ = 30.64, $p$ <.001, $\eta^2$ = .16). Differences in opinion between principals and teachers were also found in parent/teacher conferences, completing local reports/records, and teaching agribusiness courses. Refer to Table 4 for a full comparison between principals and agricultural education teachers for each item.

**Table 4**

*One-Way ANOVA Comparing Perceived Importance of Teaching Activities (N = 162)*

| | Principals | | Teachers | | | | |
|---|---|---|---|---|---|---|---|
| Teaching Activity | *M* | *SD* | *M* | *SD* | *F(1, 160)* | *p* | $\eta^2$ |
| Animal Science Courses | 4.91 | 0.33 | 4.92 | 0.28 | 0.05 | .823 | .00 |
| Professional Organization | 4.88 | 0.33 | 4.81 | 0.54 | 0.90 | .345 | .01 |
| Power Systems Lab Experience | 4.84 | 0.49 | 4.86 | 0.54 | 0.05 | .821 | .00 |
| Lesson Planning | 4.84 | 0.54 | 4.07 | 1.10 | 30.64 | <.001 | .16 |
| Ag Professional Development | 4.84 | 0.37 | 4.84 | 0.53 | 0.01 | .946 | .00 |
| Parent/Teacher Conferences | 4.83 | 0.47 | 4.45 | 0.89 | 10.82 | .001 | .06 |

**Table 4**

*One-Way ANOVA Comparing Perceived Importance of Teaching Activities (N = 162) Continued…*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Local Reports/Records | 4.82 | 0.56 | 4.55 | 0.79 | 6.10 | .015 | .04 |
| Animal Systems Lab Experience | 4.82 | 0.51 | 4.84 | 0.55 | 0.07 | .798 | .00 |
| Power Systems Courses | 4.79 | 0.55 | 4.88 | 0.39 | 1.62 | .205 | .01 |
| Social Media Advertising | 4.67 | 0.81 | 4.43 | 0.98 | 2.88 | .091 | .02 |
| Plant Systems Lab Experience | 4.64 | 0.74 | 4.58 | 0.83 | 0.26 | .612 | .00 |
| Agribusiness Courses | 4.64 | 0.74 | 4.36 | 0.98 | 4.23 | .041 | .03 |
| Plant Science Courses | 4.63 | 0.76 | 4.69 | 0.62 | 0.25 | .617 | .00 |
| Natural Resource Courses | 4.62 | 0.71 | 4.58 | 0.71 | 0.11 | .741 | .00 |
| Food Products Courses | 4.58 | 0.70 | 4.40 | 0.95 | 1.92 | .167 | .01 |
| Environmental Systems Courses | 4.43 | 0.84 | 4.38 | 0.92 | 0.13 | .717 | .00 |

*Note.* Scale was 1 = Unimportant, 2 = Somewhat Unimportant, 3 = No Opinion, 4 = Somewhat Important, and 5 = Important. *F* values are significant at $p < .05$.

The fourth objective of this study was to determine the relationship between years of job experience and perceived importance of teaching activities with high school principals and agricultural education teachers. Survey participants was asked to indicate years of experience in their current job role. This was correlated with their perceptions of the different teaching activities. Table 5 compares these variables. For agricultural education teachers, there was a moderate, negative correlation (Davis, 1971) with teaching power systems courses ($r$ = -.44) and with providing power systems laboratory experiences ($r$ = -.35). Principals had a low, negative correlation with the importance of teaching animal science courses ($r$ = -.29) when compared to years of experience.

**Table 5**

*Influence of Years of Experience on Perception of Teaching Activities (N = 162)*

| Teaching Activity | Principal Experience (*r*) | Teacher Experience (*r*) |
|---|---|---|
| Power Systems Courses | -.10 | -.44** |
| Power Systems Lab Experience | -.03 | -.35** |
| Plant Science Courses | -.11 | -.27* |
| Plant Systems Lab Experience | .02 | -.21 |
| Environmental Systems Courses | -.10 | .13 |
| Natural Resource Courses | -.14 | .12 |
| Professional Organization | .01 | .12 |
| Food Products Courses | -.05 | -.11 |
| Parent/Teacher Conferences | -.10 | .10 |
| Lesson Planning | -.01 | .09 |
| Animal Science Courses | -.29* | .09 |
| Ag Professional Development | -.07 | .08 |
| Agribusiness Courses | -.02 | -.08 |
| Local Reports/Records | .02 | .05 |
| Animal Systems Lab Experience | .01 | .05 |
| Social Media Advertising | .05 | -.04 |

*Note.* *$p < .05$, **$p < .01$.

The final relationship examined was between school district location (rural, suburban, or urban) and perceived importance of different teaching activities. The strongest relationship among agricultural education teachers was a low, negative correlation between teaching power systems courses and location ($r$ = -.23). Principals had two low, positive correlations with participating in professional agricultural education organizations ($r$ = .25) and teaching plant science courses ($r$ = .24). A full

summary of the relationships between participant school district location and perceived importance of teaching activities is presented in Table 6.

**Table 6**
*Influence of School District Location on Perception of Teaching Activities (N = 162)*

| Teaching Activity | Principal Location (*r*) | Teacher Location (*r*) |
|---|---|---|
| Power Systems Courses | -.04 | -.23* |
| Animal Systems Lab Experience | .16 | .18 |
| Environmental Systems Courses | .12 | .17 |
| Animal Science Courses | .12 | .15 |
| Plant Science Courses | .24* | -.14 |
| Natural Resource Courses | .14 | .13 |
| Ag Professional Development | -.09 | .12 |
| Parent/Teacher Conferences | .10 | -.11 |
| Local Reports/Records | .14 | .10 |
| Food Products Courses | .08 | .09 |
| Social Media Advertising | .13 | .06 |
| Lesson Planning | .16 | .05 |
| Plant Systems Lab Experience | .20 | .02 |
| Agribusiness Courses | .01 | .02 |
| Professional Organization | .25* | -.01 |
| Power Systems Lab Experience | -.07 | -.01 |

*Note.* Location coding: 1=Rural, 2=Suburban, 3=Urban. *$p < .05$.

## Conclusions/Implications/Recommendations

Findings from this study filled in some of the gaps in modern literature on principal perceptions of agricultural education program teaching activities in Texas. With demographic information, it can be concluded that principals generally have less experience in their position compared to that of agricultural education teachers. Because of administrator lack of experience, there may be a continued need to educate administrators as recommended in previous studies (Kalme & Dyer, 2000; Martin et al., 1986; Rush & Foster, 1984; Thompson, 2001) or educate new administrators as they come into the school system. A possible reason for lack of experience in the principal position may be because of the more rapid turnover generally experienced with administrators. In addition, less than half of the principals participating in this study were ever previously enrolled in an agricultural education class. This would make it difficult for them to understand what goes on in an agricultural education program.

Agricultural education teacher responses to teaching activities occurring in their programs aligned well with what principals indicated with the exception of food products and processing, natural resources, agribusiness, and environmental systems courses. Teachers reported teaching courses in these areas 20-30% less than principals. While principals and teachers surveyed were not necessarily from the exact same schools, the discrepancy between the two groups may indicate principals think teaching courses in these areas is happening, while it really is not happening. Given this information, principal perceptions may differ from reality, having an effect on future decisions as suggested by Piner's (1988) reciprocal effects model on educational leadership theory. This could end up having an indirect negative effect on student achievement if the principal's knowledge of the program is not correct. When examining specific courses compared to older studies, the recommendation made by Shoemake (1972) to focus on agribusiness courses still does not seem to be happening nearly 50 years later since agribusiness courses were taught at less than half the schools.

When comparing agricultural education teacher and principal perceptions of the importance of the different teaching activities in agricultural education, teachers and principals are mostly in agreement. One area with significant disagreement on importance was in lesson planning. Principals viewed this as more important than agricultural education teachers. Foster and Riensenberg (1985) recommended teachers re-evaluate their attitude on lesson planning. The problem seems to continue nearly 35 years later. Principals also viewed conducting parent/teacher conferences more importantly than teachers. Determining why agricultural education teachers view lesson planning and parent/teacher conferences as less important is necessary to begin to close the gap on agreement.

Previous studies indicated agricultural education teachers viewed filing local reports and keeping academic records as less important (Foster & Riensenberg, 1985; Rush & Foster, 1984). Reflecting findings of previous studies, teachers indicated filing local reports and keeping records was significantly less important than what principals thought. Teachers also indicated teaching agribusiness courses was significantly less important than principals thought. Is there something principals see in these courses that agricultural education teachers do not? Further inquiry is needed to investigate this disconnect. If teachers and principals are in disagreement on the importance of teaching activities, will there be program support by principals and subsequent effects on student achievement as suggested by Rush and Foster (1984) and Pitner's (1988) reciprocal effects model?

Years of experience seemed to more strongly influence the importance of teaching activities for agricultural education teachers compared to principals. The moderate, negative correlation was found with teachers and their perceived importance of teaching power systems courses and providing power systems laboratory experiences indicates that less experienced teachers view teaching power systems courses as more important than more experienced teachers. A possible explanation for why this trend occurs is teaching power systems courses and laboratories requires a substantial amount of time for planning and gathering supplies compared to many other teaching duties. As teachers age, they may not view the extra effort as worth their time and therefore find these duties to be less important. However, additional research in this area is necessary to know for sure. Similar views are held among teachers with more years of experience in teaching plant systems courses and providing plant systems laboratory experiences. The extra laboratory time and effort that accompanies teaching plant science could again be a possible explanation for this. For principals, the only item reaching significance was the importance of teaching animal science courses. As principals gain more years of experience there is lower perceived importance of teaching these courses. This was the only finding different from Dowell (1980) when examining years of principal experience. Principals may not be seeing the benefits of teaching animal science courses. The same relationship was not found with agricultural education teacher years of experience and perceived importance. Teachers may need to improve communication with principals on the benefits and importance of teaching courses in animal science so this decline in perceived importance does not occur.

The final area of comparison was with school district location and perceived importance of agriculture teaching activities. Small, positive correlations were found with principals and the importance of teaching plant science courses and teacher participation in professional agriculture organizations. Principals from urban schools tended to view these activities as more important when compared to teachers as indicted from the magnitude of the correlations. With urban principals finding these activities more important than rural principals, this seems to contradict the work of Pavelock (2000) and Dowell (1980), at least in these particular areas. Interestingly, most teaching areas in agricultural education studied has positive relationships with school location and perceived importance, indicating that urban and suburban districts had principals that viewed these activities as more important. For agricultural education teachers, the importance of teaching power systems courses had a negative relationship with location. As school district location moves from rural areas to urban areas,

the importance of teaching power systems courses decreases. This may be due to the employment needs of rural communities compared to urban areas.

In an attempt to improve direct and indirect influences principals have on student achievement, as indicated by Pitner's (1988) model of reciprocal effects, principal and teacher perceptions of agricultural education teaching activities should be positive and in agreement. As with any working relationship, this may require give and take from both parties. In the past, several have recommended improving communication between principals and agricultural education teachers (Foster & Riensenberg, 1985; Martin et al., 1986; Rush & Foster, 1984; Shoemake, 1972). Overall, principals had similar views on the importance of agricultural education teaching activities as the teachers, indicating communication may be improving. Areas of disagreement were usually items important for all teachers in the school system. Teachers could work with their administrators to come up with a plan to more efficiently complete these activities in order to meet requirements beyond the principals' control. Agricultural education teacher preparation programs can help train new teachers to do lesson planning, complete reports, and conduct parent/teacher conferences in a manner that takes less time to satisfy all parties involved. Agricultural education teachers should continue to provide quality efforts in these areas to maintain district compliance with state and federal regulations. An agricultural education teacher that does this will likely continue to have support from the principal in their teaching efforts and in the agricultural education program as a whole.

Past studies also recommended including principals in agricultural education activities and in program goal setting (Foster & Riensenberg, 1985; Rush & Foster, 1984; Smith & Myers, 2012; Shoemake, 1972). This should continue with a focus on student achievement in the classroom and laboratory. This could help bridge the gap in the disagreement on teaching agribusiness courses. The current relationship between principals and agricultural education teachers in Texas appears to be in good shape, however, continued efforts must be made to involve administration in program activities and goal setting for continued support. Inviting administration to observe in the laboratory, giving administrators finished classroom and laboratory products made by students, and involving administrators in summer planning are all areas that can showcase program achievements, leading to continued support.

Recommendations for further research include examining current principal perceptions of the importance of FFA and SAE activities in agricultural education programs to gain an idea of overall program support. An investigation on why administrators view teaching agribusiness courses as more important than agricultural education teachers could also be helpful. From this study we saw that as teachers gain more experience, perceptions for the importance of teaching power systems courses and having laboratory experiences decreased. Determining reasons for this could be important for the future of this pathway and could lead to improved job satisfaction. Determining why some administrators view agricultural education components negatively could also be beneficial to the profession to curb any negative views on agricultural education programs that would inadvertently lead to lower program support and student achievement.

The relationship between the school principal and agricultural education teacher is constantly evolving. As schools hire more administrators that have influence on an agricultural education program and hire new replacements for principal vacancies, this relationship must be renewed. If principal perceptions of the agricultural education program lead to support and decision making related to the program, it is imperative to maintain effective communication and keep administrators informed to better improve the chances of student achievement. The quality of this relationship is also important to keep agricultural education teachers in the field.

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