

Understanding Recruitment in Horticulture and Defining Student Services

by

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Abstract

This study consists of three individual studies. The first study focused on identifying the factors that influenced students to pursue a degree in horticulture, determining if there are trends within this select group of students and utilizing both sets of findings to enhance efforts to recruit more students into the field. The second study sought to understand the state of enrollment in departments of horticulture. Faculty members discussed the current practices used to recruit students into the field and provided insight into measures being taken to improve those practices. The third study observed three Student Services offices within colleges of agriculture to compare their structure and function, their recruiting strategies and the services offered to each college's students.

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CHAPTER ONE

INTRODUCTION

Research on recruitment strategies in horticulture has been limited with almost no recent data available. This research provides a foundation for understanding more recent trends concerning students in horticulture. The first study sought to identify current horticulture students' demographics and their main factors of influence on selecting horticulture as their major. The data was collected with the use of a mixed methods research design. Through online surveys, initial data was collected and guided the development of follow-up interviews to capture insight into students' desire to pursue horticulture as a career. The purpose of this study was to update the current literature available, which has the potential to enhance recruitment practices.

The second study approached the topic of horticulture recruitment from the faculty perspective. The purpose was to understand current practices of horticulture recruitment and identify steps currently being taken to improve the process. Faculty members were engaged in interviews to prompt discussion on the topic and gain insight into their individual perspectives.

The final study investigated student services within a specific academic unit, in particular a college of agriculture and related sciences. This study was deemed necessary to give a glimpse into how the student services office functions specific to this academic area. Personnel from participating institutions discussed the processes that contribute to the function of the office. The information gathered provided an overview for each

college's structure, insight into their recruitment strategies and student programming details. The purpose of this research was to better understand the effective practices of student services offices at these institutions allowing other offices with similar objectives to expand their programs.

Studies on Horticulture Students

Research specific to recruitment strategies used in the Green Industry, enrollment trends within academic horticulture departments and factors that influence students' program choice is limited. The professionals in the Green Industry, or environmental horticulture industry, have expressed their preferences for characteristics of future employees and are looking for those who will work hard and have a solid understanding of the practices used in the industry (Beidler et al., 2006; Berle, 2007; VanDerZanden and Reinert, 2009).

According to the U.S. Bureau of Labor Statistics (2012), the most recent projection on the job outlook in the Green Industry shows there is an estimated growth of 12.7% for positions associated with first-line supervisors in landscaping. However, horticulture is one area of academic study that has experienced decreased enrollment over the last several years (Darnell, 2006; Lawell, 2011).

Determining the students' perspective on horticulture can help understand enrollment trends. The research concerning students that is available has addressed factors that influence a student's final decision to pursue horticulture as a field of study (Bradley et al., 2000) and the effectiveness of recruitment strategies (Rhodus, 1990). These studies are fifteen to twenty-five years old and may not accurately represent the students or departments of horticulture as they did initially. In order for horticulture

departments to move forward and enhance enrollment these studies should be updated to reflect the current student population.

Horticulture Faculty Insight

Enrollment in horticulture is declining for many schools across the United States (Darnell, 2006; Lawell 2011). Recruitment within this field, or at least the research related to recruitment in this field, is limited and some of the literature is ten to twenty years old. One study compared enrollment trends across different components such as recruitment strategies, students' background, and issues affecting future enrollment, but the data could be out of date since it was collected twenty-five years ago (Rhodus, 1990).

Specific recruitment strategies have been discussed such as the implementation of a one-hour, one credit course on fruit production and offering it to horticulture majors and non-majors, with results showing a forty fold increase of student enrollment in two years (Childers et al., 1994). Again, this study was conducted over 20 years ago and the effectiveness of this practice today could be uncertain because there is no recent literature within the last five years to support the practice. Other strategies include targeting students currently on campus because large numbers of students decide a major their second year of college (Bradley et al., 2000). It has also been suggested to reach out to students in high school that are enrolled in agriculture and biology classes (Compton, 2002). The effectiveness of any of these strategies is unclear, but could be defined better if the faculty and staff within the department that uses them provided their insight related to the effectiveness of various.

These articles regarding recruitment in horticulture are beneficial in some ways toward overcoming recruitment challenges departments of horticulture face, but none of

them questioned faculty or staff within the departments of horticulture to gain their perspectives.

Student Services Office Defined

An office of student services in an academic institution seeks to provide assistance to students for their academic, career and personal needs (Long, 2012). Many student services offices within academic units are part of a decentralized model where services provided to students are the responsibility of the unit such as “orientation, advising... and placement” (Ambler, 2000).

The history behind the development of student affairs began with “early efforts to restore the concern for the students” as administration changes were made to institutions of higher education throughout the late nineteenth century (Rhatigan, 2000). The largest need for personnel that could focus on students was after the creation of the GI Bill following World War II (Fenske, 1989). As students continue to change and diversify the student affairs profession also adapts and matures (Long, 2012).

The literature on specific student services activities is sparse particularly with respect to student recruitment and student programs within academic units, specifically colleges of agriculture, in which many horticulture programs reside. Student recruitment may be a critical issue when it comes to the future success of colleges of agriculture (Fields et al., 2003). The concern of ever-changing perceptions of agriculture from prospective students, the importance of encouraging a diversified student body, and the need to enhance the image of careers in the field to this diverse student body were the objects of one study (Fields et al., 2003). Another one considered an “educational

approach” to recruitment with attempts to reach students through high school visits (Richardson and Skelton, 1991).

Specific student programs such as mentoring programs have been explored through various studies (Retallick and Pate, 2009; Wolfe et al., 2009), but were about mentorships within academia and did not include the use of alumni as mentors. A study was conducted to compare mentor programs within colleges of business (Schlee, 2000), and a similar study could be conducted for colleges of agriculture. Another specific program that has been studied are agriculture ambassador student leadership programs with a recent study on different components incorporated into programs from colleges across the United States (Arnold, 2012). It addressed specific components, but did not give examples on how the components were utilized. Identifying specific student programs offered by individual institutions and providing details about differences between them would be a beneficial addition to the literature.

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CHAPTER TWO

RECRUITING TODAY'S HORTICULTURE STUDENT

Introduction

With ever changing trends in student styles, interests or even personalities, recruitment practices must be able to recognize and readily adapt to change in order stabilize or increase enrollment. Horticulture is one area of study that has experienced decreased enrollment with a 35% decrease over 30 years. (Darnell, 2006). While the student enrollment is on the decline (Lawell, 2011), the number of jobs in the horticulture industry is on the rise (U.S. Bureau of Labor Statistics, 2012b).

The environmental horticulture industry, which is also known as the Green Industry, refers to the production, design, installation and maintenance of plants and related products. In 2012, there were over 630,000 people employed in landscaping services in the United States with a 14.1% projected increase needed by 2022 (U.S. Bureau of Labor Statistics, 2012b). It has also been estimated that between 2012 and 2022 there will be just under 50,000 new job openings for supervisor type positions within this field (U. S. Bureau for Labor Statistics, 2012a). This industry accounts for an economic impact of over \$175 billion in the United States and shows no sign of slowing down (Hall et al., 2005). In Alabama alone, greenhouse, nursery and floriculture production accounted for an economic impact of over \$561 million (Fields et al., 2013).

We must heed the suggestion by Donnermeyer and Kreps (1994) that if horticulture departments do not supply the graduates needed to fulfill the job positions,

then other disciplines will. This can be done by strengthening the connection between Green Industry professionals and students who could pursue a career in horticulture. Research has been done on both groups. On the industry professional side, employers have been questioned about their preferences of hiring new employees, while the students have expressed factors that influence their decision to pursue this field of study and somewhere in the middle the question of recruitment has emerged as a significant factor.

Professionals in the Green Industry have been given the chance to express their preferences for employee knowledge and skills. Surveys have been conducted to observe the most highly sought after skills, discovering, not surprisingly, that personal and horticulture skills were at the top of the list, so the consensus among professionals seems to be a preference for employees who will work hard and have a solid understanding of the skills of the trade they are pursuing (Beidler et al., 2006; Berle, 2007; VanDerZanden and Reinert, 2009).

On the other side of the gap are the students who have been asked about their choice in deciding on an institution to attend for higher education. Most research, thus far, has inquired about factors that influence a student's final decision and has been broadly focused on students within a college of agriculture and related sciences. These influences range from personal contact to university characteristics. Personal contact ranges from a parent or guardian (Cole and Thompson, 1999; Donnermeyer and Kreps, 1994; Herren et al., 2011; Robinson et al., 2007) to alumni (Herren et al., 2011; Robinson et al., 2007; Shrestha et al., 2011) and other relatives attending the school of choice (Robinson et al., 2007). This holds true for horticulture specific students, who chose the field because of a relative's influence (Bradley et al., 2000). Students also make a decision on a school

based on overall university characteristics. Those characteristics a student leans toward in making a choice include having a program of interest (Shrestha et al., 2011), high academic reputation, providing preparation for employment and opportunities after graduation (Robinson et al., 2007).

While a department cannot control external influences, like personal contacts and university characteristics, there are internal factors that can be managed through recruitment. Recruitment strategies have been assessed according to their effectiveness. Many students rely on a visit to campus as their primary source of information (Cole and Thompson, 1999; Herren et al., 2011; Robinson et al., 2007). The effectiveness of a website as a recruiting tool was suggested by some to be helpful to students (Herren et al., 2011) and by others to be an unused source of information (Robinson et al., 2007; Shrestha et al., 2011).

Recruitment strategies have been evaluated, but only in the general sense of a college or university overall and the sources of information used during the decision-making. No research has been found specific to horticulture that evaluates the effectiveness of the recruiters themselves and the material they use for promoting. For the Green Industry this would include both academic and corporate representatives who speak to students. Items to evaluate, relative to recruiting, would be a department's contribution to connecting a student to partners in the industry and a company's presence in the area of recruitment.

Some research has been identified which broadly addresses recruiting or influential factors by colleges of agriculture with no results specific to horticulture or disciplines in the Green Industry. Students majoring in animal science or agricultural

business may be influenced by completely different factors compared to those in horticulture; therefore, these generalized studies do not accurately represent the students interested in a specific field.

All of the research discussed thus far involving recruitment and influential factors follow a pattern over time, trending every ten years or so, especially those specific to horticulture. The earliest documentation of these findings is from 1990 (Rhodus) with the most recent occurring in 2000 (Bradley et al.) and a lack of observation through the next decade in 2010. Because society and communication methods change drastically over short periods of time, it is important to keep this information refreshed in order to properly adapt to change, in that it might lead to adequately supplying the Green Industry's need of students.

This study identified the students currently enrolled in horticulture programs and provided insight into recruitment strategies for the Green Industry. An explanatory sequential mixed methods design was used and it involved collecting quantitative data first, then explained the quantitative results with in depth qualitative data. In the first phase of the study, survey data was collected from students enrolled in a Green Industry related program by an online survey management system during an event associated with the Green Industry. The data determined what influential factors led students to decide to major in horticulture and helped create a general profile for these students. The second phase was conducted as a follow-up to the quantitative results to help explain them. In this exploratory follow-up, students were asked to further explain some of the factors established from the quantitative data as well as offer advice on enhancing the recruitment efforts.

For the quantitative phase of the study, the following research questions were formed:

1. How does today's horticulture student identify him or herself?
2. What is most influential to today's student in deciding to major in horticulture?

For the qualitative phase of the study, the following question was developed:

1. How can the identity and influences of a horticulture student apply to recruitment of future students?

Limitations to this study include the accuracy of the instrumentation and the sample representing the population. Two challenges arise with the use of a survey as the instrument to collect social science data. The first is the ability to create a survey with items that are specific to the proposed question and will provide useful data. The second is in the interpretation of the responses to the items, as each respondent will likely perceive them differently. Another limitation will come from the sample because it is hard to generalize and reduce a large group of people's perceptions to a single concept. This will hold true for the student sample because of the individuality in influences and decisions belonging to each student. An attempt to overcome the challenge with the sample groups was done by the in-depth qualitative phase of the study, when a better understanding of the survey data was sought.

Literature Review

Research specific to recruitment strategies used in the Green Industry, factors that influence students' program choice and enrollment trends within horticulture departments is limited. This literature review covers what research has been conducted thus far.

The number of graduates being produced by horticulture programs is not enough to keep up with the demand for knowledgeable employees by the Green Industry (Sibley et al., 2002). In 2002 at Auburn University, students seeking employment within the field have 100% job placement on or before graduation (Sibley et al., 2002). The most recent projection of job outlook in the Green Industry shows there is an estimated growth of 12.7% for positions associated with first-line supervisors in landscaping (U.S. Bureau of Labor Statistics, 2012a). The most recent observation of trends across horticulture programs shows enrollment is declining for some and stable for others (Lawell, 2011).

Since the farm crisis of the early 1980s, colleges of agriculture and related sciences have been on the forefront of finding ways to increase their enrollment in all areas of life science majors. Multiple studies have been done to evaluate the effectiveness of various recruitment strategies and factors that affect student program choice (Cole and Thompson, 1999; Herren et al., 2011; Robinson et al., 2007; Shrestha et al., 2011). As with enrollment, recruiting strategies were noted to follow trends due to changes in technology and society that must be addressed and to which efforts must be adapted. In 1994, the top five factors that influenced a student to pursue a degree in agriculture were prior experience in agriculture, preference for rural living, desire to work with animals, positive job opportunities and parental influence (listed in order from first to fifth) (Donnermeyer and Kreps, 1994). Now the focus is placed on the characteristics of the

university and specific personal communication. This change could be due to the possibility that fewer students are coming from a rural background. Students consider the university academic reputation, preparation for employment, and opportunities after graduation, ranked first through third, respectively, as the top characteristics of influence when choosing a college of agriculture related program (Robinson et al., 2007). They also ensure that there is a program available in which they are interested (Shrestha et al., 2011). As for personal connection that influences a student's decision, the factors varied. Some students listened to parents specifically (Cole and Thompson, 1999; Herren et al., 2011), relatives currently attending and alumni from the school (Robinson et al., 2007) or family and friends in general (Shrestha et al., 2011).

Just as factors of influence varied, so did effective recruitment strategies, but the time separation between studies could play a part in that difference. In 1999, Cole and Thompson found pamphlets and literature (69.4%) to be the primary source of information, and while a campus visit was the least used source by students (54.8%), it was considered very helpful (44.4%). Almost a decade later in 2007, the primary source of information was a visit to campus (74.8%), and the most beneficial source was participation in on campus events (37.8%) (Robinson et al., 2007). Herren et al. (2011) also found campus visits (87.6%) to be utilized most and provided the greatest help to students (3.95, 1-5 scale). In the study by Shrestha et al. (2011), campus visits were only noted as being used by 2.7% of students. These findings show that just because a source of information is utilized by students more, it does not necessarily make it beneficial to the students' decision-making process. A reason for such differences in utilization of these strategies could be because the sample population of each study only represented a

specific university – Michigan State (Shrestha et al., 2011), Oklahoma State University (Herren et al., 2011), University of Missouri (Robinson et al., 2007) and Oregon State University (Cole and Thompson, 1999). As in the case for the study at Michigan State University, there may be less participation by students when it involves traveling to campus during colder weather (Shrestha et al., 2011).

Enrollment, recruitment and factors of influence that have been studied at the college level have also been considered at the department level. There was a decline in horticulture enrollment almost ten years ago, decreasing approximately 35% (Darnell, 2006). A newer article released in 2011 details total enrollment of six schools with a horticulture program (Lawell). Three of the schools have seen decreases in enrollment between 24-63%, but two of the other schools have seen increases and the sixth school was maintaining a stable enrollment. The same trend has been observed for agronomy and crop science, a sister program to horticulture and field within the Green Industry (McCallister et al., 2005; Hansen et al., 2007). One study investigated high school students' interest in pursuing horticulture as a major (Compton, 2002). Of those surveyed, 47% said they would be inclined to consider it as a major. These particular students were taking either a biology or agriculture course. This supports a rationale that prospective students need exposure to the field of horticulture at an appropriate time like high school to mature interest.

Recruitment strategies and factors of influence have been studied on a ten-year cycle. Rhodus (1990) evaluated recruitment strategies to determine their use by horticulture programs that were decreasing, increasing or showing no change in enrollment. Interaction with high school counselors, participation in high school career

days and junior high/elementary school career days were used significantly more by those programs that saw increases in enrollment. Priority of issues was noted on a high, medium or low level. Most programs were not concerned with the career opportunities (“low” – 63%) but were most concerned with the supply of students (55%). There was a lack of interest to include industry in recruitment at that time. Rhodus (1990) found that only 23% of the declining and 29% of the increasing programs were creating recruitment programs that included industry involvement.

Ten years after Rhodus’ study, Bradley et al. (2000) considered the factors of recruitment specific to students in horticulture. The study showed that 74.4% of students chose the major because horticulture was a hobby. Most students decided upon this major either in high school (26.9%) or as a sophomore in college (26.3%), which corresponds to those times when the decision of a major is most urgently considered. This observation could be applied to Rhodus’ (1990) suggestion to develop recruitment strategies with a target audience in mind – late high school or early college students.

The factors that influenced students more than ten years ago and the sources of information they seek to make decisions regarding post-secondary education have possibly changed since many of these findings were published. The need for additional and updated data could provide access to more effective recruitment practices and defined the purpose of this research. Surveys from the current literature have been used as a model to structure and seek out new data.

Procedures

This study was conducted from the spring of 2014 through the fall of 2014. It was conducted in two parts: a quantitative phase followed by a qualitative phase. The initial quantitative phase consisted of a survey distributed on 21 March 2014 during the Professional Landcare Network (PLANET) (now known as National Association of Landscape Professionals) Student Career Days in Fort Collins, Colorado to willing students attending the event. The fifteen-item survey (Appendix A) was approved by Auburn University's Institutional Review Board (IRB) prior to the use of the surveys. During the event, students were asked to participate in the five minute survey and after it was completed they received a complimentary promotional item. A total of 230 students completed the survey. Qualtrics software, Version March 2014 of Qualtrics, Copyright © 2015, was the survey platform used to collect the raw data. Once the surveys were collected, the raw data was analyzed using IBM SPSS Statistics for Windows, Version 22.0. A final question requested additional support on the research by providing contact information. Those students were contacted via email to participate in the second phase. Students who willingly provided their contact information during the PLANET survey study were not contacted until the spring of 2015 and limited response came from the request.

The qualitative phase was initiated in the fall of 2014. Three institutions with departments of horticulture were asked to participate in the second phase: Kansas State University, Texas A&M University and the University of Kentucky. These three institutions were selected because they were recognized by the researcher as having a strong academic horticulture program and because convenience. A faculty contact

distributed the survey via email to the department's students. Students that participated and agreed to additional follow up were contacted. A time was scheduled for the students to meet with the primary researcher to conduct an in person interview. In total, seven students participated in an interview: three females and four males. The ten questions (Appendix B) discussed during the interview were also approved by Auburn University's IRB and were considered follow up questions to the survey. With an informally structured interview, additional questions were asked as they arose within the flow of conversation. Once the interviews were completed, the recordings, to which each participant consented by each participant, were transcribed and sent to the participant for clarification and confirmation. The transcriptions were analyzed by comparing the responses between each participant as well as with data from similar questions on the phase one quantitative survey. Responses of interest were those deemed appropriate for assisting in answering the research questions.

Results and Discussion

The results of this study have been sorted into three main parts: trends found in the survey and the interviews and applications for recruitment in horticulture.

Student Survey Trends:

To characterize contemporary horticulture students, demographic information was collected from participants on the students participating in each portion of the study. Approximately 782 students attended PLANET Student Career Days at Colorado State University March 2014 representing 59 schools from across the United States represented. Based on a map used in the survey, 11 schools represented the West, 29 from the

Midwest, 14 from the Southeast and five from the Northeast. A total of 230 students participated in the fifteen-item survey.

The overall gender breakdown consisted of 60.3% males and 39.7% females. By region, the trend followed the general trend of males representing the majority of students in the field of horticulture. (Table 2.1) The exception was in the Northeast where females were slightly more predominant. A future area of research could look into why female students are in the field of horticulture.

Students classified by the type of institution they attended (two-year or four-year) and whether they were traditional (18-24) or non-traditional (25 or older). The largest percentage of students attending a two-year institution, both traditional (59.3%) and non-traditional (53.1%), was from the Midwest (Table 2.2). This is likely simply because of the largest number of two-year institutions represented was from the Midwest. The reverse of that is true for the Southeast, which consisted mostly of students attending a four-year institution, both traditional (42.4%) and non-traditional (50.0%).

Table 2.3 provides student data based on student type and institution compared within each region. The data can provide insight into which students (traditional or non-traditional) are more likely attending a two-year or four-year institution. This information can be utilized to target certain populations of students. At four-year institutions in the Southeast, the traditional student makes up 82.4% of the students, but at two-year institutions in the Midwest, it is more evenly divided between traditional (55.2%) and non-traditional students (44.8%). In the Southeast the easier student target for a four-year institution would be the traditional students and could prove to be more fruitful. However, recruitment of non-traditional students at a four year institution in the Southeast could

also be advantageous knowing that is a student population that exists. The focus on the Southeast and Midwest is because they have the dominant population of students attending four-year and two-year schools, respectively.

Students were asked to identify the type of degree they are currently pursuing and of those that responded 46% are working towards an associate's degree, 49% towards a bachelor's degree and 4% towards a master's degree. They were also asked what type of horticulture program or specialization they intend to complete and Table 2.4 shows that Landscape Design and Landscape Management tend to be the more popular programs. However, it is important to note that PLANET Student Career Days is an event focused on students in the ornamental horticulture industry, so the number of students being identified in the Fruit and Vegetable program is not representative of students in all horticulture programs. This particular question was problematic in that students were not able to fill in the "Other" option to describe what their chosen program was. Several students mentioned the program they were in was a combination of some of the ones listed. Allowing for an open-ended response would have clarified the reason for selecting "other."

Another question on the survey asked students to share their plans after graduating. Table 2.5 shows what plans students anticipate pursuing based on the current degree they are seeking. After selecting one of the choices, a follow up question was asked. Students interested in pursuing an advanced degree (N=60) were asked what degree they would like to obtain, 38% would like to obtain a bachelor's degree, 68% a master's degree and 15% a doctorate. The majority of the students anticipated going directly into the industry to find a job, and the follow up question indicated that 99% of

those students were confident they would find a job. This should be a reassuring fact for industry because it means many of today's students plan to go straight into the field.

One question on the survey requested students to choose from a list of twenty-five different items what they considered to be part of their decision-making process in choosing horticulture as their major. Each item was categorized in one of three ways: personal or pre-college experience, green industry engagement or institutional influence. The top three factors were "I gardened with a family member." (71%), "I garden as a hobby." (57%) and "I talked with my parents or other relatives." (52%). All three of these responses fell within the personal or pre-college experience category. In the other two categories, "I previously worked in the green industry." (34%) was the top response in green industry engagement and "The program of interest was available at the institution." (33%) was the top institutional influence.

These responses align closely with some of those provided in an open-ended question on the survey asking students to describe other circumstances that may have influenced their decision. Of 86 responses, twenty-four (28%) were about gardening and/or plants. Within those twenty-four, twelve just related an interest in plants in general, seven discussed participation in other plant related activities, and five specifically referred to gardening experiences. Also, of 86 responses, there were twelve (14%) references to family influence or even specific family members such as "working for my uncle on his landscaping crew..." Many of these family responses were also tagged as connecting to a prior experience in the green industry, as there were seventeen (20%) references to that influence from 86 responses. Several of these responses described

opportunities to work for some type of landscaping company and others generally spoke about “growing up in the field.”

Two general themes also emerged from the open-ended survey question and were not options on the multiple-choice items. The ability to work outdoors, enjoyment of nature and simple love of being outside were mentioned eighteen times (N=86).

Responses included:

“I like the idea of working in an outside oriented career path”

“I simply love the outdoors.”

“Love nature and outdoors.”

“Always enjoyed working outside.”

The reason for being in horticulture for personal pleasure was mentioned twelve times by the use of the words (or variations of them) “happiness,” “enjoy” and “passion.” Several of these references related to being outdoors and prior work associated with it such as “[I] enjoyed working outside.” Other references were in regards to the student’s interest in plants like “[my] passion for plant.”

The use of the word “love” was also prominent, being mentioned sixteen times. It was typically in the context of how the student felt about plants as in “I love plants in general,” “love of plants,” and “I love plants.” Also in how the student felt about the outdoors; for instance, “The love for the outdoors,” “Love being outside,” and “I just truly love being outdoors” are some student responses.

The second theme that emerged is one associated with the idea of being in horticulture to make a difference. There were thirteen references to this theme. Many were focused on aiding in the well-being of the environment or world with thoughts like

“the desire to protect [the planet] and keep it green,” “making the world better,” “sustainable and environmentally responsible landscaping,” and “a passion to make the world cleaner and a better place.” Other students had the desire “to be dedicated to helping others” and “make a difference in the field of [medicinal plants].”

Student Interview Trends

During the second phase of the study, seven students were interviewed. There were three females and four males with six of the students being traditional and one of them being non-traditional. Five of the students were from the Midwestern region and two of them were from the Southeast. To further understand what some students were going to do with their degree in horticulture, the interviewed students were also asked about their plans after graduation. Some were certain about what they were going to do like working “in the green industry,” “ultimately... open my own landscaping business,” and “apply for grad school... then after that work for a design firm.” Other students were less clear, and one mentioned, “[I] fantasized about owning a nursery... exactly what I’m going to do, I don’t know.” While another simply responded, “Oh, boy.” Regardless of their certainty in their future they all agreed with the survey results that they were confident in finding a job in the Green Industry.

During the interview, some students were asked to explain where the passion they experienced for this field originated. The two themes that developed from the open-ended survey question, being outdoors and making a difference, were also most prevalent in the interview. As one student expresses, “being outside is something I love to do so I know that I’ll enjoy it for the rest of my life.” Another student described their passion to be “what you enjoy doing,” and further suggested in horticulture there are several

different ways for one to do this such as “being outside, being able to do hands-on things... make something for others... [and] help others understand what plants do.” Two of the students mentioned their desire to help others. One said, “[Horticulture is] a way to help people learn... it helped me be passionate because I know that I’m teaching other people too while I’m doing it.” The other simply stated the passion came from “making a difference every day.”

The first question that was addressed in the interviews was for each student to describe the number one reason why they were in horticulture. These responses reiterate what was represented in the survey data and one student mentioned several of the themes relative to his experience, “It’s something I enjoy doing... I want to pursue my passion... growing up gardening and being outdoors with my family really pushed me into [horticulture].” One other student mentioned, “I thought I would enjoy it” and indicated that he had since become passionate about horticulture. Three additional students included a prior experience of gardening in their comment:

“Growing up I was really interested in gardening at my parent’s house and at my grandma’s house.”

“I grew up in the suburb... we just had a backyard [garden].”

“My mother’s mother had a little garden behind her house... she spent lots of time with me teaching me about plants...”

One student also represented those students who simply like plants as she stated, “I have a weird obsession with plants.” An outlier in the group, another student replied, “I was in FFA in high school.” Only 20% of the survey respondents said that participation in FFA influenced their pursuit of horticulture.

With a 57% response rate on the survey indicating parents play a part in a student's decision to major in horticulture, the question as to whether parents had any hesitation to the student choosing this major was addressed in the interviews. Two students said their parents understood because they knew the student enjoyed plants. One of those students grew up in the industry and added, "since my dad is in the industry, he understood and encouraged me." This optimistic standpoint was not the popular one, rather, many of the other students described hesitation by their parents. Two students said their parents did not know what horticulture was exactly. "[My dad] just thought it was like mowing lawns every day," one student said. Both continued to say that once it was explained "the jobs that could come out of it" and the student showed the father some of the design, then the parents responded, "Go for it" and they were "on board, though it took a while." Money was also a concern of parents and two students had similar stories:

"My dad was just about the numbers... he wants me to do something that would make a good living for myself so he said I think you should do the pre-med route or something in the medical field... My mom... said, 'You know you're really passionate about being outdoors.'... So I just took her advice."

"My dad was all about... the money you're making and my mom was like just do what makes you happy..."

A reason for parent unfamiliarity with horticulture could be because people within the field do not have a clear statement about what it is. During the interviews, the students were asked how they would explain horticulture to someone and their responses, though perhaps simple in meaning, were not all similar. One student explained

horticulture as “the study of plants and how they interact with us and how they help us.” A broader explanation was “plant science and anything you can do with it... It’s anything that has to do with something green. Growing it, maintaining it or managing it.” Then a more specific answer was given: “there is... the ornamental side, but there is also like the food and growing food side of it.” One other student flatly spoke in agreement to the disjointed explanation, “People don’t know specifically what horticulture is.” However, his definition was one that varied from the other responses, “horticulture is the specific kinds of things as opposed to agronomy.”

Aiding horticulturalist to better explain their field is one area that could increase the potential for recruiting students into the major. The interview students who explained horticulture to their parents did so mostly on the basis of their personal experiences. If horticulture was described from the perspective of what that person does within the field, it could give a unique and personal reflection rather than a standard explanation that may not be completely accurate across all areas.

Application in a Recruitment Setting

Additional data from both the survey and the interviews provided insight into opportunities for recruiting more students into horticulture. One question on the survey asked students to identify what major they were in prior to horticulture if it applied to them. Of the students that took the survey, 42% said they had changed majors into horticulture. Most students came from a business program (N=14), some type of liberal arts degree (N=14), a medical profession program (N=12) or architecture (N=11). Only eight of the students reported coming from another plant science program, five of them from another agriculture program and two from forestry.

Of the seven students interviewed, three did not originally start in horticulture. One student explained that horticulture was a second career with practicing law being the first career path. Another student followed the medical profession trend and was initially studying biology with a focus on pre-dentistry. Similarly, one student started off in animal sciences in a pre-veterinarian option before switching to horticulture.

These results show that students who enjoy the outdoors and like plants would not initially think to find a major related to those interests. These preferences could provide a basis for a targeted recruitment effort engaging students to discern if they have interest in plants and/or the outdoors and explaining there are careers related to these interests.

Important questions with respect to recruiting non-majors into horticulture is when they should be contacted, in other words when the critical time is that students decide to major in horticulture. According to the survey, the two most popular years for students to decide on studying horticulture are in high school (31%) and during the second year of college (21%). The two interview students who changed into horticulture each did so during their sophomore year of college. So the first big target population for recruitment appears to be those currently in high school and another would be students on the college campus who are in a major with which they may not be satisfied.

Students were asked to indicate who their first point of contact was within horticulture in order to determine from where the most outreach was coming. Based on the surveys, 52% of the students met a faculty member in the department first and 24% of students came in contact with an industry professional. Similar responses were given in the interviews as three students stated they met with a faculty member during a visit to campus. One student recounted his involvement with industry growing up and another

had the opportunity to meet industry by attending PLANET Student Career Days while in high school. Although correspondence with a faculty member did not rank in the top three for factors that influence a student towards horticulture on the survey, it was the top influencer within the institutional category, and is shown to have the greatest outreach impact according to the interviews.

Given the opportunity to be more candid, the interviews allowed the students to discuss their thoughts and ideas about how recruitment could be done better. The students were asked to comment on whether they believed adding horticulture based courses to the primary and secondary education curriculum would be beneficial because not “a lot of people see the [connection between people and plants].” Many of the students encouraged implementing some type of curriculum; however, one student suggested “not just strictly gardening.” Other comments from the students about creating courses to teach at primary and secondary schools included:

“The curriculum, whether that be elementary, middle school or high school... that would be tremendous. ... The earlier they see it, they understand it. Bring plants into the classroom.”

“My school had a greenhouse, so I would definitely say I think it does make an impact having a program like that implemented.”

Two students commented on their lack of these types of programs during their time in secondary education.

“If I’d had that in my school I’d been even more excited about it.”

“If I would have had some type of agriculture class I think it would have been beneficial.”

The suggestion was made for local gardens to reach out to the elementary and secondary schools and invite their students to the grounds to introduce them to plants firsthand rather than just the classroom. One student was not concerned about where the exposure took place, but rather when. “I think it has to start with putting the excitement in the high school level... if they don’t have some exposure to some of these things they’re not encouraged to explore.”

Whether it is bringing horticulture to the students or the students to horticulture, it is addressing the concern of one interviewed student that “a lot of people don’t even know [horticulture is] here.” The students were also asked to describe additional ways to encourage more students into horticulture programs. One student simply said, “Just making it known” and “make it seem like more than just a hobby.” Several of the students followed suit to mention ways a horticulture program could gain exposure, most of which were forms of communication:

“Word of mouth is just a huge thing... figure out how to incorporate that into how we promote it”

“Maybe setting up horticultural student ambassadors... [prospective students] can come and talk to us and we can share out experiences and sell them on horticulture.”

These “experiences” would include the classes students take “because it’s so hands-on and [students are not] sitting in a classroom listening to concepts, [they are] actually doing them.” Since “people enjoy these classes... that can be a big selling point for people who [would] like to come try horticulture.” Going deeper than just the classes, one student believes it “has to do with the professors that teach... within the department.”

The faculty are “more personable. They care about you. They’re willing to do whatever it takes to help you learn. . . . that’s [not] something to be overlooked either.”

Conclusions

The results of this study have provided valuable insight into understanding today’s horticulture student and what helps them decide on this field of study. Furthermore, this research provides a basis for academic professionals to understand gathered information regarding the recruitment of prospective students, which can increase department enrollment and evaluate their current recruiting efforts. The data also answered the research questions initially stated.

1. Students come from diverse backgrounds – some with prior knowledge and experience in the Green Industry, others with none. Many are traditional students, but several are non-traditional returning to start a second career. Some started in horticulture and stayed, the rest migrated into the program through some engagement with a horticultural activity.
2. For the most part, influential factors are more narrowly focused in that the impact of gardening, especially with a family member, and the effect of parental guidance are the top reasons students chose to study horticulture.
3. Though the characteristics of horticulture students are different from student to student, there are certain areas that can be targeted to attract more students and using the influential factors can be a start.

This study can provide guidance in recruitment and enrollment efforts in horticulture. There are two primary groups of students to consider when planning a

targeted recruitment strategy: prospective non-college students and current college students.

Of the thoughts shared by the students who participated in the study, a theme that emerged was the need to make industry exposure more prominent to the public and prospective students. Increasing this exposure can clarify the purpose and impact of horticulture to several stakeholders. It was repeatedly suggested industry exposure at the secondary or elementary school level would be critical. When approaching these prospective students, a greater focus should be placed on interacting with both the students and the parents. Since parents are still a primary factor of influence for a student, both should be exposed to the industry and the opportunities it offers. Focusing on gardening activities could stimulate an interest at an earlier age since there was shown to be an influential factor for many of the student participants.

Developing industry exposure will call for additional support and engagement from professionals within the Green Industry. While it was considered beneficial by those students who received it, the interaction from professionals did not appear to be abundant. Exposure by industry could be increased by attending a high school career fair, providing scholarships for students to attend horticulture related conferences or simply visiting a college campus. This exposure to the professionals should be to both prospective and current college students, and perhaps even current horticulture students, as it will help them determine a specific area of horticulture that they may want to pursue.

When exposing current college students to horticulture, it should likely be done on campus and can be done in various ways. The targets of this population will be freshman and sophomore students, as the study showed many students that changed

majors did so in their second year. Students that changed into horticulture were not from any predominant major, which allows for a larger audience. Attending a majors fair with an interactive booth, asking industry professionals to visit campus, and creating courses that are available for both majors and non-majors are possibilities for exposing prospective students already on campus to horticulture.

In creating this exposure, prospective students of all types will be able to see the foundation of horticulture is plants, but that the occupations of this field allows someone to work outdoors. Both a passion for plants and a desire to be outside were key factors for a student's interest to decide to major in horticulture. While these may seem like obvious reasons, if a prospective student does not understand the nature of the field of horticulture, the principle objects may not be as readily understood either. Highlighting horticulture as a career that works with plants and is often times outdoors shows a realistic view and may attract students who are unaware that such a profession can meet their interest needs.

One other theme that surfaced and should be considered in recruitment efforts is the fact that current horticulture students apparently have an interest in public engagement. Two students mentioned they "really like working with people" and "really enjoy the public side of it." Whether it is having direct relations with the public or just interest in feeling like they make a difference, as many of the students alluded to, both targeted groups of students can be enticed by these ambitions. Again, with better exposure, specific jobs that interact with the public can be identified and expressed to prospective students.

The most influential thing that can be done in recruiting more students to horticulture is to capitalize on the benefits it can offer the student and demonstrating the

passion within this industry. However, this effort will require active participation from both academia and professionals in the industry as well as time and resources. The suggestions provided here potentially reduce concern for the future of the Green Industry by increasing the supply of students needed to fill the many job opportunities.

Additional research can be conducted in this area of study and should include the population of students that are in food crop or other specialty crop programs, as they were not adequately represented in this study. Other future research could evaluate the extent to which industry professionals engage with students, both current and prospective, to identify where efforts should be increased.

The information gathered in this study can provide valuable benefits to the Green Industry in several ways. Academic professionals can gain insight into information regarding the recruitment of prospective students, which can increase department enrollment and evaluate their current recruiting efforts. Also, information regarding factors influencing undergraduate enrollment in horticulture has been updated.

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Table 2.1. Gender breakdown of students in horticulture by U. S. regions from the Professional Landcare Network (PLANET, now known as National Association of Landscape Professionals) Student Career Day survey.

Gender	Region				Overall N = 224
	Northeast ^z N = 16	Southeast ^y N = 79	Midwest ^x N = 88	West ^w N = 41	
Male	43.8%	65.8%	52.3%	73.2%	60.3%
Female	56.2%	34.2%	47.7%	26.8%	39.7%

^zNortheast states include: CT, DE, MA, ME, NH, NJ, NY, PA, RI, VT

^ySoutheast states include: AL, AR, GA, FL, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV

^xMidwest states include: IA, IL, IN, KS, MI, MN, MO, ND, OK, SD, WI

^wWest states include: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY

Table 2.2. Student demographics based on student type, institution and region compared across U. S. regions from the Professional Landcare Network (PLANET, now known as National Association of Landscape Professionals) Student Career Day survey.

Student Type	Institution	N =	U. S. Geographic Region			
			Northeast ^x	Southeast ^w	Midwest ^v	West ^u
Traditional ^z	2 Year	54	5.6%	33.3%	59.3%	1.9%
	4 Year	49	10.1%	42.4%	26.3%	21.2%
Non-Traditional ^y	2 Year	99	4.1%	18.4%	53.1%	24.5%
	4 Year	18	5.6%	50.0%	11.1%	33.3%

^z18-24 years of age.

^y25 years and older.

^xNortheast states include: CT, DE, MA, ME, NH, NJ, NY, PA, RI, VT

^wSoutheast states include: AL, AR, GA, FL, KY, LA, MD, MS, NC, OK, SC, TN,

^vMidwest states include: IA, IL, IN, KS, MI, MN, MO, ND, OK, SD,

^uWest states include: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR,

Table 2.3. Student demographics based on institution, student type and region compared within a U. S. region from the Professional Landcare Network (PLANET, now known as National Association of Landscape Professionals) Student Career Day survey.

Institution	Student Type	Region				Overall
		Northeast ^x	Southeast ^w	Midwest ^v	West ^u	
2 Year	Traditional ^z	60.0%	66.7%	55.2%	7.7%	52.4%
	Non-Traditional ^y	40.0%	33.3%	44.8%	92.3%	47.6%
4 Year	Traditional	90.9%	82.4%	92.9%	77.8%	84.6%
	Non-Traditional	9.1%	17.6%	7.1%	22.2%	15.4%

^z18-24 years of age.

^y25 years and older.

^xNortheast states include: CT, DE, MA, ME, NH, NJ, NY, PA, RI, VT

^wSoutheast states include: AL, AR, GA, FL, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV

^vMidwest states include: IA, IL, IN, KS, MI, MN, MO, ND, OK, SD, WI

^uWest states include: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY

Table 2.4. Breakdown of enrollment in horticulture options by institution type compared across institution from the Professional Landcare Network (PLANET, now known as National Association of Landscape Professionals) Student Career Day survey.

Institution	N =	Options						
		Landscape Design	Landscape Management	Landscape Architecture	Nursery/ Greenhouse	Fruit/ Vegetable	Turfgrass	Other
2 Year	104	13.5%	29.8%	1.9%	20.2%	4.8%	8.7%	21.2%
4 Year	118	32.2%	27.1%	10.2%	11.9%	5.1%	0.8%	12.7%

Table 2.5. Students' plans after graduation compared by current degree obtained from the Professional Landcare Network (PLANET, now known as National Association of Landscape Professionals) Student Career Day survey.

Plan	Current Degree		
	Associates N = 104	Bachelors N = 110	Masters N = 8
Pursue an advanced degree	24.0%	25.5%	62.5%
Find a job in the industry	63.5%	63.6%	25.0%
Find a job in another industry	3.8%	1.8%	12.5%
Unsure at the time	8.7%	9.1%	0.0%

CHAPTER THREE
A FACULTY PERSPECTIVE:
THE PAST, PRESENT AND FUTURE OF HORTICULTURE

Introduction

Ask faculty within a department of horticulture about the state of the program and some will respond numbers are down and have been over recent years (Lawell, 2011). Flip the conversation and ask them about job opportunities within the horticulture industry and most of them will optimistically tell you the supply of jobs far exceeds the supply of students needed to fill them. This is in alignment with data from the U.S. Bureau of Labor Statistics (2012) that projects a 14.1% increase in jobs in the Green Industry through 2022. If there are insufficient numbers of students in horticulture to meet industry employee needs upon graduation, the obvious solution would be to attract more students and stimulate growth. This is what most refer to as recruitment and where the bigger challenge surfaces.

While a faculty member would be a reasonable person to question about the effort of recruitment and enrollment strategies, there is little published research to suggest faculty have been approached and considered when discussing the topic of student recruitment. Faculty and staff within academic departments may be the most familiar with the challenges associated with recruitment. This study was conducted to seek the insight of faculty and staff at the academic unit level regarding recruitment and enrollment efforts.

The purpose of this study is to provide an overview of the historical context of enrollment and current strategies within specific departments of horticulture and assess possible steps to effectively encourage students to pursue a degree in horticulture. The study focused on addressing three principle questions:

1. What are the trends for enrollment in horticulture within the United States?
2. What are current recruiting practices implemented by departments of horticulture?
3. How do departments intend to move forward and accomplish the goal of increasing its student numbers?

The outcome of this study provided some possible strategies for departments to consider as they individually address the challenge of student recruitment.

Literature Review

The concern of student enrollment in horticulture dates back to the 1980s, when one study compared enrollment trends across different components such as recruitment strategies, students' background, and issues affecting future enrollment (Rhodus, 1990). Almost half of the participating programs saw a decline in enrollment between 1984 and 1988 and many of those programs were small with less than 80 students enrolled. Those with increased enrollment used a variety of recruiting strategies as compared to those in the decreasing category such as attending "career days" and hosting students on campus for visits. Many of the programs, both increasing and decreasing, considered the "supply of students" (55%) and "time required to recruit" (56%) to be of high priority when it came to the future of enrollment. These figures, while almost thirty years old, are still of concern for many horticulture programs and professionals in the industry.

Many questions of concern about the future of horticulture academic program were addressed in an online forum created by the International Society of Horticultural Sciences (ISHS). These concerns were summarized into a brief article and published by ISHS “not to offer solutions to the issue, but simply to categorize and summarize the comments received so far” (Darnell, 2006). The article indicated that horticulture departments at universities in North America have seen a thirty-five percent decrease in enrollment over the last thirty years. Some of the initial questions and returned responses discussed the perception of horticulture by the general public. Many contributors suggested the perception was negative because they believed that the industry is seen by the public as unglamorous. One of the last questions addressed was the merging of horticulture departments into greater plant science departments and arguments were made for both sides as to whether this was helpful or harmful.

While the article by Darnell admitted that it did not address solutions to these questions, very few articles have since been published discussing further ideas and possibilities (2006). However, one such article was published about potential recruiting strategies that could be utilized to increase enrollment (Baker et al., 2013). The study considered agriculture programs as a whole, but focused specifically on recruitment strategies for horticulture programs. Highlighting job availability and positive experiential opportunities, as well as connecting with the student both in person and through online portals were considered some of the most effective recruiting strategies. For specific messages and materials used in recruitment efforts, those considered to be well received by prospective students were full color promotional items, including with statistical information about the industry and testimonies from professionals.

According to Childers et al. (1994), by introducing a one-hour, one credit course on fruit production and offering it to horticulture majors and non-majors, the department saw student enrollment increase forty fold over the course of two years. The idea behind this strategy was the belief that it would be “easier... less expensive, and more effective to recruit students already on campus.”

Targeting students currently on campus would seem to be a sound concept considering a large portion of students settle on a major their second year of college (Bradley et al., 2000). Another target would be high school juniors and seniors. This demographic group represents another critical time when students decide on a college major. Specifically reaching out to students in high school agriculture and biology classes could be effective considering students in those courses tend to have an interest in horticulture (Compton, 2002).

A few studies were found concerning recruitment within the agronomy major. Each of them addressed the downward enrollment trend and provided possible steps towards enhancing recruitment. McCallister et al. (2005) concluded that hiring a departmental recruiter could be beneficial; someone who could focus all his/her efforts on reaching prospective students and raising interest in the department. Collins suggested advertising introductory course to more non-majors, finding opportunities to talk to parents and explain career outlook, and getting in front of students as early as possible such as elementary and middle school students as being effective recruitment strategies (2008).

While all of these articles are beneficial in some way to identify ways to overcome the recruitment challenge departments of horticulture face, none questioned

faculty/staff within the departments of horticulture. This research explored faculty and staff perception to gain insight into how to achieve a more effective recruitment program for horticulture departments domestically, and possibly across internationally.

Procedures

This study began in the fall of 2014 with data being collected in the fall of 2014 and spring of 2015. Four institutions with departments of horticulture were selected and agreed to participate in the study. The institutions visited include Auburn University (AU), in Auburn, Alabama in January 2015; Kansas State University (KSU) in Manhattan, Kansas in September 2014; Texas A&M University (TAMU) in College Station, Texas in September 2014; and the University of Kentucky (UK) in Lexington, Kentucky in October 2014. The primary researcher visited each of the departments after approval was granted by Auburn University's Institutional Review Board (IRB) and a representative agreed to an interview. The representatives were either faculty or staff within the department. An interview lasting approximately one hour was conducted with the representatives and covered ten IRB-approved questions (Appendix C) concerning the horticulture program's status, its students' characteristics and recruitment. The questions were derived from interest noted in previous literature as well as what was considered to be lacking.

With the informal structure of the interview, some additional questions arose from the nature of the discussion. The interviews were recorded with permission from the representative and later transcribed for analysis purposes. Once the recordings were transcribed, they were sent back to the representative to confirm or clarify the text. The

data was analyzed by comparing the responses across institutions, identifying trends or unique circumstances and relating all of it back to the research questions.

Results & Discussion

By comparing past recruiting trends with participating horticulture departments, Auburn University (AU), Kansas State University (KSU), Texas A&M University (TAMU), and University of Kentucky (UK), it was hoped a better understanding of each of their present situations could be developed and that collectively they could improve recruitment efforts. The results of this study are discussed in two parts. Part One addresses historical enrollment trends, while Part Two evaluates projected recruitment efforts by departments.

Part One: Trending Toward Today

When asked “Have you seen an increase, decrease or no change in enrollment over the last five years?” all four programs alluded to the fact that their numbers were down from previous terms. The current student numbers are compared to the five-year average in Table 3.1.

Both AU and KSU mentioned that while the trend across the five years is a decrease, they have seen an increase within the last two years. UK’s representative said the lowest enrollment had been in the last 15 years occurred approximately four years ago when the total number of students dropped to 15 students. Due to previous low numbers, the department had to merge its degree program with the agronomy degree program to create a Horticulture Plant and Soil Science (HPSS) degree. This was an effect of a

mandate from upper administration requiring programs graduating less than ten students a year to either fold into other similar programs or shut down completely.

KSU is facing similar challenges as the academic dean of the college is insisting they need more students, “but the problem is he is comparing [horticulture] to animal sciences.” Their initial response to the enrollment question was that numbers have leveled off, having taken a dip about two to three years ago. When viewed over a greater period of time, the number of students has dropped from 269 back in 2005 to 136 in 2014, creating a decrease of approximately fifty percent.

TAMU believes “we’re down” partly because some of the programs have changed, which realigned students and also caused some students to migrate to other majors. However, they do not consider the current number of students to be disheartening as it is only when those numbers are compared to other departments within the college that things appear to be awry. A department with only 120 students does not seem to be doing as well as one like Agricultural Leadership, Education and Communications with over a thousand students. Whether those departments should be compared on the same scale is a question for another study. In the case of TAMU, the larger department could have a profound effect on horticulture if it would simply cap its enrollment. One representative states in regard to applying an enrollment cap on this larger department, “the spill over will come over here... where they could get the same job if their major was in horticulture.”

Enrollment is not the only thing that has changed over the course of time in these horticulture departments. Several of them have seen their programs change in name

and/or number. Table 3.2 details the specific programs currently offered by each department.

TAMU highlighted the fact that it provides the only option to receive either a Bachelor of Science or Bachelor of Arts degree in the county. This is believed to make the department and programs more appealing to a broader range of students. They are in the process of “streamlining” the programs and creating an easier way for students to follow course work that will lead to a specific career or field of work.

While KSU currently has seven different programs to choose from, they too, are looking to condense it to four: horticulture production (includes nursery/greenhouse production and fruit/vegetable), golf course and sports turf management, landscape horticulture (includes management and design) and horticulture science. One representative explained that offering so many options was a cyclical phenomenon. At one time the college used the diversity in programs as a marketing scheme “because students can identify with any of these specialized areas.” Now, administration tells the department it is “too diffused” and needs to consolidate. Again, upper administration policies greatly affect how a department handles challenges.

Just as enrollment numbers fluctuate, so do the specific numbers it represents. Each of the programs in this study has seen increases and decreases of students internally and the trends have been similar across the different institutions. When asked which program or specialization had the most students or would be considered the most popular, there was a resounding answer of the landscape programs, or that they “used to be.”

UK’s representative made the suggestion that a trend might be found across institutions that the “service part of horticulture used to be the most popular student area,

specifically landscape management.” UK and TAMU said while the service industry, or landscape programs, were considered the most popular, they have been surpassed by the fruit and vegetable production program. AU and KSU still refer to the landscape programs as having the highest student enrollment, but that their fruit and vegetable tracks are gaining a significant amount of interest.

This current interest in fruit and vegetable production by students is why several institutions are considering the implementation of a sustainable agriculture program into their curriculum. At UK, there is not an approved program of this sort, but students can fill elective hours with courses geared towards sustainable agriculture and the horticulture faculty teach most of these courses. Lack of faculty is the reason TAMU has not pursued this type of program, although they indicated they would like to do so. For now, the students are finding their niche for enology, viticulture and small crop production in the fruit and vegetable program offered.

Not all programs are seeing the same spark of interest and spike in enrollment like the fruit and vegetable programs. For example, both UK and KSU stated that their turf programs have seen a decrease in students over the last couple of years, and provided the reasoning that employment is not as opportunistic because golf courses are not being built as often any more, which could be a “sign of the times” according to KSU.

A similar trend was noted with a horticulture therapy program that was removed from the curriculum at both KSU and TAMU. The causes: loss of student interest and or faculty to teach the course work. KSU says there is interest in bringing the horticulture therapy program back.

The institutions were asked if they could identify the source of most of the students that transferred in to horticulture including their previous major. AU said it varied greatly and depended on whether it was looked at from within the college or across the university. If they are coming from within the college, several moved from agronomy; and if they are coming from outside of the college many of them transferred from the colleges of business and engineering. KSU did not give specific examples, but suggested they also received students from all majors. UK saw many of its students coming from the biology department and liberal arts majors. Because of TAMU's unique option to acquire either the Bachelor of Arts or Bachelor of Science undergraduate degree, they also indicated students came from a vast array of majors. Many moved within the college because they had to take a class in horticulture, which sparked an interest and inspired them to change. The students in the science major typically come from other science majors, whether within the college or from the college of science. They tend to be looking for more applied science versus a basic science major. They have observed students come from the college of liberal arts and change into the Bachelor of Arts degree program. "The good news is students are coming in [who] usually stay and are graduating" (TAMU).

Representatives at respective institutions were asked what they thought motivated students to transfer into their horticulture programs. TAMU alluded to the fact that students want more of the applied science field rather than basic. They also mentioned their students have an interest in being outdoors and having hands-on experiences. There is also the chance that a student had prior gardening experience and it just took them a while to figure out they could have a career in the field they enjoyed as a child. However,

at UK, the representative said, “it’s really hard to define a horticulture student” except that “they like plants.”

Both UK and TAMU mentioned their horticulture student organizations and the backgrounds of the members. Only one third of the students in the Horticulture Club at UK are actually in horticulture; the others come from various majors such as biotechnology or accounting. TAMU depends on its students to regulate and maintain its Howdy Farm, but seventy percent of the students are not in horticulture.

Identifying characteristics of current students in horticulture can be helpful when evaluating the concept of recruitment and current practices. If low student numbers is a problem, then a sensible solution would seem to be to recruit more students. The institutions were questioned on how recruitment is handled and what strategies were involved. Interview results revealed they face similar issues of enrollment with similar recruiting practices.

One of the first questions asked if the department had a designated recruiter. In this context, the researcher was referring to a recruiter as one whose position represents the department and actively pursues prospective students with the intention of encouraging them into the respective department. None of the four institutions has a recruiter as defined in this way. AU’s Student Services Coordinator does handle the "lion's share" and would be the closest to being considered a recruiter as this person works closely with the college with several recruiting events. At UK, the Undergraduate Director is the lead departmental representative, but does not solely recruit. However, Horticulture's counterpart, the Plant and Soil Science department, does have a full time recruiter. It is interesting to note that while their degree programs are combined and the

departments are separate the recruiter is specific to one department rather than both. TAMU does not have the personnel specifically designated as a recruiter, but still makes accommodations for prospective students interested in the programs. The only remarks KSU had were that at one time they had a recruitment committee but no longer do.

Though a department might not have a recruiter, the question arose as to whether or not attempts might be made by the department to specially recruit students, such as through some type of special event. The responses were few and limited in context. AU said they do not coordinate specific events to target prospective students, though responded that it sounded like a good idea. UK only meets with prospective students when they request time with the department. KSU also meets with prospective students when the need arises, but considers such involvement "too passive." They do what they can to reach out to students when the university hosts the State FFA competition. One representative commented, we "try to capitalize on that as an opportunity." While they do very little on their own to recruit, they have interest in it like Auburn. Their interest comes from the "potential here on this campus" to recruit students that are currently attending.

All four institutions mentioned taking time to meet with prospective students, so they were asked to explain how they promoted both their department and horticulture as an industry for a career. They each reported that they express similar benefits to both as noted in Table 3.3.

Careers in horticulture seem to be worth talking about when speaking to prospective students, as indicated in Table 3.3. Since it is a highlight about a department, it brought up the question of how exactly careers and job opportunities are impacting the

department and its current students. What does the job placement rate look like for current and upcoming graduates at each of these institutions?

The responses to this question, again, echoed one another closely. At AU and KSU, job placement is nearly a hundred percent. TAMU states that a student willing to do a horticulture job can certainly find one, and there are so many openings they cannot fill them all. However, being geographically bound for circumstantial reasons, not finding a job that fits their niche or simply not wanting to leave the state affect overall placement rates. The latter factor is also prevalent at UK, where “any student that is willing to travel outside of the state and do a good internship, can get a job in a week. They are very employable.” However, some students have no desire to leave the state and go after those jobs. Instead, they stay in the area and end up in a job they did not necessarily want. UK is optimistic this will change because of the increasing number of out of state students they are seeing, which has the potential to encourage students to pursue careers in other areas or regions.

The representatives were also asked to what extent their students are exposed to the industry, addressing whether current students are aware of the opportunities within their discipline. Student organizations within the departments at AU and KSU invite industry professionals to speak during meeting times. AU mentioned sending students to conferences to develop their networking skills. TAMU hopes students take advantage of the career days and career fairs to make connections within the industry. Both KSU and TAMU utilize visiting alumni to speak in front of larger groups of students.

Part Two: Today's Battle, Tomorrow's Victory

There is a challenge each of these horticulture departments is facing – job opportunities are increasing but the number of students enrolling is decreasing. It is a difficult challenge to overcome, but could be a department’s survival method. As these institutions look towards the future, they are identifying ways to deal with pressure from upper administration and the ever-changing prospective student.

AU would like “better exposure from reputable news and other media sources” by pointing out the career opportunities as positive highlights and not just another dirty job. They also wish to see the industry involved more actively in recruitment efforts. However, the constraining reality is that industry horticulturalist tend to stay busy, making it harder to be actively involved in a consistent recruiting effort.

KSU reiterated the potential of reaching students that are currently attending the university by showing “them horticulture is a vital, attractive, awesome field.” They also mentioned targeting K through 12 students, who are frequently on campus for various events and programs. The rationale is to just get it in front of them because “you don’t know it’s a career if you don’t know about it,” and the more students are exposed to it, the more likely they are to recognize and remember it.

One major limitation was brought up by KSU and echoed by TAMU that the bigger part of the challenge in recruiting students to horticulture is first recruiting their parents. Parents’ perceptions are the biggest critic to the horticulture industry. KSU admits the industry is difficult to characterize, but parents tend to lean towards thinking it consists of a “grubby t-shirt... holey jeans and two guys in a truck.” While it ranges in scale from that to a billion dollar industry, it is difficult to articulate such breadth to parents in a way they can understand. TAMU handles this question by just being forward

with the parents from the beginning. For example, they explain to parents that are expecting the engineering salary that even though it is not typical, there is a high rate of employment in the field.

A TAMU representative said about talking with prospective students that it is important not to “over promise and under deliver” and just “[be] very transparent.” This suggested another, more tangible proposition to have more engagement with younger students and children. One way they hope to accomplish this is through the creation of a “gardens and greenways development project,” which will incorporate the department in the botanical garden aspect. This will allow them to showcase horticulture as more than “a guy mowing grass or [running] the weedeater.” This is a practical strategy that could be applied to KSU’s interest in working with K through 12 students.

The representative for UK agreed that enticing a high school student to attend college and major in horticulture is in fact a challenge, but was unsure of how to accomplish the task. One suggestion, especially for schools with the potential to attract them, is to go after more out of state students in particular. As mentioned previously, they are typically the ones who are more willing to move to pursue a job opportunity. This could increase enrollment and may eventually fill job openings.

Conclusions

Faculty were willing and ready to provide responses to the questions during the interview for this study. They seem to understand there is a problem with recruitment that could lead to irreversible consequences in horticulture. With this in mind they seem to desire to contribute as much as they can to resolve the issue. From the discussions with

each department, the initial questions to this research have been answered. To summarize the fundamental questions raised in this research:

1. What is the trend for enrollment in horticulture?

Enrollment has decreased, but programs are adapting and creating other changes – modifying degree specializations and instituting new programs based on student needs and interest.

2. What are current recruiting practices implemented by departments of horticulture?

While formal or systematic recruiting practices may be minimal or non-existent, departments recognize lack of recruitment effort could be a contributor to the decrease in numbers. They also realize their current condition, which tends towards passive recruitment, could be redirected toward more active engagement.

3. How will these departments move forward and accomplish the goal of increasing its student numbers?

Based on the comments from these different departments, a few recommendations have emerged: First, adjust to the student. If students are no longer interested in turf grass and jobs are fewer, focus less on such programs. Instead, develop a curriculum about which students are excited. Right now that looks like sustainable specialty crop production. It fits best in horticulture, but if horticulture does not take the lead then another discipline might, taking both the opportunity and the students. With such a popular interest in specialty crop production (as it is considered the fastest growing specialization in some departments) a course could be established and offered to majors and non-majors. This proved successful in increasing enrollment in horticulture according to Childers et al. (1994). Faculty may need to place more of an emphasis on

striving to help students find their passion and creation of an exploratory course may give them an opportunity for that interaction with students. One caution that may arise in the development of new program directions is how quickly it may phase out. However, nothing will be popular forever and though it may peak out like turf grass, at least students could take advantage of something they enjoyed.

The second recommendation is to alter the recognized passive recruitment effort. From this, two suggestions can be contributed: One is to get out there. If departments want the students, they have got to go find them. The passive procedures must be reversed and departments must become actively engaged. This could be by specifically reaching out to students as mentioned by Compton (2002) or through online outlets (Baker et al., 2013). None of the representatives mentioned the use of social media or websites as tactics for recruitment. The second is to understand the demographics of people that should be targeted for this active recruitment strategy.

From this study, two main groups have been identified. The first are those students currently on campus attending the institution. Most students do not identify horticulture as their major until their sophomore year of college (Bradley et al., 2000). Childers et al. (1994) holds the belief that it would be “easier... less expensive, and more effective to recruit students already on campus.” Some of the departmental representatives concur that this group of students is more convenient; however, they did not address the cost associated with this practice.

The second, and possibly more difficult target group, are parents of prospective students. The influence of a parent on a student’s decision about a major is extremely high, but the parents’ knowledge of the field tends to be limited and often skewed

(Bradley et al., 2000). Each representative mentioned the positive aspects they highlight about their department, job opportunities, learning experiences, among others, when they speak to prospective students. Baker et al. (2013) suggested that those are effective, but should also be effectively distributed. Turning these specific highlights into statistical information displayed through graphics or visual testimonies from current students and alumni is shown to be well received by students (Baker et al., 2013). By increasing exposure to parents of prospective student through similar measures, a connection could be established between the student and their potential in horticulture.

This is where generalities cease and the individuality begins. How to practically apply these suggestions will be determined based on each department's program. For some it may be as simple as visiting a high school's college and career night. For others, it could be more complex like developing an on campus summer horticulture camp or some other type of experiential learning event. A third, more tangible task, may be to institute an introductory course as described by Childers et al. (1994) that is available for both majors and non-majors. Regardless, the tactics will vary by institution with the realities of time and resources in place and even more dependent on the amount of effort that it is willing to devote on the part of department personnel.

More research in the area should be explored as some of these options are tried by departments of horticulture across the country. It would be of great advantage if departments would also keep up with some of this kind of data themselves. It would be important to understand the retention trends for a department – where students are going and from where they are coming. While enrollment data may be well recorded, it should be revisited often to identify other trends such as what courses are most popular based

number of students per course. From these numbers, recruitment strategies could be developed such as the ones mentioned previously.

Whether the average enrollment will ever be reached again or even exceeded is beyond knowing, but passively allowing numbers to plummet is one sure way to know it will not.

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Table 3.1. Current (Fall 2014) and five-year average student enrollment by institution.

Enrollment	Institution			
	Auburn University	Kansas State University	Texas A&M University	University of Kentucky
Current (2014)	120	135	155	40
Five-year Average	150	190	185	55

Table 3.2. Current (Fall 2014) horticulture program specializations offered by institution.

Programs offered	Institution			
	Auburn University	Kansas State University	Texas A&M University	University of Kentucky
Fruit & Vegetable Production	Fruit & Vegetable Production	Fruit & Vegetable Production	Vegetable & Fruit Crops ^z	Horticulture Enterprise Management
Landscape Horticulture	Landscape Management	Landscape Management	Landscape Management ^z	Science Option
Greenhouse/ Nursery Management	Greenhouse/ Nursery Management	Greenhouse/ Nursery Management	Nursery & Floral ^z	Crop & Soils ^x
Pre-Master's of Landscape Architecture	Sportsturf Management	Sportsturf Management	Science & Biotechnology ^z	Turfgrass ^x
	Golf course Management	Golf course Management	Floral Design & Event Planning ^y	
	Landscape Design	Landscape Design	Urban Horticulture ^y	
	Horticulture Science	Horticulture Science		

^zBachelor of Science degree program.

^yBachelor of Arts degree program.

^x Agronomy program under Horticulture Plant and Soil Science.

Table 3.3. Promotion of horticulture in recruitment by institution.

	Institution			
	Auburn University	Kansas State University	Texas A&M University	University of Kentucky
Highlights of a department for recruitment purposes	Scholarships Talks about career/job availability	Scholarships Talks about career/job availability Talks about current students	Scholarships Hearing from current students	Scholarships Internship experiences Small faculty/student ratio Hands-on experiences

CHAPTER FOUR

DEFINING THE STUDENT SERVICES OFFICE

Introduction

An office of student services in an academic institution seeks to provide assistance to students for their academic, career and personal needs (Long, 2012). These offices can be large in scale at the university level serving an entire institutional student body, and usually known as student affairs, or it could be located within a subordinate academic unit to deal with students from a specific department or college. University student affairs, a horizontal structure because of the nature to address all students' needs, differs from an academic unit, which is a vertical structure that focuses on the needs within the unit (Keeling, 2007). This horizontal structure makes it easier to offer particular services to students: student involvement, counseling services, health and wellness programs, dining and residence life. This model can be illustrated at the academic unit where its student services office is still horizontal because it serves all the students within the unit while the departments/disciplines are vertical.

This study focused on characterizing the structure, function and current practices of student services offices of three colleges of agriculture. A single discipline was selected for this research for two reasons. Programs and operations would be most similar and would allow for these and other institutions to draw close comparisons. The study was broken down into three main subtopics: An overview of the student services office, recruitment practices, and current student programs. Academic advising, while a key part

in student services, was not addressed in this study in part because of the depth of this segment is great enough to encompass its own study. Also, academic advising would generally fall under academic affairs rather than student affairs like the other areas.

The research questions that developed from the main subtopics are as follows:

1. How do colleges of agriculture, specifically a student services office, compare in structure and organization?
2. How is recruitment handled for the college?
 - a. How does that differ from institution to institution?
3. How does a student services office address the needs of its students?
 - a. How does the programming vary from institution to institution?

While most institutions at the university level are competing against one another for students, and though this may be the case for small pockets of colleges of agriculture, most of the time these entities are more sympathetic acquaintances than competitors. The data gathered here and the conclusions drawn could be very beneficial for these colleges to grow their enrollments and raise awareness to the opportunities in agriculture, which is believed to be the common ground upon which they all stand.

Literature Review

Research and case studies concerning student services offices within an academic unit is very limited. Student affairs is a broad topic that typically refers to a branch under a university's upper administration. There are books about theories on organizational structure (Ambler, 2000; Kuh, 1989) and the characteristics of student affairs professionals from a broad perspective (Kuk and Banning, 2009). However, none of these

specifically discuss what this type of office looks like on a college or academic unit level, and not many provide examples of these theories and structures at the university level, let alone the academic unit. Many student services offices within academic units are part of a decentralized model where services provided to students are the responsibility of the unit such as “orientation, advising . . . and placement” (Ambler, 2000). Diversity and uniqueness of various academic units may create challenges characterizing trends across the office type, but there are still benefits in comparing them within such constraints. The purpose of this research is to identify, from three colleges of agriculture, similarities and differences between their offices of student services with respect to structure, services provided, and student demographics.

The development of the student affairs office in higher education was influenced by many factors. Two factors that are most relevant to this study include the “development of land grant institutions and the rise of public colleges and universities” and “expanding enrollment and the accompanying increase in the heterogeneity of student populations” (Rhatigan, 2000). However, prior to the Morrill Act of 1862 and the development of land grant universities, the president was considered to be the “chief moral front” for the college or university. Over time with increasing complexity of the university, executive emphasis shifted to focus on other efforts such as the financial stability of the institution, recruitment of faculty, implementation of new programs, major construction, and “politics of growth.” As enrollment continued to increase, another problem was created in that many of these students “were not well prepared for higher education.” Growth of enrollment seemed to be a double-edged sword – as institutions

brought in more students, less attention was placed on the well-being and success of the student.

What led to the development of a student affairs office were “early efforts to restore the concern for the students;” therefore, the purpose of a student affairs office has remained as one that connects “people who need with people who care” (Rhatigan, 2000). The primary administrative roles involved with this emergence were the dean of women, the dean of men, and personnel staff (Rhatigan, 2000), which were first established in the 1920s (Long, 2012).

The role of student affairs in the United States morphed throughout the twentieth century as the needs and characteristics of students changed. After World War II and the creation of the GI Bill, there was “a tremendous need for academic, personal, and financial advising on nearly every campus in the country” (Fenske, 1989). Through the 1960s and 1970s the student affairs profession began to build its practice on a theoretical framework (Long, 2012). Into the 1980s and 1990s, the profession matured but also began to see greater diversity in the students it served (Long, 2012). At the start of the twenty-first century, the latest component to student affairs is adapting as globalization consumes higher education (Long, 2012).

The literature on specific student services activities is sparse particularly with respect to student recruitment and student programs within colleges of agriculture. Some studies focused on factors that affect a student’s decision to enroll in a college of agriculture. When Cole and Thompson (1999) looked at how often a source of information was used compared to the helpfulness of the source, they found the most influential sources of information that were used most often were a visit to campus and

parents. Almost a decade later, a similar study showed that campus visits were still the most used, but it was a student's participation in an event or conversation with a professor that proved to be most influential (Robinson et al., 2007). A more recent study by Herren et al. (2011) confirmed that speaking with a professor has an influence on a student's decision to major in agriculture and also reinstated that campus visits were used often and were a positive influence on students.

In determining *who* was most influential to a student, parents were identified as the top influencer (Barkley and Parrish, 2005; Herren et al., 2011), along with alumni and another relative attending the institution (Herren et al., 2011). Some studies even focused on what university characteristics students favored and found they preferred a university that offered their major of interest (Barkley and Parrish, 2005), a good academic reputation, career preparedness, and opportunities after graduation (Robinson et al., 2007).

The perceptions from students about agriculture or careers within the field have been researched as well. In one study, most freshmen in a college of agriculture viewed agriculture as a "scientific and technical field of study" (Dyer et al., 1996). A group of freshmen students in high school also had a positive perception of agriculture and saw a benefit in enrolling in an agriculture education course (Scott and Lavergne, 2004). Over twenty years ago, when some high school students were asked about their perception of careers in agriculture, they believed someone should have prior experience in the field, the work would be outside and that there would be opportunity to advance in the career (White et al., 1991). Although the students had a positive belief about careers in agriculture, they still saw greater opportunity in other areas like engineering and education. A more recent study showed that students that were exposed to the careers in

agriculture through a hands-on workshop compared to those who were not had a greater understanding of the opportunities and diversity within the career field (Fraze et al., 2011).

Studies have been conducted in other disciplines to determine similar outcomes. One of the studies on factors influencing students to major in business found parents were one of the least influential factors when students decided their major, while the highest was an interest in the subject (Malgwi et al., 2005). From 1970 to 2012 there has been a 144% increase in number of Bachelor's degrees conferred for the field of agriculture and natural resources and there has been a 218% increase of the same degree in business (National Center for Education Statistics, 2013). Although there can be different challenges among the different disciplines, recruiting students to the field of agriculture can be a challenge in and of itself because the perception of agriculture among some people is often times incorrectly conceived.

Student recruitment may be a critical issue when it comes to the future success of colleges of agriculture (Fields et al., 2003). The study by Fields et al. (2003) focused on concerns about ever-changing perceptions of agriculture from prospective students, the importance of encouraging a diversified student body, and the need to enhance the image of careers in the field to this diverse student body. In a 1991 study, Richardson and Skelton refer to an "educational approach" to recruitment. The researchers encouraged high school visits as a way to reach students. The research was helpful in setting a foundation to overcome current recruitment issues. It also raises a question – "Is that the only practice that is being done?"

If we have identified generations of agriculture students and learned their understanding of all things agriculture, then how does a recruiter use that information? How is it being applied to daily practices and strategies? If recruiters are going after the best and the brightest (or not), what does that look like? These are the questions noting the gaps in the literature and part of this study will begin to address some of them.

The final area of interest for this study is student programs. It consists of multiple parts, including but not limited to career development, leadership enhancement, global engagement, research opportunities, and keeping students connected to the college. The results for literature on any of these programs were limited and finding anything that discussed the efficacy of instituting a combination of the programs within a student services office was proved to be a loss. Some specific programs such as mentoring programs have been explored through various studies. Retallick and Pate (2009) explored how students within a college of agriculture engage with faculty members and if those were considered mentoring opportunities. Students did find faculty who were more connected to students to be more of a mentor figure. The faculty perception of mentoring has also been studied, finding the role to be complex and including more than just academic counsel (Wolfe et al., 2009). Both of these studies focus on mentorship within academia compared to a program using alumni. A study was conducted to compare mentor programs within colleges of business (Schlee, 2000), and a similar study could be conducted for colleges of agriculture.

Ag Ambassador programs are another specific program that has been studied. A recent study compared Ag Ambassador leadership programs on different components incorporated into each program (Arnold, 2012). It addressed specific components like

“leadership development” and “promotional activities,” but did not offer specific examples on how the component was utilized. Identifying specific student programs offered by individual institutions and providing details in differences between them is what this study sought to accomplish.

Procedures

This study was conducted from fall of 2014 through early spring of 2015 and looked at the College of Agriculture at Auburn University (Auburn) in collaboration with the College of Agriculture at Kansas State University (Kansas State), and the College of Agriculture, Food and Environment at the University of Kentucky (Kentucky). These schools were selected primarily because of prior collaboration.

Each college’s student services office, or similar functioning office, was contacted and a request was made to speak to either the associate dean of academic programs/instruction or the primary student recruiter. The representatives from Auburn included the associate dean, student programs coordinator and student recruiter; an assistant dean and two faculty members represented Kansas State; the student recruiter was the representative for Kentucky. Appointments were made at each institution for an in person interview, which typically lasted around one hour. The interviews at Kansas State and Kentucky occurred in the fall of 2014 and the interviews at Auburn took place in the spring of 2015. Twenty-two questions (Appendix D), previously approved by Auburn University’s Institutional Review Board (IRB), were answered on topics covering an overview of the college, recruitment, and student programs. Almost all the

questions were covered with each institution but additional questions were addressed as they came up during the interview conversation.

Once the data was collected, it was transcribed into a word document with similar formatting of each transcript for easy review. The transcripts were sent back to the participants for clarification and confirmation of the quoted text. The data was then analyzed by grouping similar questions and responses, noting comparisons of the responses and identifying other information deemed relevant to the study.

Results & Discussion

This study provided insight into information that could be useful to similar service offices within an academic college unit. The information has been grouped into three categories – an overview, student recruitment, and student programs. The results of each institution’s response on their approach to a practice or concept are presented on a comparison basis with the discussion following the results. Because academic affairs (advising) is often set apart from student affairs, it will not be covered in depth in this study.

Part I: An Overview

One of the biggest differences between the institutions was their individuality in structure of their student services office. All three have a head dean, who presides over a three-branch group of associate deans – research, extension, and academic programs. It is the associate dean of academic programs/instruction who then supervises the student services office at each institution. The positions under the associate dean are unique to each school. At Kansas State, there are three assistant deans, an events coordinator, and

three to four student workers. At Auburn, the positions get more specific – professional development and student programs coordinator, recruitment and alumni affairs coordinator, academic advisor, administrative assistant, and two to three student workers. Kentucky seems to specialize staff the most, having a student recruiter, scholarship coordinator, director of academic advising, retention specialist, career development, student programming, and two to three student workers. All of these positions are in their main college office. It is important to note that Kentucky considers itself a “college divided” because it is comprised of “traditional ag” and “traditional family and consumer science.” Therefore, it has a main student services office on the agriculture side of campus and a smaller one on the family consumer science side. While both Auburn and Kansas State are solely labeled College of Agriculture, Kentucky has a College of Agriculture, Food and Environment. These different structures, and even the college names, seemed to set the tone for the responses that were provided for some of the questions regarding student recruitment and student programming discussed later.

The question was posed, “How active is your dean?” to better understand the leadership over the college. Kentucky and Kansas State both spoke towards the head dean, both of whom are also newer to the position. At Kentucky, being new means trying new things like “breakfast with the dean,” which was an “eye opening” experience for the dean, but also got the attention of the students. At Kansas State the dean “wants to be more active but lacks the time;” therefore, he helps where he can, which was said to be important for students to see. Auburn did not offer a response to this question.

Although the head dean was mentioned by two of the three institutions, the associate dean was more commonly discussed. They were described to be “very present,”

“involved,” “very personable,” “connected,” and even so far as to say, “most students see him as the face of the college.” The dean may be the helm of leadership for the colleges, but the associate dean of academics appears to be most interactive with the student body. This should come as no surprise due to the nature of an associate dean’s position and the descriptors listed above also fit one who would work in such a position.

To get an idea of where the college stood in relation to the university, each institution was asked to speak on the enrollment strategy for both the college and university. Neither Kansas State nor Kentucky have capped enrollment, while Auburn has. This means Auburn only accepts and admits a certain number of students for each incoming freshman class.

Kansas State as a whole considers itself to be “nowhere near as selective and as elitist” as other land grant institutions, which contributes to growth of the non-resident enrollment. The College of Agriculture has led the way in the overall growth of enrollment seeing a 220% increase from 2009-2014.

Kansas State, unlike Auburn and Kentucky, does have an ACT standard. At Kentucky, a student’s application is evaluated on a “holistic basis,” so there tends to be an average range for ACT (and SAT) scores, which is similar to Auburn. The philosophy for Kentucky as a university was described as “more, better, don’t care where they are from.” This does not quite align with the college’s philosophy that the institution is a land grant; “that means [they] educate all,” and it is their “responsibility to teach the states.”

For Auburn, the university-capped enrollment is contrary to the college’s strategy of growth. In an attempt to overcome this issue, the college recruits heavily from the

transfer student population and increases promotion of majors to undecided students currently on campus.

Kentucky represents the largest of the three colleges involved in this study (Table 4.1), with Kansas State next, and Auburn having the smallest student body. It could be assumed Kentucky has a larger enrollment because of the combination of agriculture and family and consumer science. Kansas State is exclusively a college of agriculture; it offers more majors than Auburn, some of which are housed in separate units at Auburn such as Forestry (School of Forestry and Wildlife Sciences) and Agriscience Education (College of Education).

The gender ratios are similar across the board, but while that number reflects the college as a whole, some institutions made the point that certain majors could lean more heavily towards male or female dominance. For instance, at both Auburn and Kansas State Animal Sciences is a female dominant major.

Student retention is a key aspect of the stability of a college – it can be one thing to recruit students, but are they retained? All three institutions indicated that while students are changing majors, most of the time it is within the college. Actually, 70% of the major changes at Kentucky are just moving within the college. They also have a large retention focus with specific strategies in place to support them. Some of these strategies include tracking and monitoring a student’s progress over the semester and sending out “early alerts” to those students that may be in danger of low performance in coursework. Auburn believes it is the “college’s culture” or the traditional agriculture connection and the industry career opportunities that keeps students tied to the college. However, they do see a need to better track student retention, which could even be beneficial at the

departmental level. Kansas State agrees the career opportunities in agriculture tend to keep students interested in the college. They also mentioned the personal advising and hands-on learning experiences have proven to be beneficial towards encouraging students to stay.

The organizational structures and enrollment sizes may vary between the three institutions, but the leadership and student identities appear to be quite similar. In an effort to understand the impact of the student services office at each institution, two areas, student recruitment (concerning prospective students) and student programs (concerning current and former students), were examined.

Part 2: Student Recruitment

Student recruitment in this study refers to the efforts made to attract and encourage prospective students to attend the university, specifically choosing the college of agriculture in this case. These efforts typically include solicitation through promotional materials and/or personal interaction via events and on campus visits. While most institutions have the same objective – obtain the best and brightest students – their strategies in doing so can vary widely or be similar to one another as will be discussed below.

One of the first questions asked to the interview participants was, “How is recruitment handled in your office?” For Auburn and Kentucky, the answer was that there is a designated recruiter position, but at Kansas State, recruitment is not so much a specific role, but rather handled by a cluster of people. However, the assistant dean coordinates many of the recruitment efforts. All of the institutions participate with their

main university admissions office and work closely with academic departments within the college. As far as activities outside of the university, all three institutions attend the National FFA Convention; Kansas State and Kentucky also work with their State 4-H Programs.

A college's relationship with its admissions office is important. Representatives from all three institutions spoke about having a strong connection with its respective admissions office, though distinctly different. The biggest similarity between all institutions is that each college participates in events and programs hosted by the university admissions office. Those could be anything from an on campus event like War Eagle Day at Auburn to a series of off campus events like See Blue preview nights at Kentucky.

Compared to the other two schools, Kentucky is unique in that they have an admissions representative specific to the college. Because Auburn does not have this feature, the admissions officers are invited to attend a retreat each summer providing them an overview of the college, information on all the majors and tours of all the research facilities to give them a better understanding of the college. Auburn has also recently implemented a scholarship that each admission office can provide to a prospective student being recruited for the college.

Another difference between the participating schools is the extent to which the college targets certain populations. High school students and community college transfers are two such targeted groups. At Auburn, recruitment focuses on both groups, while the admissions office does its own high school visits. They recently started utilizing Ag Ambassadors to visit specific high schools that tend to send large numbers of students to

the university. Auburn also took on the community college visits from a college standpoint because while it is not a high priority for admissions, the college uses the outlet to increase enrollment, as mentioned previously.

At Kentucky, high schools are also visited by Ag Ambassadors, but the community colleges are taken care of by admissions where a representative stated there are “several people who that’s their sole job.” Only if there is an agriculture interest does the college send a representative. However, they do host programs specifically for transfer students to help them become acquainted with the college. Auburn has a similar function called “Transfer Student Day.”

Kansas State takes an opposite approach to that of Kentucky in that admissions handles the high school visits while the college take on the community college visits. With “a very rigorous schedule” in place, the Assistant Dean is able to visit all of them across the state of Kansas.

Success of many of these recruiting strategies and programs can be attributed to the departments that coordinate and participate in them. The departments and their faculty and staff are relied upon “heavily” (Kentucky) and are included “as much as possible” (Auburn) in recruitment events. Department representatives are involved in recruitment in several ways. At Kansas State, they attend community college visits. Auburn sends them there as well as asks them to participate in departmental browse sessions for certain events. Department representatives attend admissions events and staff the college booth when needed for Kentucky.

A major component of the department-college relationship at all three institutions is the coordination of campus visits. When asked to describe in detail what a typical campus visit looks like, the responses were similar (Table 4.2).

All three institutions take the time to sit down and speak with the student, both at the college and departmental level. While that covers the basic visit, the student and his or her interest typically defines the extent to which the visit is expanded beyond that. For example, students interested in Equine Science at Auburn may request a tour of the Horse Center or to sit in on one of the classes.

Most initial recruitment begins with the question, “What are you interested in?” That question was reformatted and asked to each institution as, “What interest [major] do most students have?” Their responses are as follows:

“Pre-vet.” (Kansas State)

“[Pre-vet] is our most popular major.” (Auburn)

“Animal Sciences is always a biggie... Pre-vet, even though it’s not a major.” (Kentucky)

Overwhelmingly, pre-veterinary medicine is the program that draws the most attention. Others mentioned were Agricultural Economics (Auburn, Kentucky), Human Nutrition and Dietetics, and Biosystems Engineering (Kentucky).

If one major (or program in the case of pre-vet) is highly favored over others, this leaves several majors less emphasized. This raised the question of “how do you highlight those underrepresented majors?” No institution advertises for one major or program preferentially. Instead, they “equally represent all majors” (Auburn) and are “not biased towards one or another” (Kansas State), but use “trigger words” (Kentucky) to entice

students towards a major. Auburn and Kansas State use the strategy of highlighting careers and job opportunities within a certain field. Kansas State even goes so far as encouraging the departments with less students or smaller programs to attend certain recruiting events.

These responses exposed the challenges not only of recruitment, but recruitment specific to agriculture. Critical to recruitment is helping the prospective student identify a major that will lead to a career path that satisfies his or her passion. Assisting an adolescent in determining what he/she might be passionate about is one thing. To encourage that passion to lie within “farming,” students’ typical assumption of agriculture, is where the real strategies to recruitment emerge.

Auburn states the “hurdle” is simply getting the student interested in agriculture, then addressing the majors from there. Kentucky believes “people – and this will never change – they don’t know what [agriculture] includes;” therefore, the student is not asked what major in agriculture he or she is interested in, but just what major. From there they can “pull [the student] in.” This is Kentucky’s typical approach they use with people “outside of [their] traditional audience.” Both Kansas State and Kentucky referred to recruitment as “planting those seeds” or “a seed” (respectively) in reference to talking to students about majors. Kansas State’s approach is to make the student “stop thinking about a major and start thinking about what [he/she] is interested in.” They feel certain “a lot of it is making students aware of what opportunity is there.”

One of these opportunities would be the careers offered from those disciplines where Kansas State has “more jobs than students” and that could be said “for about half the majors in the College of Agriculture right now.” Therefore, they focus more on the

career “because everything that [they] do... is... career driven, not major driven.” How Kansas State practically applies this approach is by using a career grid such as the sample in Table 4.3.

Kansas State and Kentucky hold a similar perspective. For example, they find out if a student likes science, then Kansas State would say, “Well, look at these specific [science majors] I think would be a better fit for you.” Or if a student wants to do environmental studies, then Kentucky would “talk to [him/her] about five programs and not just a biology degree. Other applicable ways could be holding “specialized events... to provide opportunity to expand on [the] majors” or by sending Ag Ambassadors to promote those majors to high school students who would not typically hear about them (i.e. urban populations) (Auburn). Also, Kentucky sends out “targeted mailings” based on a student’s interest determined through outlets such as the AP Biology exam. They also “put out random snippets about majors” on Twitter. A similar approach is taken by Auburn who targets students based on their ACT or SAT scores.

While there seems to be a stigma about agriculture, these institutions are determined to find a way to help students not only understand agriculture, but potentially find a passion in it somewhere.

The challenges are not just external; sometimes they can be internal, which was revealed in the response to “is it a challenge to get faculty involved?” Kentucky stated, “it is a struggle,” but faculty are asked to do so much – research, extension, teaching, and then some. A “recruitment council” has been formed to help encourage discussion of ideas on recruitment strategies. Kentucky also takes the proactive approach of encouraging faculty by sending the dates of big events to them at the start of the semester

so “it’s not a surprise to them” when something is happening. This is something Auburn does as well; in providing a semester calendar early, it helps faculty “plan and balance.” The faculty want to get “involved now more than ever.” However, at Kansas State, while it is completely “voluntary” for departments to participate in recruitment, if they “are doing what they’re supposed to, they are going to understand the importance of it.”

Both Kansas State and Kentucky have a recruitment committee or recruitment council (respectively) and utilize it as a means to get faculty directly involved in the recruiting procedures. Kentucky’s council does not make big decisions, but does help troubleshoot current events as well as brainstorm and plan future ones. This system seems effective in making the faculty and/or staff more engaged in the recruiting process. Faculty and staff are the biggest assets to a college, so they might as well be effectively involved.

Part 3: Student Programs

What keeps a student services office connected to its students is its method of communication, or *methods* as is the case with these institutions. Table 4.4 highlights the main forms of communication used across three targeted audiences: prospective, current, and former students.

Kansas State commented about social media: “Instagram is big in high schools... Facebook is phasing away, as is Twitter, but Snapchat is huge.” They are not going to do all of these though “because [they] want to focus on the things [they] can handle and be the best at... If [they] are going to do it [they] want to be the best at it.” In short, more social media to maintain is not always better.

Each institution puts forth considerable effort to stay connected, especially digitally, to its constituent students, but they are also concerned with staying connected to students on their campus who are not part of their agriculture stakeholder group. If “people... don’t know what [agriculture] includes,” then raising awareness and educating the public can start on the college’s campus (Kentucky). This concept is also important because as mentioned earlier, it is a land grant institution’s “responsibility to teach the states” (Kentucky). Each of these land grant institutions tried to put this idea into practice.

Kentucky hosts what they call an Ag Awareness Day in the spring, which takes place in the middle of campus. Booths are set up by departments, industry, college clubs, and even other entities like UK Dining, who may pass out flyers with information or have interactive displays with which those who pass by may engage. While over one thousand people participated in 2014, Kentucky noted that because the college is divided, this event can even educate the college’s own students about the programs they offer. In encouraging the non-traditional agriculture students to participate in the event, it becomes “a little community building thing but it’s also an ag awareness thing.”

Kansas is an agricultural dependent state and since a large portion of the student body is from in state, “there are more kids at this institution that understand the basics of agriculture than at a lot of big schools” (U. S. Department of Agriculture, 2015). This thought does not inhibit the college and its Ag Council from hosting Ag Fest Week. However, as may be the case with other institutions and events similar to these, “traditionally, students that participate in them are your ag students.” Kansas State also maintains a high profile because some of the top students at the university level are

agriculture students. Departments even take small steps towards making students aware by updating display cases with the intent to “capture a couple students.”

Auburn also holds an event led by Ag Council called Ag Week in the spring, which features engagement in prime areas of main campus, a lecture, a community outreach event, and an annual picnic event attended by guests from across campus. Ag Council is also the primary organization that stays connected with main campus since it is directly involved with the Student Government Association.

Arguably, the success of a college could be based on the success of its students. If the purpose of a student services office is to serve its students, a primary objective would be to see its students succeed. The measurement of success goes beyond the classroom and into the profession; therefore, each of these institutions has professional development strategies and programs in place to achieve this success objective.

One common program among all three institutions is a career fair hosted by the individual college. However, they do occur at various times. Kentucky’s is in the fall; Kansas State in the spring; and Auburn does one in the fall and spring. Kansas State also highly encourages its students to attend the university career fair because several agricultural companies are typically present.

Apart from the career fairs, each institution has its own unique programs like Kentucky’s “Snack and Chats.” This program allows students to interact with industry, but rather than focusing on a company’s purpose, the guest professionals speak on negotiating. This is similar to Auburn’s “Our Work” seminars hosted once a month featuring an alumnus from the college, in which professionals speak about how their experiences in college helped get them where they are professionally. At Kansas State, a

speaker is hosted about once a semester by the college, but more interaction happens at the department level. Therefore, Kansas State does not provide a formal mentoring program for its students like Auburn and Kentucky because it is believed that much of the “professional development happens during that one-on-one conversation [the students] have with their academic advisor.”

The alumni mentoring program at Auburn, which is in its third year, has been successful in pairing students up with an alumnus from the college to provide meaningful experiences. The students in this program interact with their mentor through job shadowing and networking events such as “Speed Networking,” in which students participate in a speed dating like format, a short interval of time spent with an alum before moving on to another one in order to network with several professionals quickly. Kentucky just recently started a similar mentoring program but is having an issue of “getting alumni engaged as much as they need to be.” Auburn tends to see the reverse – motivating the students to participate more actively in the program, as they tend to have more mentors than mentees.

The night before Auburn’s career fair in the spring, an etiquette dinner is hosted by the college and sponsored by participating companies. This allows students to practice interacting with industry professionals on a formal level. Kentucky offers a “networking dinner” as well. They also have a unique resume event called “Night at the Movies.” Prior to a career fair, this event is held to critique resumes and to allow students the opportunity to learn about the companies that will be represented by watching short promotional video clips.

Additional programs Auburn offers to enhance professional development for its students, include study abroad trips, undergraduate research fellowships, and departmental seminar classes. Other institutions offer some form of these as well. Students are also encouraged to attend various professional conferences, with registration and travel supported by the college, to expose them to additional networking and educational opportunities. Approximately 20% of the student body takes advantage of the option. This is a number they would like to see increase dramatically as they find these programs to be valuable to their students' success.

Ag Ambassadors

One program that is common among all of the institutions in purpose, but unique to each one in structure and function is a student ambassador group. Each institution represented referred to this group as the Ag Ambassadors. Along with professional development, the main purpose of the group is to provide service to the college and represent it in various facets.

Kentucky states in respect to their ambassadors, "Recruitment is one of their big things" and Kansas State makes the organization "very much a recruitment program." Responsibilities in the "recruitment program" at Kansas State include tours, escorts and visits with prospective students, participating in "calling nights," and writing handwritten cards to prospective students. Auburn assigns similar duties to their ambassadors requiring them to participate in two phone-a-thons per semester, handwriting postcards to admitted students, giving tours of Ag Hill, and attending booth events on campus. They are also required to commit to two office hours each semester.

Apart from recruiting for the College of Agriculture, Kentucky's Ag Ambassadors also work with alumni and career services programs, plus "really anywhere that is needed." This is the case at Auburn as well. While engagement with prospective students take up the majority of their time, being the "official hosts and hostesses" of the college, they are asked to participate in alumni and networking events throughout the year.

Another noticeable difference between the ambassador organizations would be their size. Auburn and Kentucky keep a steady membership of around 25 students, but Kansas State opens it up to approximately 60 students. The current number actually reflects a decrease from the 120 students they have maintained in the past.

Organization and leadership structure of the various ambassador programs differ. Kentucky keeps all members on the same level of leadership in that there are no officer positions. The only exception is a Senior Coordinator whose duty is to email the members with information in lieu of the advisor. Auburn has a typical officer lineup, as mandated by their Student Government Association, with a president, vice president, treasurer, secretary, and added additional positions with social media, education and social chairs. Each of these positions takes on additional responsibility from the standard ambassador requirements. Kansas State is vastly different in their officer positions because they have 15 slots that are filled. These positions take on certain tasks rather than a title. For example, there is an ambassador officer whose role is to coordinate all of the ambassadors assisting with campus visits and another officer may be assigned to calling nights.

These leadership models can only be evaluated based on the organizations that use them. What works well at Kentucky may not work well at Kansas State. In a similar sense, the way each organization holds each member to its expectations is defined and regulated based on what works with no two organizations being just alike. At Auburn, a points system was once, but now the opportunity to sign up for as much as a member desires is the expectation. It was mentioned that going forward, a new system will be put in place that requires each member to sign up for a certain number of events.

Kentucky registers the ambassadors for a scheduled class every semester, which does two things: sets a meeting time that works for all the ambassadors' schedules as well as provides course credit for the service provided. This may or may not be beneficial to a student because if an ambassador does not meet the required 63 PAWS (Points Achieved While Serving), for a semester, he or she will receive a C in the course. It would encourage a sense of dedication to the organization by keeping up with the PAWS and to the course in maintaining a favorable letter grade. Kansas State did not comment on whether there was a numerical expectation or set way to evaluate the performance of its ambassadors.

One of the most difficult parts of an ambassador program is selecting new ambassadors for the upcoming year. Trying to select candidates who are also the "top-notch students" in the college, knowing some of the "really good kids" will be turned away, takes an intense selection process that each organization goes through (Kansas State).

At all three institutions, "when you're in, you're in," and the current ambassadors do not have to undergo the process each year (Kentucky). Both Auburn and Kentucky

have a two round application process, while Kansas State has three rounds. The first two rounds for each organization are very similar – the candidates complete a written application, which goes through review, and the candidates that are accepted through the first round then complete an interview round. At Auburn this interview is in conjunction with a presentation on a pre-selected topic, which is given in front of the Board of Selection (the advisors, incoming president, and outgoing president and vice president). Kansas State’s interview is done with a group of selected current ambassadors and faculty.

Kansas State has the addition of a third round. Previously this was a presentation given by the candidate, but it has recently been changed to a mock prospective student visit. The intention is to allow students to “say something very different than the canned speech you always hear.” There were two reasons cited for making this change. One, all of the candidates are required to participate in the College of Agriculture Training (CAT) program, which is a one hour a week agricultural training program. Because all of the candidates complete this course the presentations all start to sound very similar; this causes the student to be scored based on ability to present, not on the student as a whole. The second reason for the change is to allow students to speak more freely, so that selecting students is based on more than just their presentation skills. The result is believed to be a more diverse group.

Diversity of discipline representation is a challenge mentioned by each of the institutions. Kansas State spoke specifically about lacking horticulture students as ambassadors, a need that is also prevalent at Auburn. A goal for the ambassador organizations is to represent all majors, but during the discussion of the application

process, Kentucky said it is an issue of “quality over quantity.” The programs want the best students to represent the college, but does not believe it should require the organization to sacrifice being a diverse group.

Once the new ambassadors are selected, the task of training them is next. Kansas State utilizes the CAT program to prepare prospective ambassadors in advance and start them in their responsibilities soon after selection. Kentucky and Auburn both host a training retreat in the fall of the upcoming academic year, providing time for the ambassadors to get acquainted with one another and the college they will serve.

Aside from the objective to recruit, these ambassador programs can look vastly different, but as with the student services offices for which they work, they are molded to fit the needs of the college and students they serve.

Conclusions

After an in-depth interview with each of the participating universities, the following has been concluded: Student services offices within a college of agriculture, while similar in many respects, are also vastly different in their functions and forms. This is best reasoned because an office conforms to the needs of its clientele, which can vary greatly from institution to institution. The practices of these individual offices may be useful for others to glean from and may shed some light on a solution to another office’s problem.

The initial research questions have been answered accordingly:

1. How do colleges of agriculture, specifically a student services office, compare in structure and organization?

The student services offices vary in size and personnel titles, but overall responsibilities are similar. All of the represented colleges were headed by an associate dean of academic programs/instruction and provided students with services such as career development, recruiting and academic advising.

2. How is recruitment handled for the college?

Auburn and Kentucky have designated recruiters, but Kansas State makes a joint effort in recruitment with staff in the office and is led by an assistant dean.

a. How does that differ from institution to institution?

The efforts and practices are where differences stood out among the institutions. Target populations for recruitment varied by school with Kentucky focusing on high school students, Kansas State reaching out to transfer students and Auburn targeting both. Another similar effort was on recruiting for certain majors. While none of the institutions have to promote very hard for the Pre-vet option offered, they do try to highlight some of the underrepresented majors. The approach each school takes is also similar in they try to get students to think about the topics and jobs related to a field of work rather than the title of a major.

As for practices, the standard campus visit was similar in description with time allotted for an overview of the college and a meeting with the department. The use of department representatives in recruiting was seen by Kentucky to be challenging at times, but Kansas State believes some responsibility falls on them to help bring in students.

3. How does a student services office address the needs of its students?

The most discussed service was the professional development offered to students by each institution. The role of an Ag Ambassador program was also detailed.

- a. How does the programming vary from institution to institution?

Communications to students – prospective, current and alumni – were all about the same with the use of email and social media used most often. On the professional development side, all three institutions hosted at least one career fair a year. The opportunity for students to make a connection with someone was the underlying theme to how Auburn and Kentucky prompted its students to be successful. They both provide mentoring programs between students and alumni. Auburn focuses on seminars with alumni, while Kentucky hosts events to assist students with resume critiques and interview preparation.

An ambassador program was incorporated into each represented institution with the biggest responsibility being recruitment. They did vary in size, structure and specific function in order to meet the needs of the college it represented.

A student services office adjusts as the needs of its students change. This encourages innovation within an office and the different approaches the represented institutions take concerning the function shows some of that innovation. By sharing those approaches with others, one institution could find a practice that may be more effective than one they are currently implementing.

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Table 4.1. College of Agriculture student demographics by institution.

Demographic	Institution		
	Auburn University	Kansas State University	University of Kentucky
Student Numbers			
Total	1250	2900	3200
Undergraduates	983	2600	2800
Incoming freshman	250	767	375
Transfer	100	250	55
Gender ^z	46/54	52/48	43/57
Residency ^y	65/35	73/27	55/45
Average ACT Score	26	23	24-29

^zGender ratio is male to female.

^yResidency ratio is in-state to out-of-state.

Table 4.2. Description of campus visit by institution.

Scheduled appointments	Institution		
	Auburn	Kansas State	Kentucky
College	Yes, 30 minutes with recruiter	Yes	Yes, 30 minutes with recruiter
Department	Yes, 30 minutes	Yes	Yes, 30 minutes
Additional components			
Tour of campus facility	Yes, with an Ag Ambassador	N/A	Yes, with an Ag Ambassador
Class visit	Yes	N/A	Yes

Table 4.3. Kansas State University College of Agriculture Career Grid Sample.

	Majors ²							
	Agribusiness	Agricultural Communications	Agricultural Economics	Agricultural Education	Agronomy	Animal Science	Food Science	Horticulture
Working with people								
Youth program director		x		x				
Photographer		x				x		
Working with Animals								
Veterinarian			x			x	x	
Meat Inspector						x	x	
Working with business, government and entrepreneurship								
Insurance agent	x		x		x	x		
Legislative assistant	x	x	x					
Working with plants and natural resources								
Farm manager	x		x		x	x		x
Environmental specialist					x			x
Working with science and technology								
Supply chain manager						x	x	
Graduate school/research	x	x	x	x	x	x	x	x

²Not an inclusive list of majors for Kansas State University's College of Agriculture.

Table 4.4. Methods of communication to prospective, current and former students by institution.

Student type	Institution		
	Auburn	Kansas State	Kentucky
Prospective	Email, phone calls, mailings, social media	Phone calls, mailings, social media	Email, mailings, social media
Current	Email, social media	Social media	Social media, posters, word of mouth
Former	Email, social media, magazine publications	Social media	Email, social media, magazine publications

CHAPTER FIVE

CONCLUSIONS

Each of the prior three studies offers new and insightful data in its particular area of research. Students' influential factors for choosing horticulture have now been updated to reflect the current population and the trends that accompany it. This highlights a target population that is useful in strategically recruiting prospective students to a horticulture program. The thoughts of faculty members on the subject of recruiting more students into the field of horticulture proved to be unanimous on some features and unique with others. Those perspectives have now been collected in such a way that suggestions could be made in how to best incorporate them into useful practices. A few student services office within colleges of agriculture were observed to compare their operational structure and function. The feedback can be insightful for other institutions with similar offices, including those that participated, to create or enhance services provided.

Although these three studies were independent of each other, the data has the potential to crossover and become a resource between the studies or allude to further research. The data from the two horticulture-based studies can be merged and synergistically applied towards recruitment efforts. Suggestions and understanding can then be used from both of these studies and applied to the student services study.

Four main concepts aligned between the studies with horticulture students and faculty. First, the students acknowledged that the exposure of horticulture and the industry has been limited. This even included the faculty and staff of an academic

institution, who were found to be most influential out of those with a horticulture background. Faculty from the study did agree they tend to be passive in their recruitment strategies. Now, suggestions of to whom exposure should be given and how to do so have been offered. Faculty can target high school students and underclassmen in college with the focus being based on the experiences and opportunities in horticulture to give the prospective students a greater understanding of the field.

Second, prospective students were not the only recognized target, but also their parents. Faculty spoke of the current challenge posed by parents, and the students confirmed that parents have hesitations about the perception of horticulture as a career. However, a lack of understanding of the field tended to be the primary obstacle and once clarified parents were more apt to be supportive of the decision. Additional exposure to parents is a need for this industry to better articulate the benefits of horticulture and the experiences it provides.

Other research could focus on comparing the perceptions of current and prospective students' parents to determine if there is a difference in opinion. This would give faculty and others with a recruiting agenda prior knowledge of skepticism and how to persuade against it.

Third, faculty pointed out that current students on campus would be the easiest targets for recruitment within the prospective student population because they are already at the institution and must only be persuaded into the major. This aligns well with the students' data that the most common timing in which they decided to major in horticulture was either in high school or in their second year of college. Faculty can take

advantage of that time of decision-making in those first college years by implementing active and engaging recruitment tactics.

Lastly, students characterized themselves with an interest in making a difference in their job, to be outdoors, and to work with people. It would be to the greatest advantage to include the key interest of its current students in the advertisement of the programs. Relating certain programs and careers acquired because of them to students' mutual interest will help prospective students connect their interests with a tangible field about which they may have been previously unaware.

Results from the horticulture student study provided implications towards useful tactics to be applied in horticulture recruitment and ways to improve strategies based on the information from the students. The conclusions drawn from the horticulture faculty study will be beneficial to many departments of horticulture and will contribute to the literature with the faculty input, which has been limited at best. Horticulture faculty have insight into their students' choice to major and pursue a career in the same industry as theirs. This information grants the ability to apply it towards encouraging more students into the field. None of the institutions the faculty members represented had a designated recruiter, so if recruitment is going to happen directly through the department, it generally comes through faculty initiatives.

The two horticulture studies can be related to information from the student services study as well. One theme that arose from data with all three studies was the challenge to overcome the misunderstanding or misconception of the field being represented. The field of horticulture, as previously mentioned, needs more exposure with clarification of the industry's purpose. Those representing a college of agriculture saw

similar challenges with the perception agriculture tends to portray. Horticulture now has key traits about current students it can use to help prospective students identify a common interest. Research could be effective in helping identify traits of agriculture students as a whole in order to better target students, or studies could be done within other departments to recognize traits specific to students in those majors. As a whole it could potentially help redefine the perception of agriculture.

Both horticulture faculty and college representatives alluded to the fact they support one another in college-wide recruitment events. Department representatives attend recruiting events, and with horticulture, this tends to be the extent to which they recruit. With additional support from the college, a horticulture department could initiate their own recruitment program, providing another avenue for engagement.

Faculty members choose to participate in college recruitment events, and it was acknowledged by the college representatives they do so willingly because they understand the importance of this type of outreach. The horticulture faculty confirmed this in mentioning their desire to find ways to become more involved and to promote horticulture as a major.

By collecting this data it will allow other offices within this academic area to glean from the information received and potentially enhance effectiveness in certain functions. A college and its departments can function synergistically and support one another in reaching the goal of increasing enrollment. This research can be used as a guide in the suggestions mentioned and the opportunities discussed. An attempt was made to close the gap in literature related to recruitment in horticulture and the functions

of a student services within a college of agriculture. While there is still more research that can be applied in each area covered by these studies, progress has been made.

Appendix A

Student Survey Questions

1. Check all the following that apply (to your pursuit of a horticulture career)
 - a. I gardened with a family.
 - b. I talked with parents or other relatives.
 - c. I talked with a friend.
 - d. A high school or grade school teacher influence me.
 - e. A guidance counselor told me about horticulture.
 - f. I participated in FFA and/or 4-H.
 - g. I gardened as a hobby.
 - h. My family owns a business in the Green Industry.
 - i. I previously worked in the Green Industry.
 - j. I talked with a professional in the Green Industry.
 - k. I searched the Internet for jobs/careers in the Green Industry.
 - l. I came to campus for a visit.
 - m. I attended an on-campus event hosted by the department/college.
 - n. I attended an off-campus event hosted by the department/college.
 - o. I talked with a recruiter from the college.
 - p. I talked with a faculty member from the department.
 - q. I talked with a current student in the department.
 - r. I talked with an alumnus of the department.
 - s. I received a letter and/or phone call from the department.
 - t. I received brochures/promotional materials about the department/institution
 - u. I visited the department/institutional website.
 - v. My program of interest was available at the institution.
 - w. Financial assistance/scholarships were provided to me.
 - x. Career opportunities were highlighted by the department.

2. What region of the country do you attend school in?
 - a. Northeast
 - b. Southeast
 - c. Mid-west
 - d. West

3. When did you decide to major in horticulture?
 - a. Before high school
 - b. High school

- c. First year of college
 - d. Second year of college
 - e. Third year of college
 - f. Fourth year of college
 - g. Second career
4. Who was your first contact in the field of horticulture?
 - a. Industry professional
 - b. Professor
 - c. Student Recruiter
 - d. Alumni
 - e. Student
 5. If you were another major prior to horticulture, please list below. (Open-ended)
 6. What are your plans after receiving your degree in horticulture?
 - a. Pursue an advanced degree (check all that apply)
 - i. Bachelor's
 - ii. Master's
 - iii. Doctorate
 - b. Find a job in the industry
 - i. Are you confident in finding a job?
 - 1. Yes
 - 2. No
 - c. Find a job in another industry (Open-ended)
 - d. Not sure at the moment.
 7. What type of school are you currently attending?
 - a. 2-year Institution
 - b. 4-year Institution
 8. What is your current class standing?
 - a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior
 - e. Graduate
 9. What degree type are you currently pursuing?
 - a. Associates
 - b. Bachelors
 - c. Masters
 - d. Doctorate
 10. Which best describes your current program?

- a. Landscape design
 - b. Landscape management
 - c. Landscape Architecture
 - d. Nursery/greenhouse
 - e. Fruit/vegetable production
 - f. Turfgrass
 - g. Other
11. Which best describes the type of student you are? (Optional)
- a. Traditional – 18-24
 - b. Non-traditional – 25 or older
12. Please indicate your gender. (Optional)
- a. Male
 - b. Female
13. If you are willing to participate in extended research pertaining to this topic, please provide the following:
- a. Name
 - b. Email
 - c. Phone number

Appendix B

Student Interview Questions

1. What is the #1 reason why you are in horticulture right now?
2. Did your parents have any hesitations when you told them you were going to be majoring in horticulture?
3. How do you explain to someone what “horticulture” is?
4. What do you plan on doing when you graduate?
5. If gardening plays a big part in your interest in horticulture, do you think it should be offered more in secondary education? (At the high school level)
 - a. Do you think this would prompt more students to take an interest in the subject?
6. If and how were you approached by your department?
 - a. Letters, promotional material, social media
7. Who did you interact with first in the horticulture industry and how did that person play a part in your desire to major in horticulture?
 - a. Faculty, student, alumni, industry, etc.
8. If you were another major prior to horticulture, what made you change?
 - a. How did you learn about the major?

9. What do you think would be a good way to recruit more students into this field?
10. If you anticipate pursuing a job in this field after graduation, do you have confidence you will find one? Why is that?

Appendix C

Faculty Interview Questions

1. How is recruitment handled in your office?
 - a. Do you hold special events? On-/Off-campus?
 - b. Do you have a designated recruiter position?
 - i. What are their responsibilities? Do they travel much?
2. Do you work closely with the College recruiter/Student Services office?
3. What programs does your department offer?
 - a. Which is the most popular?
4. What is the rate of employment for your graduates?
5. Have you seen an increase, decrease, or no change in enrollment over the last 5 years?
6. How do you promote horticulture to prospective students?
 - a. Do you highlight certain aspects of your department?
7. How do your students engage with industry?
 - a. Extracurricular activities, in-class speakers, seminars, etc.
8. From what majors do you see most of your students coming from? What majors do they leave for?

9. What do you think is the best way to overcome the recruiting battle and increase the number of students nationwide enrolling in horticulture?
10. What do you think is the greatest limitation to this battle?

Appendix D

Student Services Interview Questions

RECRUITMENT

1. How is recruitment handled in your office?
 - a. Do you hold special events? On-/Off-campus?
 - b. Do you have a designated recruiter position?
 - i. What are their responsibilities? How often do they travel?
2. Is it mostly to off-campus events or for visits?
 - a. Are the visits to high schools or community colleges more?
3. What majors are most of your prospective students interested in?
 - a. Is there a more favored major?
4. How do you highlight any underrepresented majors?
 - a. Why do you believe the popular ones are so popular?
5. Do you work directly with departments (or they with you) for recruiting?
6. How closely do you work with your university admissions office?
 - a. Any on-/off-campus events?
7. What does the University's enrollment strategy look like?

- a. How does that compare to the College's?
- 8. What are some tactics to implement these strategies?

COLLEGE OVERVIEW

- 1. Demographics:
 - a. Gender ratio:
 - b. Residency ratio:
 - c. Transfer Student rate:
 - d. Incoming freshman:
 - e. Average ACT/SAT
 - f. Average GPA:
 - i. Current Students/Incoming Freshmen:
- 2. What does retention look like (approximately)?
 - a. Changing majors within the college
 - b. Entering/exiting the College
 - c. University transfers
- 3. How do you connect with your students – future, current, former?
 - a. Digitally? (Social media, email, etc.) Mass postal mailing?
- 4. How engaged are you as a dean with your students?
- 5. Does your college connect with main campus?

- a. Are your students engaged outside the college? Do you help non-agriculture students become more aware of Ag related issues?
6. What is the structure of your office? (Deans positions, staff, etc.)
7. Do you utilize undergraduate student workers?
 - a. How do you acquire them? What responsibilities do they maintain?
8. Professional Development:
 - a. What Career events do you offer specifically to your students?
 - b. What percentage of your students participate in the offered career events?
 - c. How do you encourage students to take part in your events?
 - d. What unique activities do you offer to your students to help them professionally?

AG AMBASSADORS

1. What is the structure of the organization?
2. What is the purpose of the organization?
3. Assuming it is service-oriented, what services do you provide for or on behalf of the College?
4. Is there official dress for the Ambassadors?
5. What does the application process look like?
 - a. Are certain majors specifically selected or it is all based on student merit?
6. How are the Ambassadors trained for this position?