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CAREER DEVELOPMENT AND EMPLOYABILITY SKILL INTEGRATION WITHIN THE EQUINE SCIENCE AND MANAGEMENT UNDERGRADUATE PROGRAM AT THE UNIVERSITY OF KENTUCKY

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CAREER DEVELOPMENT AND EMPLOYABILITY SKILL INTEGRATION WITHIN THE EQUINE SCIENCE AND MANAGEMENT UNDERGRADUATE PROGRAM AT THE UNIVERSITY OF KENTUCKY

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements of the degree of Doctor of Education in the
College of Education at the University of Kentucky

By

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Paris, KY

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ABSTRACT OF DISSERTATION

CAREER DEVELOPMENT AND EMPLOYABILITY SKILL INTEGRATION WITHIN THE EQUINE SCIENCE AND MANAGEMENT UNDERGRADUATE PROGRAM AT THE UNIVERSITY OF KENTUCKY

College graduates need to be equipped with career and employability skills that are necessary to be meaningfully and gainfully employed in their future. These skills consist of self-management, career-management, essential-employability, and discipline-specific skills. More responsibility is being placed on college and university academic programs to ensure that students are graduating with these skills when they enter the workforce. However, students are growing less likely to participate in out of course career development activities and resources. Integrating these skills into program curriculum can be an effective way to ensure that all students have the ability to develop these necessary skills.

While there is research to support the integration of these skills into the undergraduate education experience, identifying the appropriate developmental time to introduce, apply, and reinforce these concepts is important. This dissertation is a report of the mixed-methods action research study that explores the career and employability skills that are necessary for undergraduate students and at what stages the students should be exposed to those skills. Research was conducted within the context of the Equine Science and Management program to identify skills already being taught, what areas could be improved, what areas should be shifted to alternative years, and where

gaps within the program exist. After an analysis of the skills was conducted, a proposed framework for career and employability skill integration was developed and evaluated. This framework features a yearly approach to the career and employability skill development of undergraduate students. The framework was evaluated based on the feasibility, usability and likelihood that other programs within the University of Kentucky's College of Agriculture, Food, and Environment would implement this framework. The final recommendations and implications of this research are included in this dissertation.

KEYWORDS: career readiness, career and employability skills, undergraduate curriculum, career management, graduate attributes, career development

Savannah Faye Robin

May 31, 2022

CAREER DEVELOPMENT AND EMPLOYABILITY SKILL INTEGRATION WITHIN THE EQUINE SCIENCE AND MANAGEMENT UNDERGRADUATE PROGRAM AT THE UNIVERSITY OF KENTUCKY

By

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May 31, 2022

DEDICATION

This dissertation is dedicated to my students and to every other person (past and present) who have spent days, hours, years, and tears with the stress of answering the question "What am I going to do when I grow up?" My prayer and hope is that students will begin to discover who they are as people, find their personal mission, and stay true to themselves as they begin exploring the vast opportunities at their fingertips when they let "who they are, determine what they do".

ACKNOWLEDGEMENTS

The professional and personal journey of a doctoral program and dissertation are not a single persons alone. I have so many people and supporters that have made sacrifices and given time to help me get to this place. Most importantly, God's grace and provision have allowed me to grow and develop as a leader, an educator, and a scholar. There were days and times that I didn't know how I could navigate this sometimes overwhelming task on top of all the other things on my full plate. But there was always some way that I did and I know it was because of God's sovereignty. Next, I would like to express my deepest appreciation to my husband, Ben. He has supported me through every moment of life since the day we met, from our personal and professional life and challenges, to classes, papers, presentations, and a thousand and one conversations about how to make this world a better place. He is my biggest supporter, my best friend, and my champion. I couldn't have completed this program and I wouldn't want to do this life without him by my side.

Next, I would like to thank my wonderful children. Alexis Helene, Finleigh Ann, and Andie Jane. They are my cheerleaders, my co-dreamers, my inspiration, and they have made many sacrifices throughout this whole process. I know I am setting the stage for what they believe they are capable of and I know they are always watching and planning their next big steps. I cannot wait to see them change the world. In addition to my biological children, thank you to my other "kids", my students. In a world where they are being pressured to know every step they will make in life at the age of 18, I want them to be prepared to take on the world but know that their journey and path will evolve just as beautifully as they do.

In addition to my children and husband, my extra-large family has always been behind me cheering me on. They may not have always understood just exactly what I do but they have always been so excited for me to do it. The hours spent cleaning stalls and working on the farm has taught me the incredible value of hard work and dedication. They have instilled in me the passion for dreaming and setting a goal and knowing the satisfaction of standing back and looking at an achieved goal and saying, “job well done.”

There is no doubt that I would not be where I am without the additional support of my committee chairs, Dr. Beth Rous and Dr. Amanda Potterton. Without their continued guidance, advisement, and support I would not have had the confidence and clarity to complete such an accomplishment. Their patience, grace, and affirming leadership has set me up for continued success in my future and I am forever grateful. I would also like to thank my dedicated committee members. Dr. Mary John O’Hair and Dr. Dan O’Hair. Their innovative ideas and leadership have provided me such encouragement throughout the past two years.

Lastly, I would like to thank my equine programs team and my colleagues (family) within UK’s College of Agriculture, Food, and Environment. Their endless support, office door venting, and patience throughout my journey has been invaluable. Coming to UK as a bright eyed 17 year old, many years ago, this college gave me a home and a community. I cannot think of any better people to work with, learn from, and be mentored by. I hope they always know their work, efforts, and passion for changing the lives of students is an inspiration.

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The world is changing, and so are the dynamics that exist within the constraints of employment and undergraduate career preparation. To be successful in the workplace, employers have indicated they need universities to prepare students with skills beyond those considered content-specific, such as in-depth concepts in science, math, animal husbandry, more. Employers are increasingly looking for teamwork, critical thinking, lifelong learning, adaptability, professionalism, and communication as they consider hiring college graduates. This can be a dual benefit to both graduates and employers, as a graduate's success in these areas can increase their economic growth, forward career movement, and lower the turnover rate for employers (Bridgstock, 2009). Planning for a future career is a priority for college graduates, but it is also seen as a significant stressor for undergraduates across the United States (US) (Deer et al., 2017). This stress has in turn increased the pressure on faculty to prepare students to have more than discipline-specific skills and to help prepare them to be employable within their future workforce. In addition, the success of college and university programs are measured by their graduates' ability to perform within the workforce (Hora et al., 2018). However, these issues are not just affecting US undergraduates. Students in Australia have also shown apprehension at their ability to be ready for the workforce upon graduation (Gill, 2017). Therefore, this is a growing need and both students and employers are beginning to push universities to equip students with both academic content knowledge and employability skills (Fallows & Steven, 2000).

Although students are concerned about gaining employment after college, some

tend to take little responsibility for their educational or career readiness outcomes while enrolled in an undergraduate program. In a study by Arthur et al. (2006), 65% of students failing a course credited their failure to the course instructor, which they attributed to the student's lack of diligence and inability to accept responsibility for their education. Deer et al. (20017) found that some students also take advantage of less than half of the career resources available on college campuses.

In order to prepare students for employability and reduce student anxiety over career choices, career development and planning should be an integral part of the undergraduate experience. Therefore, in this mixed methods action research (MMAR) study, I explored how a career development curricular framework for undergraduate students can help students acquire critical skills needed to be competitive and find meaningful employment following graduation. This chapter will provide information on the study and research context, research plan, diagnosis phase of the study used to identify the problem of practice to be addressed, and the overall plan of study.

Study Context

This study occurred in the Equine Science and Management (ESMA) undergraduate program at the University of Kentucky (UK). UK was founded in 1865 as a land-grant institution (established by the Morrill Act in 1862). The purpose of a establishing land-grant institutions at the time was to focus on providing high-quality research, teaching, and outreach through extension programs across each state. Initially, much of the efforts were focused on agriculture and vocational education. However, while there is still a focus on agriculture, food, and environment at the University of Kentucky there are many facets that extend into health care, community and rural

development, the arts, and so much more. Currently, UK is home to more than 30,000 students across 16 colleges and one graduate school. UK offers 93 undergraduate degree programs, 99 master's degree programs, 66 doctoral degree programs, and four professional programs.

The Equine Science and Management Program (ESMA) is housed within the College of Agriculture, Food, and Environment (CAFE). In 2008, in response to the increasing demand for a qualified equine industry workforce, the ESMA undergraduate degree program was established, and in 2009 CAFE graduated the first alumni from the program. The founders believed an interdepartmental and multi-disciplinary approach to this academic degree was essential. Thus, the program has no official academic department home; instead, it is supported by various CAFE academic programs. Departments that provide faculty support and instruction include Animal and Food Science, Agricultural Economics, Community and Leadership Development, and Biosystems, Agricultural, Veterinary Science, and Medical Engineering. Since its inception, the program's main priority has been the employment preparedness of graduates.

The ESMA program is the only multi-disciplinary, interdepartmental four-year undergraduate programs connected to a land-grant university in the U.S. All students must take core courses that provide a robust equine science, management, and business foundation. In addition, the ESMA program is unique in that there is a dedicated internship coordinator and career service individual that assists with the student experiential learning process. Additionally, students customize their curriculum in at least three emphasis areas: equine science, equine management and industry, or

communications and leadership. CAFE is home to a diversity of majors and degree programs as a college, but, presently, there is no college-wide career development and preparedness coordinator. Much of the career preparation falls on faculty, academic coordinators, or outsourcing to UK's Stuckert Career Center, the primary career development resource serving the entire university. The College is unique in the employment needs of students due to the diversity of programs such as equine science and management, merchandising apparel and textiles, family studies, and agricultural biotechnology.

Stakeholders

A critical component of the action research process is the connection to stakeholder feedback. Stakeholders are those individuals that are directly and indirectly affected by the efforts within the ESMA program. Ivankova (2015) highlights the importance of the engagement of stakeholders within this process. The stakeholders will be ESMA students and faculty/staff for this study.

Students

ESMA students have a unique place within CAFE. Within the student enrollment (as of May 2022), 89% are female, 78% are out-of-state students, and many go on to professional schools (e.g., veterinary school, pharmacy school, law school, graduate programs). Therefore, the career placement demographics of students within the program individually is more diverse than many other programs within the College. The ESMA students have consistent initial curriculum requirements and then they select an emphasis area within the degree (communications and leadership; management and industry; and science). Student stakeholder groups relevant to this

study have participated in the required series of courses that emphasize career/employability development within the program. These include EQM 106 (Introduction to Equine Careers), EQM 305 (Equine Industry Issues), EQM 399 (Equine Science and Management Internship), and EQM 490 (Capstone in Equine Science and Management). These students had successfully completed EQM 490 in Fall 2020 or were enrolled in EQM 490 in Spring 2021.

Faculty/Staff

As a multi-disciplinary program, the Equine Program has few full-time EQM instructors. However, to date, faculty from Animal and Food Science, Veterinary Science, Biosystems and Agricultural Engineering, Plant and Soil Science, Community and Leadership Development, and Agricultural Economics serve as program faculty. These faculty contribute to the curriculum and student learning outcomes as the program-level curriculum committee members. There are presently nine full-time faculty and three staff members that serve in a teaching capacity for the ESMA program. The three staff members are in academic coordinating positions in Animal and Food Science and Equine Science and Management.

Researcher Role

I serve as the Internship Coordinator for ESMA and provide career and professional development support for 300+ undergraduate students. The internship program within ESMA has been a long-standing priority since the program's inception. The proximity of UK to the equine capital of the world, Lexington, KY, requires close contact with industry leaders, stakeholders, and employers. Therefore, in this position, a primary focus is on student preparation and the role of liaison between the equine

industry employers and the university. Besides managing the internship program, which involves recruiting and maintaining internship preparation and student opportunities, I have numerous teaching responsibilities. I am the instructor for the Introduction of Equine Careers course (EQM 106) and the Equine Science and Management Internship course (EQM 399). During the time students are enrolled in their internship course, I facilitate the internship and professionalism preparedness and the online course (EQM 399) tied to the experiential learning experience. I also serve as a guest lecturer and course professionalism unit coordinator for several core content classes (i.e., EQM 101, EQM 305, & EQM 490) at various levels within the program. In addition to coordinating the internships and teaching, I provide academic advising for a small group of first-year students as well as career advising for all students in the program. I have the opportunity to build solid connections with students through career advising during the career discovery process.

Mixed Method Action Research Framework

This study used a Mixed Methods Action Research (MMAR) framework that consists of six phases (Ivankova, 2015). The initial phase involved the diagnosis of an issue. By reviewing existing research, documentation, and data and through conversations with stakeholder groups, I identified a practice problem within the organization. The second phase of the research was reconnaissance. In this phase, I collected quantitative data through online surveys with purposely selected participants and qualitative data through the same surveys as well as a literature review, interviews, and focus groups (Ivankova, 2015). This was done to assess the needs and problems of practice in a holistic and meaningful way.

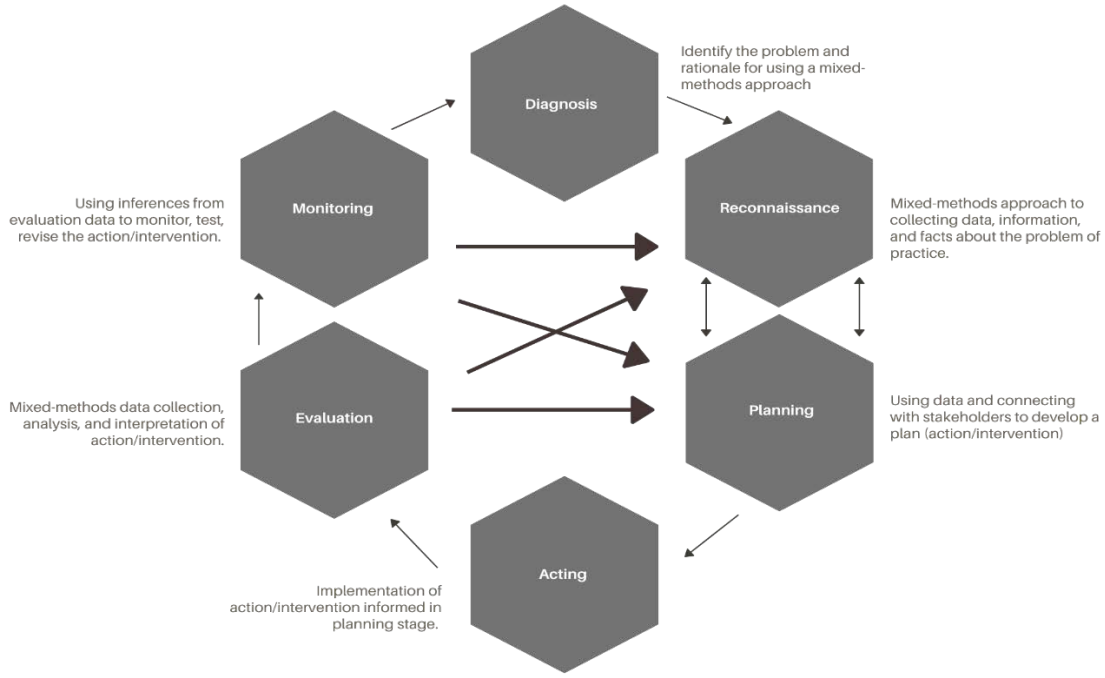
The third phase of the process was planning. During this phase, I created and proposed a plan to provide intervention for the problem of practice based on data gathered through the reconnaissance phase. There was an evident ebb and flow between the reconnaissance and planning phases, as issues were discovered during planning that required further exploration. This intervention was the development of a curricular framework for career and employability skill integration. The fourth phase of this research was action. During this phase, I developed an online survey tool to assess the proposed framework protocol by a target stakeholder group.

The fifth phase is evaluation. In this phase, I distributed and reviewed the evaluation survey to reflect on feasibility of programs to implement the proposed framework (intervention), the likelihood that they would integrate it, and the relevancy of the concepts presented to the needs of the students. Based on this evaluation, modifications were made to the framework and further opportunities for research have been explored. Both qualitative and quantitative data collection occurred again. The final phase is continued monitoring. During this phase, I have provided movement for further action, revisions, or provided context to continue the ongoing evaluation of the intervention (for potential further evaluation) (Ivankova, 2015).

This process is also fluid and occurs in cycles. During each phase (specifically within reconnaissance, planning, acting, evaluation, and monitoring), modifications, changes, or movements have led me to new ideas and information that have provided a consistent evolution of the research process.

Figure 1.1

Mixed Methods Action Research Framework



Note: This figure is adapted from *Mixed Methods Applications in Action Research: From Methods to Community Action* (p. 89) by N.V. Ivankova, 2015, Sage. Copyright 2015 by Sage Publications, Inc.

Diagnosis Phase: Problem of Practice

Many college campuses offer career services and preparation, yet students are increasingly less likely to participate in those programs if they are not integrated into classwork (Deer et al., 2017). Thus, academic programs must be increasingly creative in addressing students' career development needs within their programs. However, career development is being shifted to the program-level faculty and staff with little support or training on the best implementation processes, as is the case at UK's College of Agriculture, Food, and Environment (CAFE). Bridgstock (2009) suggests there are essential transferable and subject-related skills that must be taught for students to be best prepared for the holistic development of employability skills.

The ESMA program has begun the integration of career development skills and concepts into the core curriculum and the modification of student learning objectives to reflect the importance of those skills. The program is missing the strategic, intentional, and developmentally appropriate levels in which these skills should occur within the curriculum. For example, there are integrated elements of career development present within the coursework and event mapped to the student learning outcomes within the ESMA program. However, they are happening in courses where instructors are willing to teach those topics. While the instructor may be willing to integrate those concepts, they may not have been occurring at the most appropriate times. For example, the concepts and skills associated with budgeting and financial management were being taught in a first-year level course where students had minimal context for financial management as often parents are still managing much of their finances. Through this study, these skills were found to be more appropriate later when the students are working part-time and are

maintaining more responsibility for their financial decisions.

The Diagnosis Phase

The first phase of the MMAR process (Ivankova, 2015) involves diagnosing a problem of practice within the organization. For this study, multiple sources of information were explored, including the program's history, institutional data, the program's current academic curricula, and conversations with various stakeholder groups.

Stakeholder groups have been essential in providing feedback, direction, and information to inform the problem of practice for this study. Stakeholders' input was gathered from the following individuals and groups within CAFE: Associate Dean for Instruction, Academic Coordinators from various programs within CAFE, ESMA Curriculum and Assessment Committees, and ESMA students within the program.

Associate Dean for Instruction

Over the summer of 2020, I met with the Associate Dean for Instruction on three separate occasions regarding the re-development and design of an introductory CAFE course, GEN 100. I serve as the instructor of record for this course each fall, in addition to my program-level teaching responsibilities. One issue that emerged in comments from these meetings was the impact of a reduction in college-level staff on the ability to address students' career and employability skills development in the program. Another mutual concern was the lack of a college- or program-level approach to developing these skills.

Program Level Academic Coordinators

Information from College program-level academic coordinators (18 academic

coordinators across CAFE) was obtained as part of regularly scheduled bi-monthly zoom check-in meetings throughout the summer and fall of 2020. The meetings are hosted by one of the academic coordinators serving as a college lead, and an agenda is presented monthly to address rising issues among the groups. Issues that emerged through these conversations included the drastic variation in the academic coordinators' role from program to program. Often the student career development responsibilities fall on the academic coordinators within the program. Many of these individuals indicated they had little training or experience in integrating and educating career development skills. The academic coordinators expressed a need among each other and the Associate Dean for Instruction for additional support and resources to help with this process.

ESMA Curriculum Committee

The curriculum committee comprised six faculty/staff, the Director of Undergraduate Studies, and the department chairs in the Animal and Food Science and the director of UK Ag Equine Programs. I serve as a member of this committee. During monthly meetings, members of the committee discussed the recently implemented career development and employability skill integration within the ESMA program. This discussion focused on the new essential employability skill integration and concepts associated with mapping these skills to program-level student learning outcomes. Overall, committee members favored the integration process. However, while there was support for integration, committee members indicated that there could be a lack of intentional and developmental appropriateness of the skills at each level and potential gaps within the process. This concern was based on committee member

interactions with students in their courses.

ESMA Assessment Committee

The assessment committee includes the ESMA Academic Coordinator, Director of Undergraduate Studies, and two faculty members who teach core courses within the ESMA program. I am a committee member in my staff role as the internship coordinator and instructor. The committee meets monthly to discuss the EEQ certification and the program-level assessment process most recently developed and approved at the college level. The committee is responsible for course curriculum and mapping documentation, which has been essential to gaining insight into equine-related courses' objectives. The committee recently re-mapped the student learning outcomes and collected course syllabi within the core content classes. The course syllabi examination has been critical in determining the learning objectives regarding career and employability skills development. While the process emphasized career preparedness within the program and the courses in which these concepts are highlighted, no intentional sequence exists outlining when these skills are taught.

ESMA Faculty Members and Students

As a general part of my position with the program, I meet formally multiple times with faculty members each semester. These meetings focus on designing career development modules or activities within classes (e.g., mock interviews, resume and cover letter skills, budgeting, and negotiation) for implementation within classes. Through these conversations, faculty have indicated a need to build students' career preparedness skills over time and across courses.

Informal feedback from students was gathered through a Qualtrics survey

during the capstone course, EQM 490 in Spring 2020 (44), Fall 2020 (49), and Spring 2021 (20). Students were provided a simple survey “needs-assessment” each semester prior to me guest lecturing in their course. The purpose of the survey was to identify what specific areas they wanted to focus on during my three class lessons. Students indicated they appreciate the integration of career development skills. Students also expressed a desire to introduce some concepts (e.g., benefits, compensation, and budgeting) later in their academic experience.

History of the ESMA Program

The ESMA program was initiated during the economic recession of 2008, which affected graduates' employment opportunities. As financial profitability has returned to the equine industry over the past ten years, so too have the employment opportunities in equine-related businesses. This return of the industry's success has created a perceived need in the workforce among the equine industry. In 2017, the UK Ag Equine program hosted an industry workforce summit. This discussion led to the industry spearheading efforts to begin conversations around the importance of supplying the equine industry with a qualified workforce. The biggest challenge for our program with supplying the workforce is the types of positions available and highlighting the value of an ESMA degree to employers. In response, in 2018, the Kentucky Chamber of Commerce, in partnership with the Kentucky Equine Education Project (KEEP), established a statewide Talent Pipeline initiative for the equine industry in Kentucky. KEEP is a non-profit and advocacy organization whose goal is to provide economic development support and education for the equine industry. Since then, employers in various equine sectors have been reaching out to the University of Kentucky, expressing a need for an educated and

professional workforce. For example, the industry made specific requests to how the UK ESMA program could contribute to Kentucky's signature industry's talent and employment needs by providing farm managers, business leaders, and supporting industry personnel. These initiatives have evolved and contributed to revising the ESMA curriculum and student learning outcomes.

Institutional Data

In 2017, the UK Ag Equine program executive committee members, representing research, extension, curriculum, and communications, surveyed 26 engaged stakeholders from various groups (e.g., faculty, course instructors, alumni, and employers) and asked them to rank skills (i.e., employability and equine specific) needed and desired from graduates within the ESMA program. These data were foundational in informing the program on the necessary curriculum goals and objectives, which have led to identifying critical areas for emphasis in a career development process.

In September 2018, the ESMA program was asked to participate in a statewide Essential Employability Skills (EEQ) initiative certification. This initiative was a partnership with the Council on Postsecondary Education and the Quality Assurance (QA) Commons, which served as the certifying agency. In April 2020, the ESMA program was awarded the QA Commons EEQ certification after an extensive review and approval process. The certification verified that the ESMA program curriculum prepares students with 21st-century employability skills and has a process for measuring and assessing those skills as the students' progress through the program. Those skills include collaborative teamwork, life-long learners, critical thinkers/problem solvers, professional and responsible, adaptable, communicators, inquirers, principled, and ethical. The

essential employability self-evaluation and reporting process require collecting information about students' growth and development in the eight employability skills areas. The goal is to assess each of the EEQs each semester or annually.

Review of Supporting Literature

Various career development theories seek to identify, explain, or frame the career development mindset. Walker-Donnelly et al. (2019) provided insight into some career development theories to date. Hansen's integrative life planning theory explores how people view their job and work with other life roles. Hansen describes six tasks for career development, which include: finding work that should be done; integrating personal and work values; connecting work to family, mental, emotional, and physical wellbeing; social connection; spirituality; and purpose (Hansen, 2011; Walker-Donnelly et al., 2019).

Employability and Career Development Integration Into Undergraduate Curricula

While there is a paucity of research on the long-term impact of employability skill integration into the undergraduate curriculum, research does suggest it should be a priority in undergraduate education. In a report on career development courses at Florida State University, Reardon and Fiore (2014) found that 92% of courses taught resulted in positive student outcomes assessed in career planning, job satisfaction, selecting a major, course satisfaction, time from graduation from college, or cumulative GPA. Overall this study helps make a case that career development and employability education can impact the undergraduate experience by having lasting positive impacts on students' development. However, Reardon and Fiore (2014) also

note that there is little explanation for why career development courses are practical for the student experience. Some studies have cited the importance of intentional teaching methods used within the courses contribute to student success.

Ragan (2018) found that college students were increasingly less likely to participate in career development opportunities (workshops and seminars) as an optional choice. Ragan (2018) also found that most students only periodically interacted with an academic advisor for career counseling. Thus, it was proposed that a course sequence be implemented focusing on honing students' knowledge of the profession, assessing strengths and interests, experiential learning opportunities, and reflective/planning practices. These findings highlight the need to integrate employability skills and career development as a required component of the curriculum. Career development for students should occur in stages, and the skills should be built on year after year. Cox and King (2006) proposed a three-year approach to integrating career and employability skills within a business education curriculum. This approach focuses on theory and tools in year one and applying the skills and tools in years two and three. Bridgstock (2009) supported a similar approach in the career management model, which highlights the importance of transferable skills to applying a discipline-specific skill set. Bridgstock's (2009) conceptual model also emphasizes the intentional scaffold of the student's process, beginning with career management skills, employability skills, discipline-specific and generic skills. Fallows and Steven (2000) suggested a yearly integration approach, focusing on module development and integration. Career development is often taught separately from the curriculum through workshops for students; however, research suggests that the

intentional scaffold integration of career and employability skills is essential to student development (Bridgstock, 2009; Cox & King; 2006; Fallows & Steven, 2000).

Designing the Curriculum

When developing a curriculum specific to career development, there are several things to consider. These include but are not limited to engaging employers in the development process, a scaffold approach (yearly objectives), hands-on learning and work experiences, discovery of self, exploration of the industry, and reflection. Jackson (2014) found that students enrolled in career courses enjoyed classroom environments emphasizing planning and goal setting, self-reflection, and collective portfolios. Students also preferred on-the-job training placement activities. Both studies indicate that students appreciated integrating career preparation assignments into discipline-related coursework.

Curricular Framework

A whole-program approach to integrating career development skills is the foundation of a curricular framework. The process should build from year to year to integrate core career interests, strengths, and skills with the knowledge and context (Bridgstock et al., 2019). While the curriculum is a critical component to developing high-quality programs, it is essential to fill the gaps between how the curriculum is developed and how research and theory drive the development process (Kahn & Law, 2015). Therefore, pulling from theory, practice, and research is essential in a career development curricular framework.

Research Problem Statement

The ESMA program was lacking a structural approach (i.e., framework) to the

student career development process, including integrating critical career development skills across the curriculum. Therefore, a scaffold approach to integrating career development skills within the program was needed to ensure students' employability skills upon graduation. Some work had begun to integrate skills into the curriculum, but these efforts had not been evaluated to determine how well the content and objectives meet the needs of students. This study provided a foundation to better understanding the curriculum integration of necessary skills for students and faculty members and had the following priorities:

1. Provided a framework for the equine science and management curriculum to scaffold career/employability integration,
2. Highlighted gaps that need additional attention for the development and growth of students, and
3. Proposed changes to ESMA curriculum framework.

General Study Research Plan

The purpose of this MMAR study was to align critical career development skills across the ESMA program to enhance students' employability skills. The reconnaissance phase aimed to identify gaps and misalignment in critical employability skills across the curriculum. This was done using a multi-strand qualitative-quantitative mixed methods design. Using this research plan I collected and analyzed surveys, interviews, and focus group data. This data informed the development of a curricular framework for career development integration within equine science and management program.

The rationale for applying the mixed methods in the study was to gain more

insight into career development and preparedness for students enrolled in undergraduate education. Specifically, this occurred within the context of a program within CAFE. This was done to lead to a more effective process for programs to integrate career development into the program curriculum. Integral inputs into this study included participants (students, faculty, and staff), researcher time, interviews (faculty/staff), focus groups (students), technology, Qualtrics, and evaluation time.

Table 1.1

Logic Model

Inputs and Resources	**Activities**	**Outputs**	**Short-term and long-term outcomes**	**Impact**
Participants Interviews (Faculty/Staff) Technology (zoom) Focus groups (students) Evaluation time Career development staff Qualtrics	Survey - qualitative & quantitative (Faculty/Staff) Survey- qualitative & quantitative (Students) Student focus groups Faculty/Staff Interviews	ESMA Curricular framework for Career and Employability skill integration	Career development curricular framework implemented within ESMA program (short) Students develop stronger sense of self-efficacy in professional development (short) Students develop stronger sense of self- efficacy in personal development Students grow as professionals with the development of essential employability skills	Students grow as professionals with the development of essential employability skills Students become competent young professionals Students are gainfully and meaningfully employed in the career of their choosing.

Ethical Considerations

It is essential to conduct ethical research throughout the MMAR process. Making accurate inferences from research data results is called validation (Ivankova, 2015). This term also refers to the rigorous methods and procedures used during the MMAR process. Research should also be credible and valid to create change within a processor group. Ivankova (2015) also stresses the importance of the researcher's role in assessing the study for quality due to the multiple sources, levels, and timeframes of data. This can be done by evaluating the rigor of the methods within each strand, observing the specific quality of the research process, and lastly, the quality and legitimate conclusions and meta-inferences from the data (Ivankova, 2015).

As a participant-researcher within the MMAR design, this could have resulted in participating stakeholders being uncomfortable sharing their genuine opinions. Therefore, anonymous surveys were used with stakeholders in this study. This was important for identifying gaps within the curriculum and could help respondents feel more comfortable when responding. As an instructor in two of the four equine career preparation courses, it was also essential to obtain honest feedback on my instructional methods and techniques. The anonymous survey allowed for unbiased data that was used to identify emphasis areas that were used during the interview and focus group sessions.

Member checking was also used for focus group and interview feedback to support the credibility and trustworthiness of the findings. This was done by sharing individual interviews and focus group reflections with participants to confirm that transcription was interpreted properly. Triangulation of the data (curriculum and course objective review, student population data [qualitative and quantitative], and faculty/staff

data [qualitative and quantitative]) were also used to support inferences and findings. This was done by looking for common categories among the quantitative data sources and then matching those categories to the qualitative responses and then back to the curriculum. It was essential to identify gaps in content, timelines, and student and faculty curricular needs versus their accessibility to these resources. These will be outlined in the chapters to follow.

Researcher Bias

As an instructor in the program and a staff member with heavy responsibility in the career preparedness of the ESMA students, it was essential to acknowledge personal values and biases towards the significance of career and employability skill integration. As an instructor and guest lecturer in courses and programs that were evaluated, it was also essential to acknowledge that my perceptions represent the staff/instructor perspective and not the students' perspective. Being cognizant and aware of these potential biases throughout the research process was essential for me to recognize ongoing reflections on the data and data collection process.

Summary

This chapter reflects the MMAR study design that was utilized as a part of the exploration of the Equine Science and Management Undergraduate program career and employability program preparation. The chapter begins with the overview and description of the MMAR process and diagnosis phase, which discovered a problem of practice in the career development and employability preparation of equine science and management undergraduate students. After multiple interactions with stakeholder groups, it was identified that while initiatives were in place, there was no intentional process in

integrating these concepts within the curriculum. Instead, the concepts and topics associated with career and employability skill integration occurred conveniently throughout the students' experiences. The chapter then includes the next steps in a reconnaissance phase, which worked with two specific stakeholder groups (students and faculty/staff) to identify missing career and employability skill elements within the curriculum and the best timeframe to integrate these concepts for the needs of students. The chapter concludes with an overview of potential bias, being that the researcher is the internship coordinator within the ESMA program. It highlights areas of potential bias related to the direct work of the internship program with the career preparation of students. Overall, this chapter details the diagnosis phase of the MMAR research process and sets the stage to showcase the reconnaissance phase that was implemented to solve this critical problem of practice. In Chapter 2, a detailed reflection of the reconnaissance phase including the overall research design, the data collection, and analysis of data will be provided. In addition, a description of the planning phase and a proposed intervention, a curricular framework for career and employability skill development, will be highlighted.

Chapter 2

The employability of graduates increasingly becomes a measure of a college or university's value (Hora et al., 2018). While historically, it has not been the traditional place of higher education to provide employability skill development, it is an increasing need for students. It is also important to note that the perception of employability can frequently vary from student to university personnel (faculty/staff) to the future employer (Lisa et al., 2019). Therefore, assessing and evaluating the undergraduate experience, including the curriculum, is essential to ensure that students feel increasingly prepared to enter the workforce. This is the case within the University of Kentucky's Equine Science and Management (ESMA) undergraduate program. While a perceived need within the program exists, further evaluation is needed to ensure that current employability and career readiness concept integration meets the needs of both graduates and future employers.

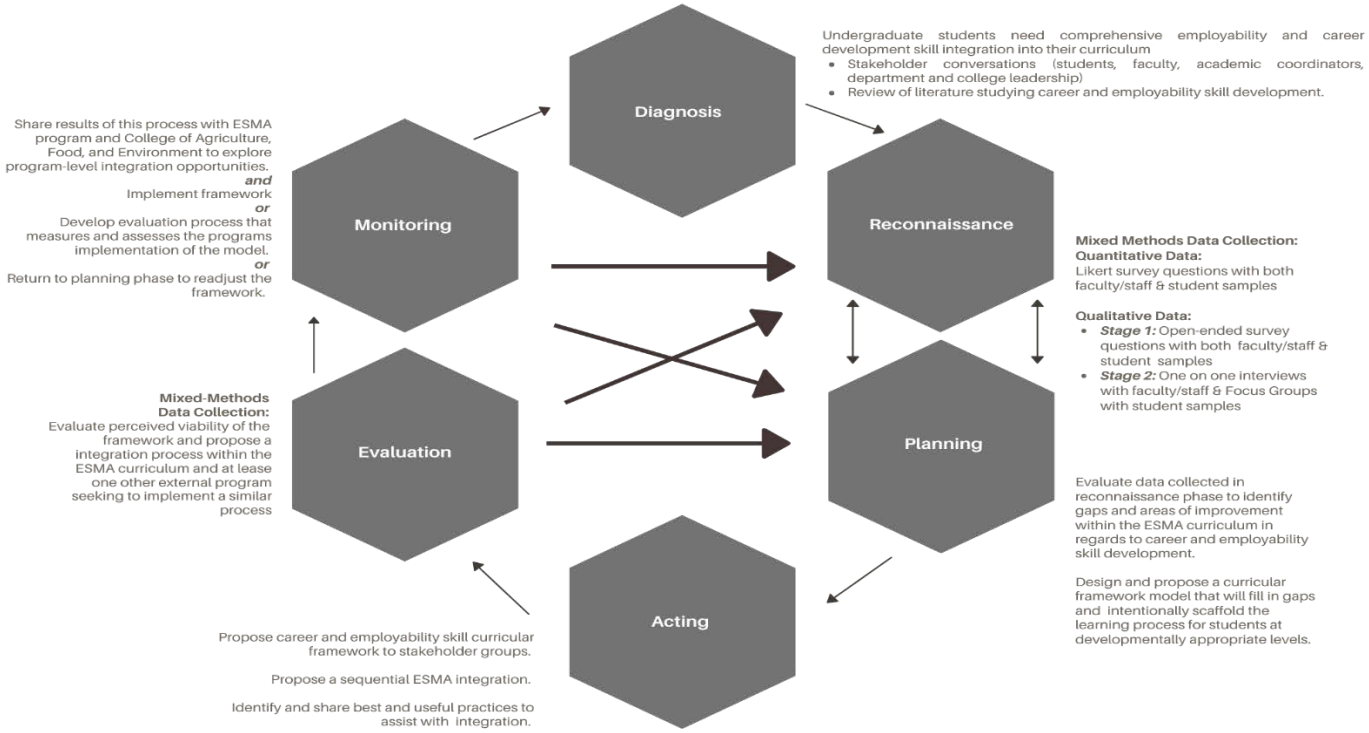
Overall Study Design

The overall purpose of action research is to address a problem of practice. This can occur within a variety of settings. The Mixed Methods Action Research (MMAR) framework (Ivankova, 2015) can evaluate the problem and proposed intervention. The diagnosis phase in Chapter 1 highlighted the background research and stakeholder engagement in the problem identification process. During this phase, the researcher identified positive career and employability skill integration movement within the ESMA program at UK. However, while positive movement was occurring, there were also potential gaps for students and there was a lack of apparent intentionality among the specific aspects of the courses within the curriculum. Therefore, evaluating the students'

experiences and the faculty/staff experiences was necessary to help best prepare graduates for the workforce. Figure 2.1 highlights the flow of the research across the MMAR phases.

Figure 2.1

Mixed Methods Action Research Process for Career and Employability Skill Integration for UK ESMA Students.



Note: This figure is adapted from *Mixed Methods Applications in Action Research: From Methods to Community Action* (p. 89, Ivankova, 2015).

Mixed Methods Action Research

The MMAR framework takes a deep dive into a problem of practice by integrating a six-phase structure (Ivankova, 2015). As indicated in Figure 2.1, these phases are diagnosis, reconnaissance, planning, acting, evaluation, and monitoring. Chapter 2 consists of the reconnaissance phase, which examines the diagnosis phase results and considers potential solutions to the indicated problem of practice. This aims to discover what opportunities may exist to propose a plan to act in the next phase. Specifically, this research is an exploration of the student, faculty, and staff perspectives on the career and employability preparation process of ESMA undergraduates.

Rationale

Chapter 1 presented a detailed look at the diagnosis process that occurred as a part of the Mixed Methods Action Research regarding this study. After a review of existing research and literature, document and institutional data review, and multiple conversations with stakeholders engaged within the ESMA program, it became evident that there was a problem of practice. While employability skills and career development are a priority to the ESMA program and other academic departments within CAFE, integrating these concepts and skills into coursework became a challenge. Students are also increasingly less likely to utilize out-of-class resources which can be an additional challenge for both students and instructors (Deer et al., 2017). In 2020, the ESMA staff completed an evaluation process and established an assessment format for evaluating employability skill integration into the ESMA program.

The question remains, does this meet the needs of the students? Are these skills integrated at developmentally appropriate times, and are any gaps still yet to be filled? To

find a solution to this problem of practice, the MMAR process is a natural fit. This process includes the reconnaissance phase, allowing potential interventions to rise to the surface (Ivankova, 2015). These interventions can be planned and tested in the planning and action phase and, most importantly, evaluated to determine if the intervention is successful or if modifications are to be made.

The data collected in this study also aligns with the MMAR process to integrate both qualitative and quantitative data collection methods within the reconnaissance and evaluation phases. These methods occur in both stages and strands within the reconnaissance and evaluation phases. This provides a more precise evaluation of the current ESMA career and employability skill integration process to create an effective curricular framework.

Research Setting

The ESMA program is housed within the College of Agriculture, Food, and Environment (CAFE). It is an inter-departmental, multi-disciplinary major with three emphasis areas for students to choose to align their curriculum plan and career path. The emphasis areas include communications and leadership, science, and management and industry. Each of these areas allows students to explore coursework in various programs within CAFE to have a diverse educational experience. Graduates of the program step into careers within the equine industry. These careers range from working hands-on with horses in farm management positions to furthering their education and going into professional school. The internship experiences for the students are just as diverse as the employment opportunities. Table 2.1 highlights both career placements for ESMA alumni in the workforce and ESMA internship placements from 2009 to 2021. There are 591

(EQM 399 enrolled) internship participants and 503 graduates represented in the table. Note that not all ESMA graduates have taken EQM 399 as a graduation requirement as some have participated in a study abroad, which counts for their academic enrichment graduation fulfillment. Another important note is that many students will participate in more than one "for-experience" internship during their time as students within the program. However, they can only get academic credit for one of those experiences for EQM 399, which has the most accurate data to represent. Also, graduates are not required to contact the ESMA program; therefore, while there are more than 503 graduates, not all have shared their post-graduate placements. However, the following data represent a vast majority of graduates.

Table 2.1

UK ESMA Internship and Alumni Placement Data

Equine industry specific job categories	ESMA Internship Placement as of February 2022	ESMA Alumni Placement as of February 2022
Non-profit, education/outreach	18%	7%
Riding/training/showing	23%	14%
Equine medical	16%	13%
Farm management/breeding	21%	11%
Sales/retail	5%	7%
Professional services (e.g., marketing public relations, and communications)	8%	12%
Research	9%	4%
Continuing education (graduate/professional school)	N/A	16%
Employed but not within the equine industry	N/A	12%
Unknown	N/A	4%

Since students enter a variety of career pathways within the equine industry, their

employability preparation is an essential component of their undergraduate experience. There are multiple courses within the program that highlight and integrate career and employability preparation. From 2018 to 2020, the ESMA program completed an external Essential Employability Skills assessment certification. The program was awarded that certification in April of 2020. However, while these skills are connected to some coursework, there has not been an assessment from a student and faculty/staff perspective on the appropriate levels in which the skills are taught. There is little information on the perceived gaps within the curriculum by these groups.

I serve as the internship coordinator within the ESMA program and assist in students' career and professional development. Therefore, the results of this study directly inform the resources and curriculum structure provided by the program. Since I am a member of both the assessment and curriculum committees, findings were shared among those with influence on implementing the intervention. As a participant-researcher in this position, there were opportunities to gain direct feedback to implement the research.

Reconnaissance Phase

The reconnaissance phase is a time to gather valuable information regarding the problem of practice identified in the diagnosis phase of the research. The purpose of the reconnaissance phase of this MMAR study was to identify gaps within the career and employability skill development for students by using a multi-strand mixed methods design. The following overarching research questions guided the reconnaissance phase.

1. What components of a program-level career readiness and employability curriculum framework should be in place to best grow the professional capacity of ESMA students at the University of Kentucky?

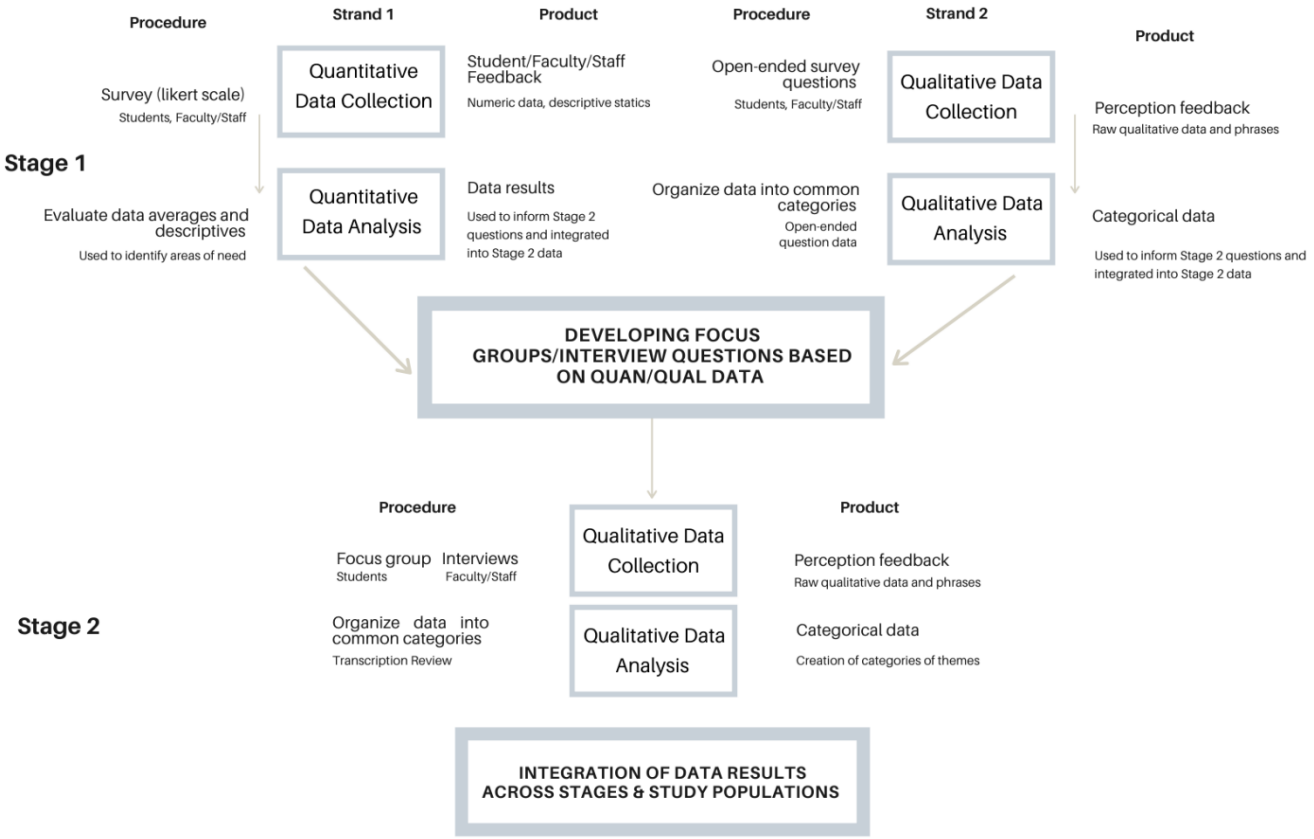
2. What integrated components of a career readiness and employability curriculum will help students develop a stronger sense of self-efficacy in career development, become competent career professionals, and obtain gainful employment?
3. At what stages should career readiness and employability skills be introduced, reinforced, and enhanced as a part of the curriculum framework?

Phase Design

A multi-strand research design was used, which included two stages, each with qualitative and quantitative strands (see Figure 2.2). In this section of the study, I began with Stage 1, which included a concurrent quantitative-qualitative survey (multiple strands). This was followed by Stage 2, which was a single strand of qualitative data collection through interviews and focus groups. A multi-strand method can be applied when there are multiple exploratory questions that need to be addressed in a concurrent format (Ivankova, 2020). The data collected from Stage 1 were used to develop the focus group and interview questions in the second Stage 2 of this study. One benefit to this design type is that it can provide emergent information which can shape the next phases of design. Specifically, in this study the data were analyzed from Stage 1 and used for the second stage of research. However, there are also challenges to a multi-strand design, which included extended time and resources to collect and analyze both sets of data (Ivankova, 2020). A description of each stage follows.

Figure 2.2

Diagram of the Multi-Strand MMAR Study Design



Note: This figure is adapted from *Mixed Methods Applications in Action Research: From Methods to Community Action* (p. 142), by N.V. Ivankova, 2015, Sage. Copyright 2015 by Sage Publications, Inc.

Stage One

The purpose of Stage One was to identify student and faculty/staff perceptions of employability and career skill obtainment for students throughout their time within the ESMA program. This stage also addressed the perceived importance of employability skill integration across the two sample groups. The quantitative and qualitative strands were employed concurrently via one survey instrument with close and open-ended items.

Seven research questions were used to guide the study (Table 2.2). In addition, Table 2.2 provides the organization of questions by quantitative (close-ended) and qualitative (open-ended) questions.

Table 2.2

Research Questions

Research Question	Quantitative (close-ended)	Qualitative (open-ended)
What is the perceived level of employability and career development skill obtainment for students within the ESMA program as perceived by ESMA students?	x	
What are employability and career development skill obtainment levels for students within the ESMA program as perceived by ESMA faculty/staff?	x	
What are the faculty/staff, and student perceptions of the importance of integrating career and employability into the curriculum?	x	
What are the strengths within the ESMA program's curriculum concerning employability and career development?		x

Table 2.2 (continued)

Research Question	Quantitative (close-ended)	Qualitative (open-ended)
What are gaps within the ESMA program's curriculum concerning employability and career development?	x	x
What are the developmentally appropriate skills, concepts, and stages for establishing and implementing a program-level career development model for the ESMA program?	x	x
What are the best delivery methods/approaches to teaching ESMA coursework career/employability skill concepts?		x

Stage One: Sample and Participants

A purposeful sample of faculty/staff and students was used for Stage One. A total of 12 faculty/staff members who served in teaching or curriculum leadership positions within ESMA were invited to participate in the study. This included core ESMA faculty/staff (n = 8) and additional members on the program-level curriculum committee (n = 4). While 36 instructors teach several courses within the degree program among each of the three emphasis areas, the 12 individuals selected were most connected with most equine students. They served as instructors within a core UK ESMA course and are involved in curriculum development and implementation. Of the 12 individuals invited to participate, 7 completed the survey for a 58% response rate. This respondent group will be referred to as faculty/staff.

The student sample included 68 students who were enrolled in EQM 490 in either Fall 2020 (n = 44) or Spring 2021 (n = 24) semesters. EQM 490 is a capstone course for

senior-level students preparing to graduate from the program. This course was chosen for student recruitment as all students enrolled would have completed all the coursework in the program utilizing the existing career and employability skill integration process. This includes core courses such as EQM 106 (equine careers), EQM 305 (equine industry issues), and EQM 399 (equine science and management internship). The students in both the fall and spring semesters would also provide a broad range of perspectives. Of the 68 students invited to participate, 21 completed the survey for a total response rate of 30.8%. This lower response rate could be because 18 of the 68 students asked to participate had already graduated from the program. In addition, during this time students were inundated with online learning and online learning requests due to the COVID-19 pandemic. During the 2020-2021 academic year many UK courses were hybrid online and in-person offerings to assist in safety of students and faculty on campus. Because of this, students were spending more than average time on synchronous and asynchronous online classes and many felt overloaded with online requests. Since this was not a required assignment, students may have not chosen to respond.

Stage One: Instrumentation

In Stage One, two surveys were used to collect both quantitative (close-ended) data and qualitative (open-ended) data: one for faculty/staff and one for students. Likert scale questions were used in both surveys. The faculty/staff survey focused on career and employability skill integration perceptions. Faculty/staff were asked to rate the degree (1 = not at all, 2 = slightly obtained; 3 = moderately obtained; 4 = adequately obtained, 5 = highly obtained) to which they believe the 19 career and employability skills (see Table 2.3) are obtained by students throughout their time within the ESMA program. In

addition, they were asked to identify the academic years (e.g., freshman, sophomore, junior, senior) in which they believe the specific skills should be integrated into the program. Respondents were able to denote skills in more than one academic year and answer “not sure.” The final question focused on faculty/staff perception of the importance of integrating career development and employability skills within the ESMA program, with 1 being not important to 5 being extremely important.

The student survey focused on their perspective and experiences with career and employability skill development while a student within the ESMA program. Students rated the degree to which they feel they obtained the 19 career and employability skills on a scale (1 = not at all, 2 = slightly obtained; 3 = moderately obtained; 4 = adequately obtained, 5 = highly obtained). They were not offered an option for NA or Not sure.

The skills included in the survey were identified through a literature review and ESMA curriculum mapping process (see Chapter 1). There are four categories of career and employability skills: (a) *self-management*, (b) *career-building skills*, (c) *essential employability skills (generic skills),* and (d) *discipline-specific skills* (Bridgstock, 2020). Within these four categories, there are 19 specific skills that represent those seen as most important for the career and employability skill development process. These skills included are presented in Table 2.3.

Table 2.3

Career and Employability Skill Categories

Skill Category	Skill
Self-Management Skills	Self-assessment - personal
	Self-assessment - professional
	Values assessment – personal
	Values assessment - career
	Abilities and aptitudes exploration
	Individual interest assessment
	Work/life balance
Career Building Skills	Industry specific information
	Locating and applying for jobs
	Networking
	Relationship Building
Essential Employability Skills (generic skills)	Written communication
	Verbal communication
	Teamwork
	Adaptability
	Critical thinking
	Inquiry
	Principled and ethical decision making
	Responsible and professional
	Life-long learning
Discipline specific skills	Skills specific to the student learning outcomes of the degree program

The qualitative component of both surveys included open-ended questions. However, questions were worded differently for each group. The differences in the question wording are detailed below. The survey was also comprised of open-ended questions. See Table 2.4 for a list of the questions asked to both participant groups.

Table 2.4

Open-Ended Survey Questions

Open-Ended Survey Question	Faculty/Staff	Students
What resources are you using (if any) or have you used for career development services?	x	x
What do you believe are the best delivery methods/approaches to teaching employability skills or concepts [within your ESMA classes] [for you as a learner]?	x	x
What areas listed above do you think would be better suited for a different course, timeframe (year in school)?	x	x
What areas of career and employability development do you think are missing [for students] [for you]?	x	x
What do you feel are the strengths in career readiness and employability skills within the program?	x	x
What do you feel are gaps in career readiness and employability skills [from your ESMA experience]?	x	x
What major career readiness and employability concepts [do you believe should be covered but are not presently] [do you wish were covered]?	x	x

Stage One: Data Collection Procedures

Surveys were distributed to both groups through Qualtrics (Qualtrics, Provo, UT), an online survey service, in April 2021. Faculty/staff were sent an initial invitation to take the survey directly from the researcher via their email. They were given two weeks to complete the survey. A reminder email was sent with both one week and one day remaining. For students enrolled in Spring 2021 EQM 490 Capstone, the survey was distributed by the course professors on behalf of the researcher. The survey was distributed via email and in a Canvas announcement. A reminder for all student surveys was also distributed with one week and one day remaining. For students enrolled in EQM 490 in Fall 2020, an email with the invitation to participate was sent directly from the researcher. This method was chosen as some students had since graduated, thus were not enrolled in a course to receive communication from the professor. The email addresses were obtained from their course enrollment data through UK. The written consent was waived, but a consent form was included in the survey's cover letter to provide detailed information about the survey and research process. Copies of the surveys can be found in Appendix A (student survey) and Appendix B (faculty/staff survey).

Stage One: Data Analysis

Data from the quantitative portion of the survey were downloaded from Qualtrics and stored in an excel file. Descriptive statistics (e.g., frequencies, percentages, and means) were used to summarize findings.

Qualitative data were collected through seven open-ended questions embedded within the survey. These data were organized and sorted using a table and codebook in Microsoft Word (Ivankova, 2015). I created categories based on common responses and

keywords, and then words or phrases were grouped based on common terms. For example, six faculty/staff respondents referenced items focused on the internship program. For example, Faculty/Staff Respondent 1 said, “Internship coordinator that works with students their entire time in the program.” Each response was highlighted with a specific color and added to a category. Information was then color-coded based on similar words, then categorized, and common areas were identified. Lastly, the number of respondents and number of responses within each category were counted for frequency. These data and information were used to inform the creation of questions utilized in Stage Two of the reconnaissance phase. For example, since these data highlighted specific skill “gap” areas that were present within the curriculum a question was asked specifically relating to that skill area.

Strand One: Quantitative Findings

Five research questions guided the quantitative strand of the Stage One (Table 2.5). Three close-ended survey questions were used on the survey instrument to obtain these data. Findings are reported by question and respondent group (i.e., faculty/staff or students) and are presented in order of the close-ended survey questions (Appendices B and C).

Table 2.5

Research Questions Mapped to Open- and Close-Ended Questions

Research Question(s)	Faculty/Staff Instrument Close-Ended Question(s)	Student Instrument Close-Ended Question(s)
What is the perceived level of employability and career development skill obtainment for students within the ESMA program as perceived by ESMA students?		**To** what extent do you feel you have obtained the following skills/concepts within your ESMA coursework?
What are employability and career development skill obtainment levels for students within the ESMA program as perceived by ESMA faculty/staff?	**Below** is a list of skills/concepts currently taught as a part of the ESMA curriculum to what degree do you believe students obtain this skill by their completion in the program?	
What are the faculty/staff and student perceptions of the importance of integrating career and employability into the curriculum?	**To** what degree do you feel career development and employability skill integration is important to the equine science and management curriculum? [integrating these concepts into required classes taught within the major]	**To** what degree do you feel career development and employability skill integration is important to the equine science and management curriculum? [integrating these concepts into required classes taught within the major]
What are gaps within the ESMA program's curriculum concerning employability and career development?	**What** year(s) do you believe these skills should be integrated into the student's curriculum experience based on their developmental need?	**What** year(s) during your academic career have you received this academic information? (select all year's that apply)
What are the developmentally appropriate skills, concepts, and stages for establishing and implementing a program-level career development model for the ESMA program?	**What** year(s) do you believe these skills should be integrated into the student's curriculum experience based on their developmental need?	**What** year(s) during your academic career have you received this academic information? (select all year's that apply)

Career and Employability Skill Obtainment. To address the research question focused on students' career and employability skill level obtainment, both faculty/staff perceptions of student obtainment of skills within the ESMA program and the students' self-reports of their levels of skill obtainment were assessed. Faculty/Staff were offered an additional option of N/A or Not sure. Findings for both groups are presented in Table 2.6.

Table 2.6

Career and Employability Skill Obtainment – Faculty/Staff and Student Responses

	Faculty/Staff Responses					Student Responses			
		Not at All/ Slightly Obtained	Moderately Obtained	Adequately/ Highly Obtained	N/A - Unsure		Not at All/ Slightly Obtained	Moderately Obtained	Adequately/ Highly Obtained
Skills	**Mean (SD)**	**% (N)**	**% (N)**	**% (N)**	**% (N)**	**Mean (SD)**	**% (N)**	**% (N)**	**% (N)**
Self-Management Skills	**4.3 (0.3)**					**4.0 (0.3)**			
Self-assessment and reflection (professional)	4.7 (1.0)	0.0 (0)	14.3 (1)	57.2 (4)	28.6 (2)	4.2 (0.4)	0.0 (0)	0.0 (0)	100.0 (21)
Self-assessment and reflection (personal)	4.4 (1.3)	14.3 (1)	0.0 (0)	57.2 (4)	28.6 (2)	4.0 (0.7)	0.0 (0)	23.8 (5)	76.2 (16)
Values (personal core values)	4.1 (1.0)	0.0 (0)	28.6 (2)	57.2 (4)	14.3 (1)	4.1 (0.8)	0.0 (0)	28.6 (6)	71.4 (15)
Values (career values)	4.3 (1.3)	14.3 (1)	14.3 (1)	57.2 (4)	14.3 (1)	4.2 (0.6)	0.0 (0)	9.5 (2)	90.5 (19)
Abilities and aptitude exploration	4.4 (0.7)	0.0 (0)	14.3 (1)	85.7 (6)	0.0 (0)	4.2 (0.7)	0.0 (0)	14.3 (3)	85.7 (18)
Individual interests assessment	4.3 (1.2)	14.3 (1)	0.0 (0)	71.4 (5)	14.3 (1)	4.1 (0.6)	0.0 (0)	14.3 (3)	85.7 (18)
Work/life balance	3.6 (0.5)	0.0 (0)	42.9 (3)	57.2 (4)	0.0 (0)	3.3 (0.8)	14.3 (3)	47.6 (10)	38.0 (8)
Career building skills	**4.5 (0.2)**					**4.2 (0.1)**			

Table 2.6 (continued)

	Faculty/Staff Responses					Student Responses			
		Not at All/ Slightly Obtained	Moderately Obtained	Adequately/ Highly Obtained	N/A - Unsure		Not at All/ Slightly Obtained	Moderately Obtained	Adequately/ Highly Obtained
Skills	**Mean (SD)**	**% (N)**	**% (N)**	**% (N)**	**% (N)**	**Mean (SD)**	**% (N)**	**% (N)**	**% (N)**
Industry information	4.3 (1.2)	14.3 (1)	14.3 (1)	71.4 (5)	0.0 (0)	4.2 (0.7)	0.0 (0)	14.3 (3)	85.7 (18)
Locating/applying for jobs	4.4 (0.7)	0.0 (0)	14.3 (1)	85.7 (6)	0.0 (0)	4.1 (0.8)	4.8 (1)	14.3 (3)	81.0 (17)
Networking and building relationships	4.0 (0.9)	14.3 (1)	0.0 (0)	85.7 (6)	0.0 (0)	4.3 (0.7)	0.0 (0)	14.3 (3)	85.7 (18)
Essential Employability skills	**3.7 (0.2)**					**4.2 (0.1)**			
Written communication	3.9 (0.8)	0.0 (0)	42.9 (3)	57.2 (4)	0.0 (0)	4.0 (0.8)	4.8 (1)	19.0 (4)	76.2 (16)
Verbal communication	3.7 (0.7)	0.0 (0)	42.9 (3)	57.2 (4)	0.0 (0)	4.2 (0.7)	0.0 (0)	19.0 (4)	81.0 (17)
Teamwork	3.7 (0.5)	0.0 (0)	28.6 (2)	71.4 (5)	0.0 (0)	4.1 (0.9)	4.8 (1)	19.0 (4)	76.2 (16)
Adaptability	3.4 (0.7)	14.3 (1)	28.6 (2)	57.1 (4)	0.0 (0)	4.4 (0.7)	0.0 (0)	9.5 (2)	90.5 (19)
Critical thinking	4.0 (0.8)	0.0 (0)	28.6 (2)	71.4 (5)	0.0 (0)	4.1 (0.8)	4.8 (1)	14.3 (3)	81.0 (17)
Inquiry	3.7 (1.0)	14.3 (1)	28.6 (2)	57.1 (4)	0.0 (0)	4.1 (0.8)	4.8 (1)	9.5 (2)	85.7 (18)
Principled and ethical decision making	3.6 (0.9)	14.3 (1)	28.6 (2)	57.1 (4)	0.0 (0)	4.3 (0.7)	0.0 (0)	14.3 (3)	85.7 (18)
Responsible and professional	3.9 (1.0)	14.3 (1)	14.3 (1)	71.4 (5)	0.0 (0)	4.4 (0.6)	0.0 (0)	4.8 (1)	95.2 (20)
Life-long learning	3.4 (0.5)	0.0 (0)	57.1 (4)	42.9 (3)	0.0 (0)	4.3 (0.6)	0.0 (0)	9.5 (2)	90.5 (21)

1 = not at all; 2 = slightly obtained; 3 = moderately obtained; 4 = adequately; 5= highly obtained.

Across the three major categories of skill obtainment, the overall mean was highest in the category of career building for both faculty/staff (M = 4.5; SD = 0.2) and students (M = 4.2; SD = 0.1). Within this category of skills, faculty/staff ratings ranged from a mean of 4.0 (SD=0.7) for networking and building relationships to 4.4 (SD = 0.9) for locating and applying for jobs. Student ratings ranged from a mean of 4.1 (SD = 0.8) for locating and applying for jobs to a mean of 4.3 (SD =0.7) for networking and building relationships.

The second highest skill obtainment ratings for faculty/staff were in the category of self-management skills, with an overall mean of 4.3 (SD = 0.3) however; this was the second-highest category rated by students with a mean of 4.0 (SD = 0.3). Within this category of skills, faculty/staff skill obtainment ratings ranged from a mean of 4.7 (SD =1.0) for professional self-assessment to 3.6 (SD = 0.5) for work-life balance. Student ratings ranged from 4.2 for three skills including, professional self-assessment (SD = 0.4), career values (SD = 0.6), and abilities and aptitudes exploration (SD = 0.7) to a mean of 3.3 (SD = 0.8) for work-life balance.

The final category, essential employability skills, was rated the lowest category for faculty/staff (M = 3.7; SD = 0.2) but was rated the highest category by the students (M= 4.2; SD = 0.1). Within this category of skills, faculty/staff skill obtainment ratings ranged from a mean of 4.0 (SD = 0.8) for critical thinking to 3.4 for the two skills, life-long learning (SD = 0.5) and adaptability (SD = 0.7). Student ratings ranged from 4.4 for the two skills of responsible and professional (SD = 0.6) and adaptability (SD = 0.7) to a mean of 4.0 (SD = 0.8) for written communication.

Career and Employability Skill - Student Needs. Another overall research question addressed the identification of the appropriate skills, concepts, and stages for establishing and implementing a program-level career development model. The perspective from both faculty/staff and student participants on the developmental skills needed throughout the student experience is essential in that process.

Table 2.7

Career and Employability Skill Distribution by Program Year

	Program Year				
Career and employability skill	**1**	**2**	**3**	**4**	**5 +**
Career Building Skills					
Industry information			**X**	**X**	
Networking and building relationships		**X**	**X**	**X**	
Locating/applying for jobs			**X**	**X**	
Self-management skills					
Abilities and aptitude exploration		**X**	**X**	**X**	
Individual interests assessment		**X**	**X**	**X**	
Self-assessment and reflection (personal)		**X**	**X**	**X**	
Values (personal core)		**X**	**X**	**X**	
Self-assessment and reflection (professional)		**X**	**X**	**X**	
Values - career values			**X**	**X**	
Work/life balance			**X**	**X**	
Essential employability skills					
Written communication	**X**	**X**	**X**	**X**	
Verbal communication	**X**	**X**	**X**	**X**	
Teamwork	**X**	**X**	**X**	**X**	
Critical thinking	**X**	**X**	**X**	**X**	
Adaptability		**X**	**X**	**X**	
Inquiry		**X**	**X**	**X**	
Principles and ethical decision making			**X**	**X**	
Responsible and professional			**X**	**X**	
Life-long learning		**X**	**X**	**X**	

Note. Shaded blocks represent where 50% or more of respondents placed the items, blocks with an X represent where students indicated they had been exposed to the skill or concept.

These data provide insight into the faculty/staff and student perspectives on when specific skills should be integrated into the undergraduate curriculum during the program (e.g., first year, second year) (Table 2.7). Shaded cells indicate that a majority (over 50%) of faculty/staff assigned a skill to a program year. For additional details regarding the findings, see Appendix D, Tables D1 and D2. Faculty/staff indicated skills within the categories of career building and essential employability should be integrated across multiple years of the program, for most skills beginning in Year 1. Skills in self-management were more delineated to specific years in the program.

The same 19 skills were also examined from the student perspective, specifically referring to which program year they obtained the skill (Table 2.7). Skills are denoted with an X where a majority (over 50%) of students indicated they had been exposed to a skill during a program year. Students were in the process of completing Year 4, therefore Year 5 was not assessed. Students indicated they were exposed to four of the nine skills in the essential employability category as early as Year 1. Students reported that among self-management and career building categories, they were not exposed to many of these skills until Years 2 to 4.

As demonstrated in Table 2.7, there were gaps within the ESMA curriculum regarding career and employability skills. Based on the faculty/staff responses of where skills should be taught, 10 skills students identified as “not exposed to” in Year 1 and four skills in Year 2. Within the category of career-building, faculty/staff respondents indicated that two of the skills [industry information and networking and building relationships] should begin in Year 1 and one skill [locating/applying for jobs] in Year 2 should span the remaining years. However, students indicated that they were not exposed

to specific skills within the category of career building until Year 2 or 3. Within the category of self-management skills, faculty/staff indicated one skill [abilities and aptitude exploration] should be taught in Years 1-2, three skills [individual interest assessment, self-assessment and reflection (personal), and values (personal core)] spanned across Year 1-4, and three skills [self-assessment and reflection (professional), values – career values, and work-life balance] should be a focus in Year 3-4. Lastly, within the category of essential employability skills, findings within the faculty responses indicate eight of the nine skills within this category should begin in Year 1 and span through Year 4. However, students indicated that they were currently exposed to four skills [written communication, verbal communication, teamwork, and critical thinking] within this category throughout the four program years. They were exposed to two skills [adaptability and inquiry] in Years 2-4 and two skills [principled and ethical and life-long learning] in Years 3-4.

Importance of Career and Employability Skill Development. It was important in this study to understand faculty/staff and student perceptions of the importance of career and employability skill integration. It provided insight into their willingness to integrate concepts into coursework or, in the case of students, a desire for concepts to be integrated across the curriculum. Thus, it was important to examine areas of agreement and disagreement across the two groups (i.e., faculty/staff and students). Faculty/staff and students were asked to rate the degree they felt career development and employability skill integration are essential to the equine science and management curriculum. Both respondent groups indicated it was important, with a mean of 4.7 (SD =0.6) for students

and 4.6 (SD =0.5) for faculty/staff on a five-point scale (1=not important to 5 = extremely important).

Strand Two: Qualitative Findings

Four research questions guided the qualitative strand of the Stage One (Table 2.8). Seven open-ended survey questions were used on the faculty/staff and student surveys to obtain information. The open-ended survey questions and findings have been categorized by research questions (Table 2.8).

Table 2.8

Open-Ended Survey Questions Categorized by Research Question

Research Question(s)	Faculty/Staff Instrument Open-Ended Question(s)	Student Instrument Open-Ended Question(s)
What are the strengths within the ESMA program's curriculum concerning employability and career development?	What do you feel are the strengths in career readiness and employability skills within the program?	What do you feel are the strengths in career readiness and employability skills within the program?
What are gaps within the ESMA program's curriculum concerning employability and career development?	What areas of career and employability development do you think are missing for students?	What areas of career and employability development are or were missing for you?
	What do you feel are gaps in career readiness and employability skills?	What do you feel are gaps in career readiness and employability skills from your ESMA experience?
	What career readiness and employability major concepts do you believe should be covered but are not presently?	What career readiness and employability major concepts do you wish were covered?

Table 2.8 (continued)

Research Question(s)	Faculty/Staff Instrument Open-Ended Question(s)	Student Instrument Open-Ended Question(s)
What are the developmentally appropriate skills, concepts, and stages for establishing and implementing a program-level career development model for the ESMA program?	What areas listed above do you think would be better suited for a different course, timeframe (year in school)?	What areas listed above do you think would be better suited for a different course, timeframe (year in school)?
What are the best delivery methods/approaches to teaching ESMA coursework career/employability skill concepts?	If teaching an ESMA course: What do you believe are the best delivery methods/approaches to teaching employability skills or concepts within your ESMA classes?	What are the best delivery methods (ways a concept/skill is taught) to teach the above skills or concepts for you as a learner?
	If teaching an ESMA course: what resources are you using (if any) or have you used for career development services?	What resources are you using, or have you used for career development services?

Strengths Within the ESMA Curriculum. To identify strengths in the curriculum, respondents were asked what they felt were strengths in the program as it relates to career readiness and employability skills from the program (faculty/staff) or their ESMA experience (students). Across the seven total faculty/staff that responded to the question, there were 23 total responses. Individually, responses included one to four different strengths listed. Of the 16 students that responded there were 38 total responses. Individually, responses included one to six different strengths listed.

Faculty/Staff. Faculty/staff member responses were categorized into three areas of strengths which included the internship program (n=6), student professional

experiences (n=6), and curriculum integration (n=4). Six respondents used words or phrases that were categorized as the internship program. For example, Faculty/Staff Respondent 1 said, “Internship coordinator that works with students their entire time in the program.” In addition, six respondents (n=6) provided responses categorized as student professional experiences. For example, Faculty/Staff Respondent 8 said, “job shadows, resume building, professional appearance.” Lastly, three respondents (n=3) provided responses that were categorized as curriculum integration. Faculty/Staff Respondent 3 said:

> I love what Mrs. Robin has incorporated into EQM 106, what she’s inserted into EQM 305 and what she ‘brings back home’ in EQM 490; I truly believe that instructors of all EQM major courses have worked really hard on these aspects over the past couple of years.

***Students*.** The student responses were also categorized into two areas of strengths. These include six students (n=6) who provided 15 (n=15) responses about professional student experiences. Student Respondent 4 said:

> There are always opportunities to get feedback on professional documents, and we are taught how to market ourselves as professionals in many different ways, from being physically in front of someone to digital methods such as e-portfolios.

Further, six students (n=6) provided 11 (n=11) responses about networking and mentorship opportunities. For example, Student Respondent 13 said:

> The opportunities provided by the program are top notch. It really comes down to the students- if you aren’t a ‘go-getter’ you’re not going to go anywhere. The program has so many great resources, mentors, and a great network to get you

involved in anything you are interested in.

Gaps in Existing ESMA Curriculum. To identify gaps in the curriculum, the responses to three questions from each faculty/staff and student survey were categorized as seen in Table 2.8. There were 37 total responses from seven faculty/staff participants. Individually within each separate question, responses ranged from eight to 16 gaps identified. In addition, there were 82 total student responses from 15 respondents. Individually within each separate question responses ranged from 22 to 35 gaps identified.

Faculty/Staff. For faculty/staff responses these categories included professionalism and personal accountability (n=6), communication skills (n=3), and industry experience/connection (n=3). Five faculty/staff participants (n=5) used words or phrases in their responses that related to professionalism and personal accountability as an area lacking for students. For example, Faculty/Staff Respondent 2 said, "Professionalism. They need to learn that things like coming to class are important."

Three respondents (n=3) used words or phrases categorized as communication skills. For example, Faculty/Staff Respondent 8 said, "email etiquette, verbal communication." Lastly, three respondents (n=3) provided answers that were categorized as industry experience and connection. For example, Faculty/Staff Respondent 3 said, "Despite strong efforts, I see a handful of students each year who will likely struggle if they want a career position directly in the equine industry."

Students. The same process was used to analyze student qualitative data. Three categories emerged as gap areas within the curriculum from the student perspective which include career/life skills (n=39), communication skills (n=7), hands-on horse

experience (n=6), and industry experience and connection (n=5). Thirteen student respondents (n=13) provided responses that were categorized as career and life skills. For example, Student Respondent 11 said, “covering what happens after you leave college, retirement, insurance, health benefits, how to negotiate, what you should be asking your employer, not just how to answer their questions.” Five respondents (n=5) used words or phrases that I categorized as hands-on horse experiences. For example, Student Respondent 4 said, “Hands-on skills with horses.” Three respondents (n=3) provided responses categorized as industry experience and connection. For example, Student Respondent 2 said, “I’m still not super involved with the industry or confident I can receive a job after graduation.” Lastly, three respondents (n=3) provided responses that were categorized as communications skills. For example, Student Respondent 16 said, “virtual interviews.”

Developmentally Appropriate Skills and Concepts. To identify what are the appropriate skills or concepts and assign them to a year one open-ended question was asked to each respondent group. This question asked what career and employability skills would be better suited for a different course or timeframe. A total of six faculty/staff responded (n=6) with one response each (n=1). However, there was not enough consistency among the responses to be categorized. Three faculty/staff respondents (n=3) indicated that no changes to the timeframe or year of school should be made. However, Faculty/Staff Respondent 3 said, “More teamwork throughout the program,” suggesting that they felt that it was important that teamwork skills be taught earlier and more frequently for students. However, overall, no major categories emerged.

Among the students there were 20 responses from 14 respondents. Four

respondents (n=4) indicated that no changes to the timeframe or year of school should be made. Three students (n=3) indicated communication skills should be enhanced in the student experience and two students (n=2) indicated that work-life balance should be emphasized in the junior and senior level courses.

Delivery and Teaching Methods to Approach Teaching Employability Skills. To identify the best teaching methods and delivery approaches to teaching employability skills, faculty/staff were asked what they felt were the best approaches to use within their courses. Seven faculty/staff respondents provided 11 total responses. Individually these ranged from one to two teaching methods or approaches. Seventeen students provided 37 responses. Individually these ranged from one to four teaching methods or approaches.

Faculty/Staff. The responses from faculty/staff were diverse and could not be broken down into individual categories. However, the responses included class projects, development of effective communication skills, pushing students outside of their comfort zones, integrating employability skills and concepts into course work, group discussions and teamwork, out-of-class events, and case study scenarios. For example, Faculty/Staff Respondent 6 said, “I think inserting employability skills or concepts into the courses has worked much better than expecting students to sign up for optional workshops (though there are a few special workshops where optional is appropriate).”

Students. Students' responses were categorized into three areas which included hands-on learning (n=14), discussion and conversations (n=7), and reflection (n=3). Twelve students (n=12) provided 14 responses (n=14) that were categorized as hands-on learning. For example, Student Respondent Number 3 said, “actually doing things.” Six students (n=6) provided seven responses (n=7) that were categorized as discussion and

conversations. For example, Student Respondent Number 20 said, “Debates.” Lastly, three students (n=3) provided three responses (n=3) that were categorized as reflection. For example, when asked about the best teaching methods and delivery approaches, Student Respondent Number 14 said. “Self-reflection.”

Instructional Resources for Teaching Career and Employability Skills. To identify career instructional resources, the responses from two questions from each faculty/staff and student survey were grouped and categorized (Table 2.8). Seven faculty/staff respondents provided a total of nine different responses. Individually these ranged from one to two career instructional resources. Seventeen student respondents provided a total of 37 individual responses. Individually these ranged from two to five career instructional resources.

Faculty/Staff. When asked if instructors were teaching an ESMA course what career instructional resources they used, six of the 12 (n=6) respondents did not know what types of resources should be used. Examples of resources include career service staff members and online job site platforms. One respondent indicated that they had not used any career development services for their course. Of the six responses one indicated that they shared career fair information with students and hosted a guest lecture by a colleague. Also, one respondent said they relied on the program-level internship coordinator for assistance on integrating skills and managing those portions of the course instruction.

Students. Students provided 37 responses relating directly to what resources they use for career development. Four major categories emerged. These included online platforms and resources (n=15), mentors and advisors (n=11), outside-of-class activities

and activities, including clubs and organizations (n=6), and class resources and activities (n=5). Nine students (n=9) provided 15 responses categorized as online platforms and resources. For example, Student Respondent 16 said, “LinkedIn, Kentucky Horse Council Website, Handshake, and Tuesday Tidbits.” Eleven student respondents provided 11 responses categorized as mentors and advisors. For example, Student Respondent 19 said, “meeting with Savannah Robin.” Five students (n=5) provided six responses (n=6) categorized as outside-of-class activities. For example, Student Respondent Number 1 said, “clubs and organizations.” And lastly, three students (n=3) provided five responses (n=5) categorized as class resources or activities. For example, Student Respondent 8 said, “Creating my own E-Portfolio.”

Stage One Integrated Findings

Data analyzed in Stage One of the reconnaissance phase helped to identify how faculty/staff rate the level to which the perceived students in the ESMA program were currently obtaining career and employability skills as well as the academic years each skill should be integrated into the curriculum. In addition, it provided insight into what resources (if any) faculty/staff were currently using to teach these skills. Furthermore, the data collected during this phase helped me identify which academic year ESMA students were exposed to each of the career and employability skills and their perceived level of obtainment for each skill. The data were also helpful in identifying the importance of the integration of career and employability skills within the ESMA curriculum. Based on these results and findings, gaps, and strengths within the ESMA program were identified. In addition to the data analysis, a literature review provided me with an understanding of what academic year students should be exposed to each of the 19 specific skills assessed

as a part of this research.

Stage Two

In Stage Two, there was one strand of qualitative data collection with two different data collection methods among the two population groups. The first consisted of a focus group with students. The second included interviews with faculty. The findings from Stage One were utilized in the development of questions for the focus groups and interviews. The single strand in Stage Two sought to address the following research questions:

1. What are the ESMA program's curriculum strengths regarding employability and career development?
2. What are gaps within the ESMA program's curriculum regarding employability and career development?

Table 2.9

Qualitative Questions Categorized by Research Question

Research Question	Open-Ended Survey Question	Faculty/Staff Interviews	Student Focus Group
What are the ESMA program's curriculum **s**trengths regarding employability and career development?	In your opinion, what are ways that the ESMA program has been intentional about integrating employability and career skills throughout your experience?	x	x
	What do you feel are the strengths in career readiness and employability skills within the curriculum?	x	x
What are gaps within the ESMA program's curriculum regarding employability and career development?	What do you feel are gaps in career readiness and employability skills within the curriculum – what is missing?	x	x
	What career readiness concepts do you wish were covered?	x	x
	What challenges do you see within the program regarding career development? How would you propose the program overcome those?	x	x

Qualitative Strand: Focus Groups

Sample and Procedure

At the end of the survey, students were offered an opportunity to indicate their interest in participating in a follow-up focus group session. If they were interested, the students could voluntarily provide their contact information. A target of six students was set for the focus group. These students had already completed coursework with preliminary career and employability skill integrations and were enrolled in EQM 490. Five (n=5) students agreed to participate.

A focus group format was chosen for the student population to give students a comfortable group to converse with about their ESMA experience. Students were asked to answer and provide feedback on a series of questions during the focus group. The purpose of this focus group was to dig deeper into the students' educational experiences and identify areas for improvement and strengths within the ESMA curriculum. The list of questions is included in Table 2.9.

The focus group was held virtually via Zoom. A doodle poll was distributed to the participants, and the best available date for all students selected. Students were sent email links and calendar invites and provided with the consent forms prior to their participation. During the 45-minute session, students were read the consent form and asked questions from Table 2.9. This portion allowed students adequate time to provide feedback and information. The audio from the Zoom sessions was recorded on a cell phone using voice memos. Voice memos were then transcribed using a cell phone app called Transcribe. The audio recording was deleted after the transcription occurred. Students were sent a thank you email upon completion of the focus group conversation.

Qualitative Strand: Interviews

Sample and Procedure

The sample for these interviews was purposefully selected based on faculty/staff members' roles in the ESMA program. It included the faculty/staff who teach courses with heavy ESMA professionalism emphasis (i.e., EQM 305 and EQM 490). These two instructors were specifically chosen because they have a deep understanding of the student and instructor experience. In addition to these two instructors, the Director of Undergraduate Studies, and Academic Coordinator for the ESMA program, both of whom have leadership roles within the curriculum and assessment committees, were also asked to participate. This made a total of four interviews.

Interviews were specifically chosen for faculty and staff members to help ensure participant confidentiality. This created an environment where they could speak freely about their perceived needs within the program, and it was essential to provide individual time. Interview questions are found in Table 2.9.

Interviews were conducted one-on-one in a 45-minute timeslot on Zoom with each participant. The four participants provided their availability in scheduling an interview. These were scheduled via email with the participants and occurred in May 2021. Emails and calendar invites were distributed with the consent form. The consent form was also read at the beginning of the interview as a reminder. The audio from the Zoom sessions was recorded on a cell phone using voice memos. Voice memos were then transcribed using a cell phone app called Transcribe. The audio recording was deleted after the transcription occurred. Faculty/staff were sent a thank you email upon completion of the interview.

Stage Two: Data Analysis

The interviews and focus groups were audio-recorded and transcribed. The

transcriptions allowed for ease in identifying additional themes and feedback. The transcriptions were read and re-read to identify quotes and list the number of respondents that mentioned keywords or phrases. The data from the transcriptions were then organized by keywords and sorted in Microsoft Word to allow for the next steps in data analysis (Ivankova, 2015). A qualitative codebook in Microsoft Word was utilized to create categories based on common keywords and phrases. Next, those words and phrases were grouped into common categories. A table was created that included categorized findings and highlighted quotes from responses. The focus group responses were combined with interview responses in the categorizing process and recorded (Table 2.10).

Stage Two: Findings

Two of the overall research questions guided Stage Two data analysis (Table 2.2). The findings below are organized by the research questions. These two research questions, that explicitly focused on gaps and strengths within the ESMA program, are available here in Table 2.10.

Table 2.10

Qualitative Focus Group and Interview Data for Strengths and Gaps

Research Question	Categories
What are the ESMA program's curriculum **s**trengths regarding employability and career development?	**Internship** experiences for students (faculty/staff- n=4; students – n=4; total n=8) **Transferability** of the skills to diverse careers (diverse skill sets) (faculty/staff – n=4; students- n=3; total n=7) **Advising** (career and academic advising) (faculty/staff - 2; students n=2; total n=4) ***Curricular** modification and recent implementation of changes (faculty/staff - n=3)
What are gaps within the ESMA program's curriculum regarding employability and career development?	**Verbal** communication skills (including relationship building and networking) (faculty/staff – n=3; students – n=5; total- n=8) **Written** communication skills (faculty/staff – n=4; students – n=4; total- n=8) **Senior** year skill development (faculty/staff – n=3; students – n=5; total- n=8) **Teamwork** (faculty/staff - n=4; students – n=3; total- n=7) **Faculty** development and preparation (faculty/staff- n=3; students – n=2; total- n=5)

*indicates only faculty identified this category as a strength

Strengths within the ESMA Program

The data from the focus group and interview were combined in Table 2.10. The categories that emerged as strengths for the program include, internship experience for

students (n=8), transferability of skills to diverse careers (n=7), advising (career and academic) (n=4), and curricular changes within program (n=3).

Internship Program. The ESMA internship program underwent significant changes in 2018 and is more than experiential work experience. It is a graded academic course with student learning outcomes, a work hour requirement, assignments, and content. In addition, there are parts of the internship preparation that students are introduced to in both their first and second years. All four of the faculty/staff members interviewed mentioned the internship experience for students as a strength, and four of the five students participating in the focus group mentioned this, as well. For example, Faculty/Staff Interview Participant 1 said:

> We know all of our students are being taught resumes and cover letters, and then just getting exposure to you as their internship coordinator from the very beginning. So for those that are interested, can start building those skills, thinking about internships, they know who you are. You're not just a random person that we as advisors tell them to go see their junior year.

Transferability of Skills. Faculty/staff and student participants acknowledge that the ESMA program prepares students for careers in multiple industries and even graduate programs. They mentioned that the transferability of skills to other career areas is a strength and a necessity of the program since the equine industry can be niche. Four faculty/staff participants (n=4) and three students (n=3) shared comments categorized as transferability of the skills to a diverse group of careers. For example, Student Focus Group Participant 2 said:

> I liked the fact that we had to do our e-portfolio. Some people didn't care for it, but I really liked it because it really shows you off to the potential employers. They get to see who you are including pictures, examples of your work and more.

Advising. Faculty/staff and students recognize that advising is an integral part of the student experience. However, advising can be broken down into two categories, career advising and academic advising. Academic advising is a more formal process where students meet with an academic advisor to select coursework for an upcoming year. At the same time, career advising can be formal and informal. It also helps students discover career opportunities or participate in professional planning. Two of the four faculty/staff participants (n=2) and two student participants (n=2) mentioned phrases categorized as advising (career and academic). For example, Student Focus Group Participant 3 said, "I really appreciate the opportunity to get professional editing on my resume. I had the professors and a grad student look mine over. So I think the opportunity to get criticism on that was helpful."

ESMA Curricular Changes. In 2017, the ESMA program began a curriculum review process. Two years later, in 2019, a new program assessment plan was submitted in 2020. It was then established and implemented and in the same year the essential employability skill certification was finalized. Therefore, there have been three meaningful curricular changes within the program throughout the last five years. These changes range from establishing a writing requirement course to integrating mock interviews within existing courses. Three of the four faculty/staff participants (n=3) referred to items categorized as curricular modification and the new recent implementation of those changes. For example, Faculty/Staff Interview Participant 2,

"We have been very intentional in how we incorporate these things [career and employability skills] into EQM 305 and we put a lot of thought into it." However, there were no student participants that referenced anything related to this category. This is likely because students were not explicitly aware of the changes that had been made specifically to their curriculum.

Gaps Within The ESMA Program

In addition, another focus of this qualitative stage was to further clarify gaps in ESMA the curriculum. There were five categories that emerged which include, verbal communication skills (n=8), written communication skills (n=8), senior skill development (n=8), teamwork (n=7), and faculty development and preparation (n=5).

Verbal Communication. Verbal communication was referenced by faculty/staff and students in many ways. They described it as debates, presentations, and one-on-one communication. Three of the four faculty members (n=3) and all five student participants (n=5) referenced the need for increased rigor in the verbal communication skills expectations within the curriculum. For example, Faculty/Staff Interview Participant 4 said:

> Written and oral communication is so hard because they come from such a diverse background. It's almost like if they don't have some baseline, by the time they're coming to us as 18 year olds, we don't have enough hours with them to fully develop that without them taking on a tremendous amount of initiative on their own.

Written Communication. Similarly, written communication was another category that emerged as a gap from the conversations with participants. Written

communication was referred to as papers, e-mails, and written assignments. All four faculty/staff participants (n=4) and four of the five student participants (n=4) referenced items coded into this category. For example, Student Focus Group Participant 1 said, "I would say that my level of writing at least has stayed the same throughout my four years." Students suggested that opening up more opportunities for peer reviews and increasing the expectation of writing for students would be a benefit.

Senior-Year Skill Development. All the focus group participants (students) were in their senior year of the program. As a part of the major requirements, ESMA students must take a senior-level capstone course. The capstone course encompasses several topics to apply the skills and concepts learned throughout the program into one course. However, faculty/staff and students indicated that while this was a formative time in the career and professional planning process, there was little emphasis on career and employability skills within this course. Suggestions were made from both groups to embed some of the skills into the course since it is a requirement for students. Examples included work-life balance, financial literacy, and mock interviews. Three of the four faculty/staff participants (n=3) and all five student participants (n=5) referenced items categorized into a need for additional senior year skill development. For example, Student Focus Group Participant 3 said:

> I want something that is really relevant for me. Like having done research, I would've much rather had the semester do a literature search on an area that I'm interested in coming up with like a mock study. I feel like that would been way more relevant. For example as a senior you can say, this is what I want to do, this is where I want to go. Can you give me advice on how to get there verses, okay,

here's a topic that maybe you guys have heard of and are loosely interested in now, and go make a presentation on it.

Teamwork. Teamwork was listed from both sample groups. Students expressed frustrations focused on the quality of their teams and having to work with other team members that did not carry the same workload. However, students acknowledged that they knew that teamwork would be a critical skill in their future workplaces and wished their experiences were more positive. Faculty/staff frustrations regarding teamwork focused on navigating student frustrations and knowing that students dislike the practice. However, members from both groups acknowledged that building teamwork skills instead of just doing group assignments could be more effective. All four faculty/staff participants (n=4) and three of the five student participants (n=3) referenced areas of growth categorized within teamwork. For example, Faculty/Staff Interview Participant 4 said:

> It can't just be teamwork for the sake of being teamwork. And I think we need to be more deliberate with the students as to what they're going to get out of that teamwork experience and why it's appropriate. And is it really appropriate in your last graduating semester to be introducing the concept of wide-scale teamwork? Is that the right spot for it? Or is that something we need to sooner.

Faculty Development and Preparation. Lastly, faculty/staff mentioned their apprehension for integrating career and employability skills because of their limited exposure and training in the areas. One suggested they avoid it because they do not have a foundation in it, while another said they rely solely on external assistance and guest speakers. Students also mentioned that they acknowledge that their instructors are

uncomfortable with the topics and sometimes have a tough time stepping outside their comfort zone to integrate new teaching methodologies. Three of the four faculty/staff participants (n=3) and two of the student participants (2) referenced examples coded as the need for increased faculty development and preparation. For example, Faculty/Staff Interview Participant 1 said:

> I had zero training in teaching zero. I, I was hired because of my, ability to do research and, generate new knowledge. That was what I was trained in and where my credentials lie. But then, you know, as part of that, you're going to teach a course in your area of expertise or discipline. But in terms of teaching methods and strategies I have limited experience.

Reconnaissance Phase Data Integration Quality

The analysis of data is crucial in the MMAR process and was planned intentionally (Ivankova, 2015). In Stage One, the qualitative and quantitative data integration from the surveys occurred prior to the second research stage for the focus group and interviews. In Stage One, the mixed method data from the surveys were analyzed and then utilized to select essential themes and categories within the data (Ivankova, 2015). This allowed for the continuation and further design of the second strand utilizing the qualitative approaches from the focus group and interviews.

Assessing the quality of the study is just as important as collecting and analyzing the data. This is called validation (Ivankova, 2015). To measure the content validity of the survey, it was evaluated by a minor expert panel consisting of students and peers to assess the relevancy of the questions and response options. This evaluation occurred three weeks before the survey distribution to allow for changes to be made. The validity of the

second strand of qualitative data collection was assessed through one-on-one interviews to review the focus group and interview questions. These were conducted with sample participants (faculty member and student) prior to the focus group/interview sessions. The questions were reviewed by an external staff member (not participating in interviews) and a student (not participating in focus groups) to evaluate proposed questions to gain more profound feedback on the understandability and interpretation of the questions. The reliability of the data collection relates to the degree to which the instrument is consistent and accurate in the measurements. After the focus group and interviews from Stage Two were conducted, analyzed, and categorized, the data were integrated into Stage One data. This integration occurred by comparing the responses in each stage and grouping the responses and data. Research questions focusing on gaps in the curriculum, strengths of the program, and what components should be included in a curricular framework were the primary focus for data integration. Once that stage was complete, the data were collected and analyzed. Lastly, the data were interpreted. The qualitative data helped expand on themes identified in the quantitative study. Both stages provided essential feedback to help inform the creation of the curricular framework for career and employability skill integration, which is described below.

Meta Inferences

In this section, I interpret the reconnaissance phase data and findings. Using the qualitative and quantitative data from both stages and my own experience with curriculum development, I have made recommendations on what a framework for career and employability skill integrations should look like for this undergraduate program. I have categorized the 19 skills and concepts assessed in this research by academic years

and identified where those skills should be introduced, reinforced, and applied in the students' curriculum. I have also been able to break down some of the skills individually and use more common terminology, example activities, and assignments that can be used to teach the specific skill. The skills and concepts assessed are very general in nature, therefore utilizing more specific examples which can help increase ease of use. For example, instead of just using the term *critical thinking* in year one as an essential employability skill, I phrased it as *forming an educated opinion by evaluating the pros and cons of an issue.* In addition to all of this, I have identified gaps and strengths within the existing ESMA curriculum that were used to make programmatic changes.

A Framework for Career and Employability Skill Integration

I used data findings from both stages, a review of literature surrounding career and employability skill integration in undergraduate education, and a reflection of ESMA course student learning outcomes to develop a yearly approach to career and employability skill curricular integration. Skills are assigned by faculty members to a program year. In addition, literature from Bridgestock (2020) was referenced to identify and assign skills to specific academic years. Based on this process, a framework was created and can be seen in full detail in Appendix C. However, an example of skills necessary in year one is included below (Table 2.11).

Table 2.11

Career and Employability Skills Framework - Program Year Skills

Year	Self-Management Skills	Career Building Skills	Essential Employability Skills	Discipline Skills
Year 1	**Personal** self-assessment **Student** Strengths assessment **Personal** Values **Goal** Planning **Professional** assessment	**Industry** introduction **Basics** of networking **Job** shadowing **Career** exploration	**Forming** an educated opinion (pros & cons) **Identifying** and citing sources **Teamwork** development **Verbal** communication with peers, colleagues, and presentation/discussion in class	**Discipline** specific skills (based on degree and academic interest)
Year 2	**Personal** and professional reflection and planning	**Resume** development **Cover** letter writing **Mock** interviews **Requesting** references **Networking**	**Analysis** of issues affecting industry **Adaptability** **Written** and verbal communication **Team** projects and assignments **Critical** thinking	**Increased** discipline specific skills
Year 3	**Personal** reflection professional reflection and planning **Work**/life balance	**Experiential** learning (internship/study abroad) **Employer** relations **Mentorship**	**Handling** professional scenarios **Increased** application and integration of skills throughout all coursework	**Additional** discipline specific coursework including specialty support
Year 4	**Professional** planning **Financial** management **Work**/life balance	**E-portfolio** **Job** & Mock interviews **Networking** **Alumni** connection	**Comprehensive** reinforcement and application of EEQs	**Increased** discipline specific coursework including specialty support

The detailed framework seen in Appendix C is specific and contextualized to the ESMA program. Each set of skills is connected to the academic year it should be offered (based on findings) and these are mapped to specific courses that already have specific skills integrated. In addition, there are recommendations for new course integrations based on the gaps identified through the research. The entire framework is based on a four-year academic program model for undergraduate education but can be modified as needed based on individualized programs.

Career and Employability Skill – Yearly Integration

Career and employability skills should be integrated throughout the undergraduate experience and built upon throughout the student's life cycle. There is an emphasis on self-management skills and career-building skills in Year One, as they are the building blocks of the framework. This is also consistent with the literature which shows how the four career and employability skills categories (self-management skills, career-building skills, essential employability skills, and discipline-specific skills) are also reflected each year (Bridgstock, 2020). The discipline-specific skills will be determined by each individual program. Because of that, they are not defined nor were they evaluated as part of this study. Within the categories of self-management and career-building skills, some skills are repeated throughout the student's academic year progression. The research shows many skills span throughout the years. It could also be that a skill is introduced in Year One and emphasized in Year Two but not prioritized in years Three and Four. The essential employability skills were identified as essential to integrate throughout the student's entire experience (from year one to year four) and therefore are represented throughout the process.

Year One. During year one, the necessary self-management skills include personal self-assessment, student personal strengths assessment, personal values assessment, goal planning, and professional assessment. Career-building skills include introduction to basic industry information (specific to student major), networking, job shadowing, and career exploration. The essential employability skills include thinking critically by forming educated opinions with pros and cons sides, identifying and citing sources, beginning teamwork development, verbal communication with peers, colleagues, presentations, and discussions.

Year Two. The critical self-management skills for year two include personal and professional assessment and reflection and planning. The career-building skills include resume development, cover letter writing, mock interviews, reference requests, and additional networking. In year two, the essential employability skills include analysis of issues affecting the student's specific industry, adaptability, written and verbal communication, team projects and assignments, and critical thinking.

Year Three. The self-management skills in year three include personal and professional reflection (planning and goal setting) and should introduce the idea of work/life balance. The career-building skills focus on experiential learning (internship or work-based learning experiences), employer relations, and mentorship. The essential employability skills for year three include increased professionalism development (handling professional scenarios) and increased application throughout the coursework.

Year Four. The self-management skills in year four continue to emphasize professional planning and work/life balance. However, introducing financial (personal and professional) management is necessary. The career-building skills for year four include

written and verbal communication, self-marketing (development of an e-portfolio), job and mock interviews, and increased networking opportunities and connections with alumni. Lastly, in year four, the curriculum should have comprehensive reinforcement and application of all essential employability skills through general coursework and a senior-level capstone course.

Strengths and Gaps within the ESMA Curriculum

Strengths. By integrating the data from both stages, common areas emerge representing strengths and gaps within the curriculum. One common strength specific to faculty/staff was the modification of curriculum related to the integration of career and employability skills. A common strength for students was advising and mentorship from faculty/staff and outside mentors. One strength consistent among both groups was the internship and student professional experiences.

Gaps. Stage One highlighted many of the gap areas specific to the ESMA curriculum, and these areas were integrated into focus group and interview questions in Stage Two. Therefore, the findings from both strands were consistent but the focus group and interviews provided a more in-depth understanding of what could be done to modify the curriculum to address gaps. The common area specific to faculty/staff was teamwork, and the common area for students was career/life skills and senior year skill development. However, both groups emphasized the need for increased rigor in verbal and written communication skills.

These data were combined with the findings in Table 2.6 and Table 2.7 to assess the current ESMA program curriculum. The ESMA program-specific recommendations found from the findings can be found in Appendix C.

Planning Phase

According to the MMAR process and Ivankova (2015), the planning phase should utilize the findings in the reconnaissance phase to set goals, create an intervention, and evaluate a proposed intervention. The data collected during the reconnaissance phase was combined with findings from the diagnosis phase and was used to create a curricular framework for career and employability skill integration. Findings from the reconnaissance phase were used to create a framework for career and employability skill integration.

To help articulate these ideas, the initial framework prototype for a career and employability skill framework visual was drafted. However, to ensure this framework could be a helpful resource moving forward, the prototype was presented to three different stakeholder groups to assess and gain feedback. The feedback from that process was utilized to update the framework and create a final version utilized in the evaluation phase. Once the prototype was complete, the graphic and the ESMA program contextualized framework was evaluated by a stakeholder group. This stakeholder group included Directors of Undergraduate Studies and Academic Coordinators from all of the CAFE academic programs. The usability and feasibility of the career and employability curricular framework were assessed during this evaluation. This process and the findings are outlined in Chapter 3, the evaluation and monitoring phase.

Chapter 3

The purpose of this mixed-methods action research (MMAR) study was to develop a scaffold approach to integrating career development skills within the Equine Science and Management program. While some work had begun to integrate skills into the ESMA curriculum, these efforts had not been evaluated to determine how well the content and objectives met the needs of students. An undergraduate curriculum should integrate hands-on learning and work experiences, self-discovery, industry exploration, and pre- and post-reflection practices in the means of career exploration and development (Jackson, 2014). Demands from students and employers have pressured colleges and universities to incorporate these concepts (Deer et al., 2007). While programs like the University of Kentucky's (UK) Equine Science and Management program (ESMA) have tried to implement these practices, the current curriculum lacked intentional integration of skills at the most appropriate times throughout the student's life cycle; instead, they have been addressed sporadically and as needed based on the opinions of individual faculty members and instructors.

Through the reconnaissance phase, the curricular needs for undergraduate students were identified, along with the stages in which they should apply specific career and employability concepts. Examples of effective practices and gaps within the existing curriculum were uncovered to allow for the creation of an intentional framework for the ESMA curriculum. Data gathered through reconnaissance were used to create a plan for how to integrate critical skills into the current curriculum.

In this chapter, I will present the curriculum framework prototype developed based on reconnaissance data and stakeholder input as part of the planning process. This will be

followed by presentation of the evaluation of the prototype by faculty/staff. Finally, the monitoring phase of the study will be presented, including implications for practice and future research.

Curricular Framework Prototype

Based on stakeholder input in the planning phase, and the literature (i.e., Bridgstock, 2020), the action phase of this study included the development of a prototype that represented a career and employability curricular framework for the ESMA program. The prototype includes two key components of the curricular framework which help explicate how the curriculum could be implemented across the four years of the program.

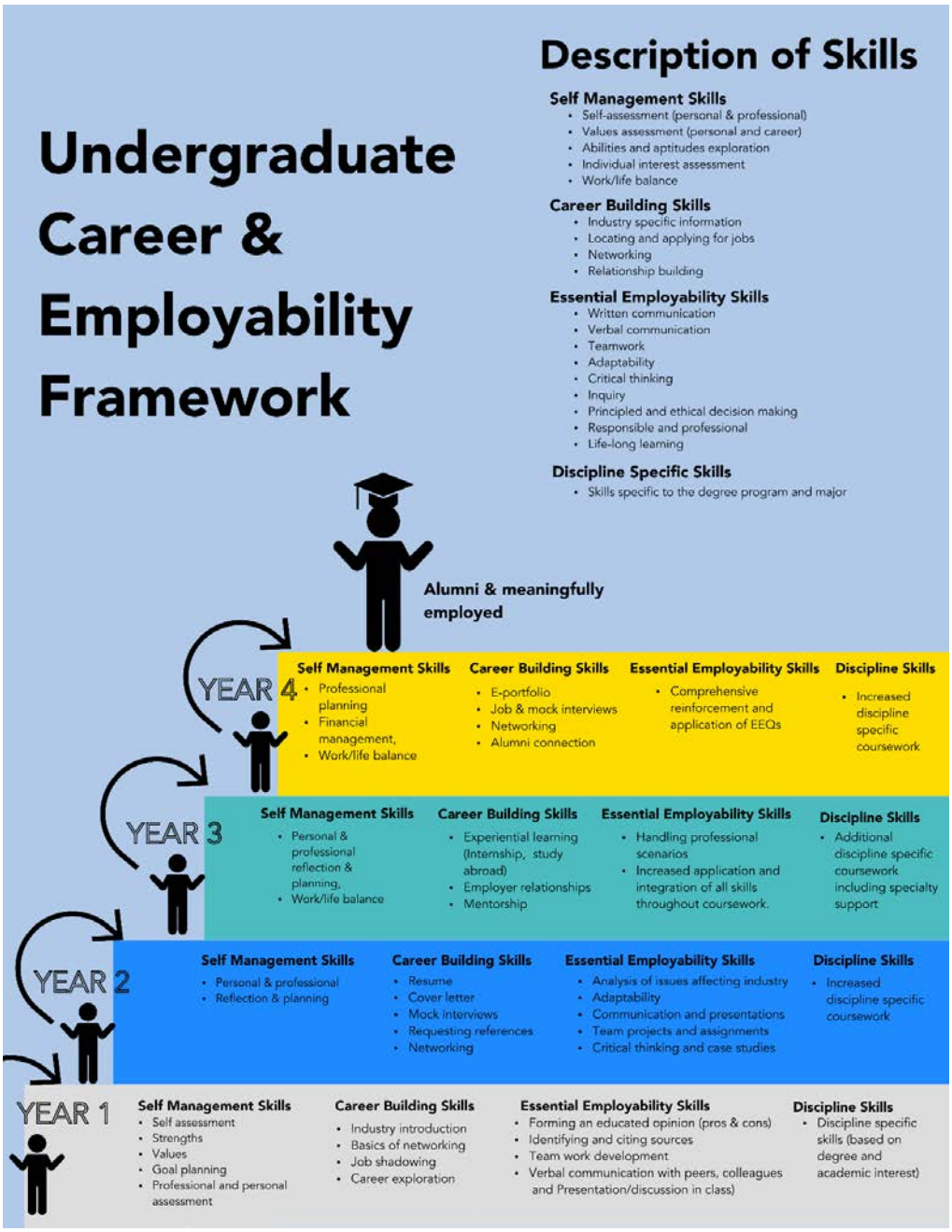
During the development of the prototype, key stakeholders participated in the process by providing feedback on the emerging components. Each component of the frameworks is described below, including the overarching purpose, followed by how stakeholder feedback was incorporated into the process.

Component 1: Overall Curricular Framework

The first component of the prototype is a pictorial representation (Figure 3.1) of how four major categories of skills are integrated across the four years of the undergraduate EMSA program. The four categories presented were informed by Bridgstock (2020) and include self-management skills, career-building skills, generic skills, and discipline-specific skills. Within this framework, skills are referred to as essential employability skills and

Figure 3.1

Undergraduate Career and Employability Framework

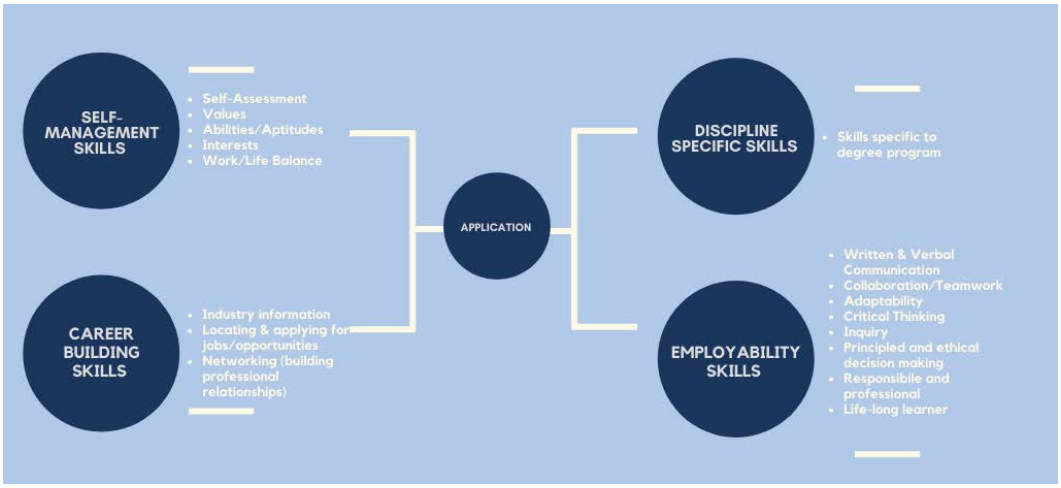


take into consideration career readiness competencies. The term "essential employability skills" was selected as it is more commonly utilized within the ESMA and CAFE programs and programs across campus.

Within each of the four categories, specific skills were identified. The interconnected and dependent nature of these skills and concepts are denoted in Figure 3.2. Bridgstock (2020) emphasizes the importance of building self-management and career-building skills in the initial stages of a program and applying those skills through discipline-specific and employability skills. Bridgstock (2020) further contends that career management skills can play a part in determining the scope and way discipline-specific and employability skills are obtained. In addition, there may be a growing economic benefit to the students and the economy if universities invest in career and self-management skill sets (Bridgstock, 2020). Thus, in the proposed curricular framework, the building blocks include the early integration of self-management and career-building skills. Another feature of the curricular framework was the integration of skills. Therefore, the prototype included a visual representation of how employability skills would be scaffolded over the four-year program cycle.

Figure 3.2

Undergraduate Career and Employability Skill Framework Modified from Bridgstock, 2020.



Component 2: ESMA Skills by Year Framework

The second component of the prototype (see Table 3.1) was designed to explicate the ways in which career employability skills would be integrated into courses across the four years in the program. The framework was created in Microsoft Word and detailed the following. The first column included course information, including content of the course organized by the four skills categories. The second column included information on the areas of growth addressed. This information was based on the gaps identified by faculty/staff and students during the reconnaissance phase. Column three included the specific employability skills that could be addressed in the course, again organized by the major four skills areas. In this column skills were denoted as fitting one of three categories. First, “I” was used when a skill was being introduced; “R” if a skill was being reinforced, and “A” if a skill was being applied. The terms and codes introduced, reinforced, and applied were utilized because of their familiarity within the assessment planning process for the University of Kentucky. Program leaders are familiar with this

terminology due to the assessment planning process within each academic program. Furthermore, the terms introduced, reinforced, and applied are used in assessment of student learning outcomes within a program. Finally, in column four, the framework provides suggestions on assignments or activities that could be used to integrate the skills into the course. A sample of Year 4 of the Skills by Year Prototype extracted from the full document is presented in Table 3.1, with the full prototype provided in Appendix C.

Table 3.1

ESMA Skills by Year Framework – Year Four Example

Course integration	Proposed needs for course integration	Skill/Concept List*	Example Integration
EQM 490	Networking/relationship	Self-Management Skills	Communication
Self-management & career skills	Building	*Self-assessment (professional) – A*	*Resume review and update*
		Self-assessment (personal) – A	*E-portfolio highlighting all experiences*
Budgeting	Professional reflection	*Values (personal core values)- A*	*Presentation (give pitch or proposal, or thesis presentation)*
Negotiation skills		*Values (career values)- A*	
Accepting and applying for jobs	Teamwork	*Abilities and aptitude exploration – A*	
		Individual interests' assessment- A	Teamwork
Industry information	Written and verbal communication	*Work/life balance- R, A*	*Working as a collaborative team for class assignments*
Critical thinking		Career Building Skills	
Analysis of industry issue		*Industry information- A*	Networking and relationship building
		Locating/applying for jobs- A	*Connecting with employers*
Communication		*Networking/relationship building- A*	*Connecting with alums, stakeholders, etc.*
Written			
Verbal presentation skills		Essential Employability Skills	Work/life balance
		Written communication- A	*Guest speaker panel as a class session*
E-portfolio		*Verbal communication- A*	
		Teamwork- A	Self-management career skills
Teamwork		*Adaptability- A*	*Budgeting*
Small groups		*Critical thinking- A*	*Job/career benefit analysis*
		Inquiry – A	*Job application, acceptance, and negotiation*
		Principles and ethical decision making – A	
		Responsible and professional – A	
		Life-long learning- A	

* I-introduced, R-reinforced, A-applied

Key Stakeholder Prototype Feedback

During the development of both components of the framework, four rounds of feedback were conducted with key stakeholders. A total of six individuals were asked to participate and provide feedback on the emerging prototype: one academic coordinator from a similar academic program within the College of Agriculture, Food, and Environment (CAFE), a director of undergraduate studies from the ESMA program within CAFE, three members of the career service staff from the University of Kentucky, and a technology and data integration specialist. This group of stakeholders was selected because of their role in the planning and implementing the curriculum, student learning outcomes for their specific academic program, and their ability to interpret data and design. Notes from each prototype testing session were recorded with handwritten notes and revisions made to the prototype. Additional drafts from the prototyping process can be found in Appendix F.

Evaluation Phase

The evaluation phase of an MMAR study provides an opportunity to gather feedback and data to evaluate the action that emerged from data gathered through the reconnaissance phase. The purpose of the evaluation phase in this MMAR study was to determine the degree to which faculty/staff felt the proposed curricular framework was appropriate and useful for use in the undergraduate education in ESMA.

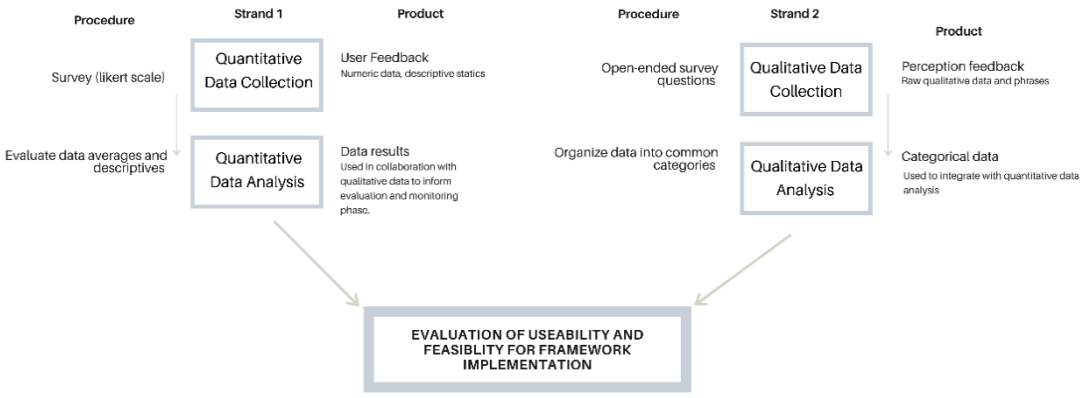
Phase Design and Research Questions

A concurrent quantitative-qualitative research design was used in this phase of the study to obtain data (see Figure 3.3). A concurrent quantitative-qualitative design was

appropriate for this phase as it was important to gather complementary data simultaneously (Ivankova, 2015).

Figure 3.3

Diagram of Concurrent Quantitative-Qualitative MMAR Study Design – Evaluation



Note: This figure is adapted from *Mixed Methods Applications in Action Research: From Methods to Community Action* (p. 142), by N.V. Ivankova, 2015, Sage. Copyright 2015 by Sage Publications, Inc.

Within this concurrent design, the quantitative strand was designed to address the following research questions:

1. What is the usability of the Career and Employability Curriculum Framework regarding the integration into academic programs within undergraduate education?
2. What is the feasibility of the Career and Employability Curriculum Framework regarding the integration into academic programs within undergraduate education?
3. What is the relevancy of the curricular framework to the developmental needs for undergraduate students?

The following research questions guided the qualitative strand:

1. What are the challenges that academic programs will have in the implementation of the Career and Employability Curriculum Framework?
2. What are the advantages that academic programs will have in the implementation of the Career and Employability Curriculum Framework?

Sample

A purposeful sample of program-level academic coordinators and directors of undergraduate education was used in this phase. The sample included academic coordinators from the various programs within the College of Agriculture, Food, and Environment (CAFE) (n=11), directors of undergraduate studies from the academic programs within CAFE (n=21), members of the CAFE Center for Student Success (n=2) and the Associate Dean for Instruction (n=1). This sample group of individuals was selected because of their role in the planning and implementing of the curriculum and student learning outcomes for their specific academic program. A total of 34 participants was asked to participate, and 13 completed the survey (n=13), resulting in a 38% response rate.

Instrumentation

Data were collected via survey. The survey included eight close-ended questions and 11 open-ended questions. The full survey is included in Appendix G. For the close-ended questions, a Likert scale (1-5) was used with each question as presented in Table 3.2. Questions were organized in the survey around four major areas. The first area was related to the usefulness of the framework. Participants were asked to rate the usefulness on a scale of 1 = not at all useful to 5 = extremely useful. Following the rating,

participants had the opportunity to provide comments via the question, “What could be done to make this more useful to you in regard to the implementation to your curriculum?”

The second area was related to how likely the participants would be to integrate the framework into their program curriculum (on a scale of 1 = not at all not likely at all to 5 = extremely likely). Following the rating, participants had the opportunity to provide comments via the question, “If anything, what could be done to increase the likelihood that your program would use this within the curriculum?”

The third area was related to how feasible the framework would be to implement within the curriculum. Participants were asked to rate how feasible the framework would be to implement into their program curriculum on a scale of 1 = extremely unfeasible to 5 = extremely feasible. Following the rating, participants had the opportunity to provide comments via the question, “If unfeasible, how could this be made more feasible for you to implement within the curriculum of your program?”

The fourth area was related to how relevant the framework would be to the existing curriculum and student learning outcomes for the participants’ academic programs (on a scale of 1 = extremely irrelevant to 5 = extremely relevant). Following the rating of the overall relevancy of the framework, participants were asked to rate the relevancy of the concepts covered within each individual academic year (year one, year two, year three, and year four). Participants were asked to rate how relevant concepts were to each year, on a scale of 1 = extremely irrelevant to 5 = extremely relevant. Following the rating for each year, participants had the opportunity to provide comments

via the question, “If anything, what is missing from the [year] experience for the student?”

Table 3.2

Close-Ended Evaluation Survey Questions

Question	Scale (1 to 5)
Q1: How useful would this framework be as an integrated component into your curriculum?	Not At All; A Little Useful; Somewhat Useful; Very Useful; Extremely Useful
Q2: How likely would you and/or your program be to integrate this framework into your curriculum?	Not Likely At All; A Little Likely; Somewhat Likely; Very Likely; Extremely Likely
Q3: As this framework is designed, how feasible would it be to implement it within your curriculum?	Extremely Unfeasible; Moderately Unfeasible; Neither Feasible Or Not Feasible; Moderately Feasible; Extremely Feasible
Q4: How relevant would this framework be to the existing curriculum and student learning outcomes for your academic program?	Extremely Irrelevant; Moderately Irrelevant; Neither Relevant Or Irrelevant; Moderately Relevant; Extremely Relevant
Q5-8: In regard to the concepts covered within [year one (Q5)] [year 2 (Q6)] [year 3(Q7)] [year 4 (Q8), how relevant do you think they are to the student’s developmental experience?	

The final portion of the survey included a series of four open-ended questions for participants to answer. These included:

- What advantages do you see in the potential implementation of this framework within your program?
- What challenges do you see you will face in implementing this framework within your program?
- What additional comments do you think should be considered in regards to the usability of using this framework with your academic program?

- What additional comments do you think should be considered in regards to the feasibility of using this framework within your academic program?

Data Collection Procedures

The survey was distributed to the participants through the online survey service, Qualtrics (Qualtrics, Provo, UT). Potential participants were sent an initial invitation to complete the survey directly from the researcher via email. Participants were given two weeks to complete the survey. A reminder email was sent one week and one day before the close date. The email addresses were obtained from public information through program and academic department websites. The written consent was waived per IRB (Institutional Review Board), but a consent form was included in the survey's cover letter to provide detailed information about the survey and research process.

Data Analysis

Data from the quantitative portion of the survey were downloaded from Qualtrics and stored in an Excel file. Descriptive statistics (e.g., percentages and means) were used to summarize the findings. Qualitative strand data were collected through open-ended questions embedded into the survey. Responses were organized and sorted into a table using Microsoft Word. Frequently used words and phrases were grouped. The number of respondents and responses were counted and recorded. If there were more than three responses in a group, they were classified as a category. If there were not more than three responses within each category the common responses were examined and used for analysis. This was done with each set of responses to the open-ended survey questions.

Findings

The data collected in the evaluation phase of this study explored the following areas related to the career and employability framework prototype: usefulness, likelihood of implementation, feasibility, and relevance. Findings will be reported in each area.

Usefulness of Framework for Program Curriculum Integration

The first survey question focused on the respondent's evaluation of how useful this framework would be to integrate into an existing program curriculum. This was assessed on a five-point scale (1=not at all useful to 5 = extremely useful). A total of 13 respondents (100%) provided a rating (Table 3.3). The overall mean for framework usability was 4.0 (SD = 0.7), or *very useful*, with the majority of respondents (77%) rating the framework as extremely or very useful. The remaining respondents (23.1%) were neutral.

Table 3.3

Usefulness of the Framework

	Not At All		A Little		Somewhat		Very		Extremely	
Area	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**
Usefulness	0.0	0	0.0	0.0	23.1	3	53.9	7	23.1	3

Respondents had the option to answer an open-ended question asking what could be done to help make the framework more useful. A total of seven participants chose to respond, and they provided nine total suggestions. One respondent suggested adding cultural competence to the list of essential employability skills and one respondent suggested adding time management specific to year one and project management in years 1-4.

Two respondents mentioned forms of assessment as a component to this framework. Respondent Number 7 focused on a pre-assessment saying, "Is there a way to

assess students' initial levels (upon program entry) in the four skill categories? Assuming that we are not thinking they are all essential at "ground zero." Respondent Number 5 simply stated "testing." Lastly, one respondent suggested that the creation of a comprehensive materials list or kit for instructors to utilize would be helpful.

Likelihood of Integration of Framework

The second survey question focused on assessing the likelihood that respondents would integrate a framework like this into their existing program curriculum. This was assessed on a five-point scale (1= not at all likely to 5 = extremely likely). A total of 13 respondents (100%) provided a rating (Table 3.4). The overall mean for the likelihood of integration was 3.7 (SD = 0.9). The slight majority of participants (53.9%) indicated they would be very to extremely likely to integrate this framework, with 38.5% indicating they would be somewhat likely.

Table 3.4

Likelihood of Integration of the Framework

	Not At All		A Little		Somewhat		Very		Extremely	
Area	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**
Likelihood	0	0	7.7	1	38.5	5	30.8	4	23.1	3

Respondents had the option to answer an open-ended question asking what could be done to increase the likelihood that their program would use this within the curriculum. A total of seven participants responded and provided nine responses. Two participants mentioned the individualization of the curriculum to their own program. For example, Respondent Number 2 said:

> How would this framework apply to accredited programs? How does research fit into the concept of experiential learning? Inclusion of project management skills

(e.g., time management, budgeting). Ability to work on multidisciplinary teams, not just those comprised of individuals from single discipline (should this be specified in teamwork, particularly at upper levels?)

One respondent added that additional clarity on the terminology used in the contextualized framework would be helpful. Additionally, one respondent indicated additional teaching resources would be a benefit. This was the same respondent that suggested that the creation of a comprehensive materials list and kit for instructors would increase the usefulness of the framework.

Feasibility of Framework Implementation

The third survey question focused on the feasibility for programs to integrate this curriculum into their existing framework. This was assessed on a five-point scale (1=extremely unfeasible to 5 = extremely feasible). A total of 12 respondents (92%) provided responses to this question (Table 3.5). The mean response was 3.7 (SD = 1.1). While a majority of respondents (75%) indicated they found the framework moderately to extremely feasible for integration, there was more variability in responses, with a quarter of respondents (24.9%) indicating neutrality or leaning towards a lack of feasibility of being able to integrate the framework.

Table 3.5

Feasibility of Integration of the Framework

	Extremely Unfeasible		Moderately Unfeasible		Neither Unfeasible or Feasible		Moderately Feasible		Extremely Feasible	
Area	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**
Feasibility	8.3	1	8.3	1	8.3	1	58.3	7	16.7	2

Respondents were asked the open-ended follow up question of how the framework could be made more feasible for them to implement within the curriculum. This question was targeted towards participants who did not find the framework feasible, and four participants responded, providing five suggestions. One respondent indicated that "structure of the program and lack of funding" (Respondent 2) was a major issue. Respondent Number 3 indicated that the comprehensive detail of the framework was a benefit, but it was also a weakness (due to assessment needs). Lastly, one respondent suggested that the focus should be on key required courses and exclude external coursework within a program.

Relevancy of Framework to Existing Curriculum and Student Learning Outcomes

In addition to the usability and feasibility, assessing the relevancy of the framework was an essential component of the evaluation. A total of 11 respondents (84.6%) provided a response to this question (Table 3.6). Relevancy was assessed both overall and based on each program year. Each were assessed on a five-point scale (1= extremely irrelevant to 5 = extremely relevant). The framework was perceived to be *moderately to extremely relevant* to the existing curriculum and student learning outcomes within the programs based on the mean response of 4.2 (SD = 0.9). A majority of respondents (81.9%) found the framework moderately or extremely relevant.

Table 3.6

Relevance of the Framework

	Extremely Irrelevant		Moderately Irrelevant		Neither Irrelevant or Relevant		Moderately Relevant		Extremely Relevant	
Area	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**
Relevance	0	0	9.1	1	9.1	1	36.4	4	45.5	5

It was also critical to evaluate the proposed skills within each year individually (see Table 3.7). A total of ten respondents (77%) answered this question. Overall, respondents rated the relevancy of the framework by year as high, with means ranging from a low of 4.4 (SD = 0.5) for year 1 to a high of 4.7 (SD = .05) for year 3. All participants rated the relevance as moderately to extremely relevant (Table 3.8).

Table 3.7

Relevancy Means and Standard Deviation by Program Year

Year	**Mean**	**SD**
Year 1	4.4	0.5
Year 2	4.6	0.5
Year 3	4.7	0.5
Year 4	4.6	0.5

Table 3.8

Relevancy of Skills/Concepts by Program Year

Year	Extremely Irrelevant		Moderately Irrelevant		Neither Irrelevant or Irrelevant		Moderately Relevant		Extremely Relevant	
	%	N	%	N	%	N	%	N	%	N
Year 1	0	0	0	0	0	0	60	6	40	4
Year 2	0	0	0	0	0	0	40	4	60	6
Year 3	0	0	0	0	0	0	30	3	70	7
Year 4	0	0	0	0	0	0	40	4	60	6

In addition to requesting the respondents to rank the relevancy of the concepts within each year, the survey included an open-ended question after each year asking what (if any) additional elements should be considered within each individual year. For year one, seven participants responded and provided seven responses. One respondent indicated time management, one respondent introduction to soft skills, and Respondent Number 4 said, “possibly the integration of a piece focused on academic transition from high school to college life.”

For year two, four participants provided four responses. One respondent shared project management and one respondent shared that their students specifically wanted to hold off on resume and cover letter writing until they had more experience later in college. Respondent Number 1 said, “introduction to experiential learning, introduction to leadership, and continued growth in soft skills.”

In year three, three participants provided four responses. One respondent implied leadership and soft skill development and one respondent indicated research and project management were essential skills that could be added to year three. Lastly, Respondent Number 5 said:

> This is indeed the “sweet spot” for experiential learning for our students (as juniors). They “know enough” to be generally able to describe their interests, as well as to make a contribution to an internship setting or as a beginning level researcher.

In year four, four participants provided six responses. One respondent indicated proficiency in leadership, and one respondent indicated project management and budgeting should be high priority areas for year four. Respondent Number 6 said, “under discipline specific skills, perhaps include something about integrating all of the acquired discipline-specific coursework together through a capstone experience.”

Advantages and Challenges of the Career and Employability Framework

The final open-ended questions within the survey focused on the advantages, challenges, and additional comments for consideration for utilizing this framework within an academic program. The responses were categorized by advantages to implementation and challenges to implementation and broken down further within each specific area.

Advantages to Implementation

Nine participants provided comments related to advantages. Across the nine participants, 13 advantages were provided. These clustered into two major categories: *comprehensive and intentional skill development* and *higher quality student preparation*.

The first category included five responses focused on how the framework allowed for a comprehensive and intentional process for career and employability skill development**.** For example, Respondent Number 3 said, "The advantages include summative information and easy to follow for students and family, greater ability to measure and assess learning based on outcomes, would be easy to move around different components based on student and staff feedback." In addition, Respondent Number 2 said, "more intentional incorporation of employable skills. Re-evaluation of curriculum (deep dive) to seek opportunities to add such skills."

The second category included four responses that focused on how the framework had the potential to lead to higher quality preparation of students in career and employability skills. For example, Respondent Number 4 said, "Our students would be better prepared for job interviews and the workforce. It would build their self-confidence and develop their professional skills." In addition, Respondent Number, 8 said, "Would help us ensure that students were getting the most important skills in these sometimes-neglected areas."

Challenges to Implementation

Eight participants provided comments related to challenges in implementation. Across the eight participants, 10 advantages were provided. These clustered into two

major categories: *curriculum modification and accountability* and *instructor and program implementation/resistance*.

The first category included four responses focused on modifications to the curriculum and accountability. For example, Respondent Number 8 said, "We might try to swallow the entire 'elephant' and fail to make incremental progress on the most important skills." In addition, Respondent Number 7 said:

> This is a good overview of what we are currently doing, with the current instructors of each of these courses. If new courses are added and/or instructors are changed, we will need to be diligent that this framework continues to be incorporated over time. Perhaps need to send this out to relevant course instructors annually to ensure there is no 'drift' away from these elements.

The second category included three responses that were categorized as instructor and program preparation. For example, Respondent Number 2 said, "Resistance from faculty to modifying the curriculum. If such a framework is shown to increase hiring rates of students over current framework, then adoption would be easier." In addition, Respondent Number 3 said:

> As it is intended to be basically holistic over the course of four years, I imagine it would be difficult to ensure equal progress for all students. The challenge is creating something that is equitable or a framework that allows for flexibility between components. I'm sure if there are talented and skilled enough staff overseeing the implementation, that would not be

an issue. However, this kind of framework is going to require those skills and plenty of oversight.

Collectively, respondents indicated that having trained support and guidance can provide help in implementing and monitoring a framework like this.

Overall Evaluation Findings

Data from the reconnaissance phase were instrumental in developing the career and employability curricular framework prototype. Overall, participants indicated the framework was useful (M=4.0; SD=0.7) and relevant (M=4.2; SD=0.9) as presented. The majority (100%) of participants indicated that it was *somewhat to extremely useful* and the majority (85%) of participants said it was *moderately or extremely relevant* to their existing curriculum. However, while 75% of participants found the framework to be either *moderately or extremely feasible* to implement within their programs, 25% of participants disagreed. In addition, 46% of participants said they would be *somewhat to a little likely* to integrate the framework. These percentages show some reservations about the likelihood and feasibility of implementation. These reservations could be connected to the challenges found in the qualitative analysis which included curriculum modification and accountability and instructor and program implementation/resistance from faculty members. For example, there was concern from the respondents that there may be instructor resistance to making these changes and they might find challenges in holding classes or programs accountability for implementation. Perhaps if these issues are addressed it could impact the individual programmatic likelihood and feasibility of implementation. Additionally, the qualitative data found in the open-ended questions regarding “missing concepts for each year” highlighted proposed changes to the

framework that might also help with the implementation. After a review of the qualitative responses in the evaluation phase and a comparison with supporting literature the following ideas can be considered for addition to the proposed framework.

- Year one - more high school to college transition assistance and time management principles.
- Year two - an introduction to experiential learning.
- Year three - research, project management, and increased leadership skill development.
- Year four- increasing proficiency in leadership and the integration and application of all coursework through a capstone course.

While there were constructive responses for change, overall respondents indicated that there were also advantages to implementing this framework. These included higher quality student preparation and a more intentional development of student skills throughout the student experience.

Monitoring Phase

The monitoring phase is the sixth phase in the MMAR design. This phase allows for the potential continued implementation of the intervention and observation. During this time, observations about the process begin to occur and could lead to additional research. The results of this evaluation have been distributed within the ESMA program leaders, curriculum, and assessment committees. The program faculty, staff, and instructors have met and prioritized to continue the emphasis of career and employability skill development for ESMA students throughout the next five years of the curriculum. A plan could be established to create additional materials and plans to strengthen the

framework (i.e., self-study materials and resources, implementation guide, assessment protocol). These resources would help other programs evaluate and integrate this framework and could also assist with collecting data to determine if this framework effectively creates gainfully employed graduates within their chosen field of study. While it may not be feasible to speculate that an implemented curricular framework leads to a higher percentage of employment, it could assess some of the actual short- and long-term outcomes. The logic model for this study can be an example for what to measure in terms of impact. Originally seen in Chapter 1, the research plan logic model is included below for additional reference in Table 3.9.

Table 3.9

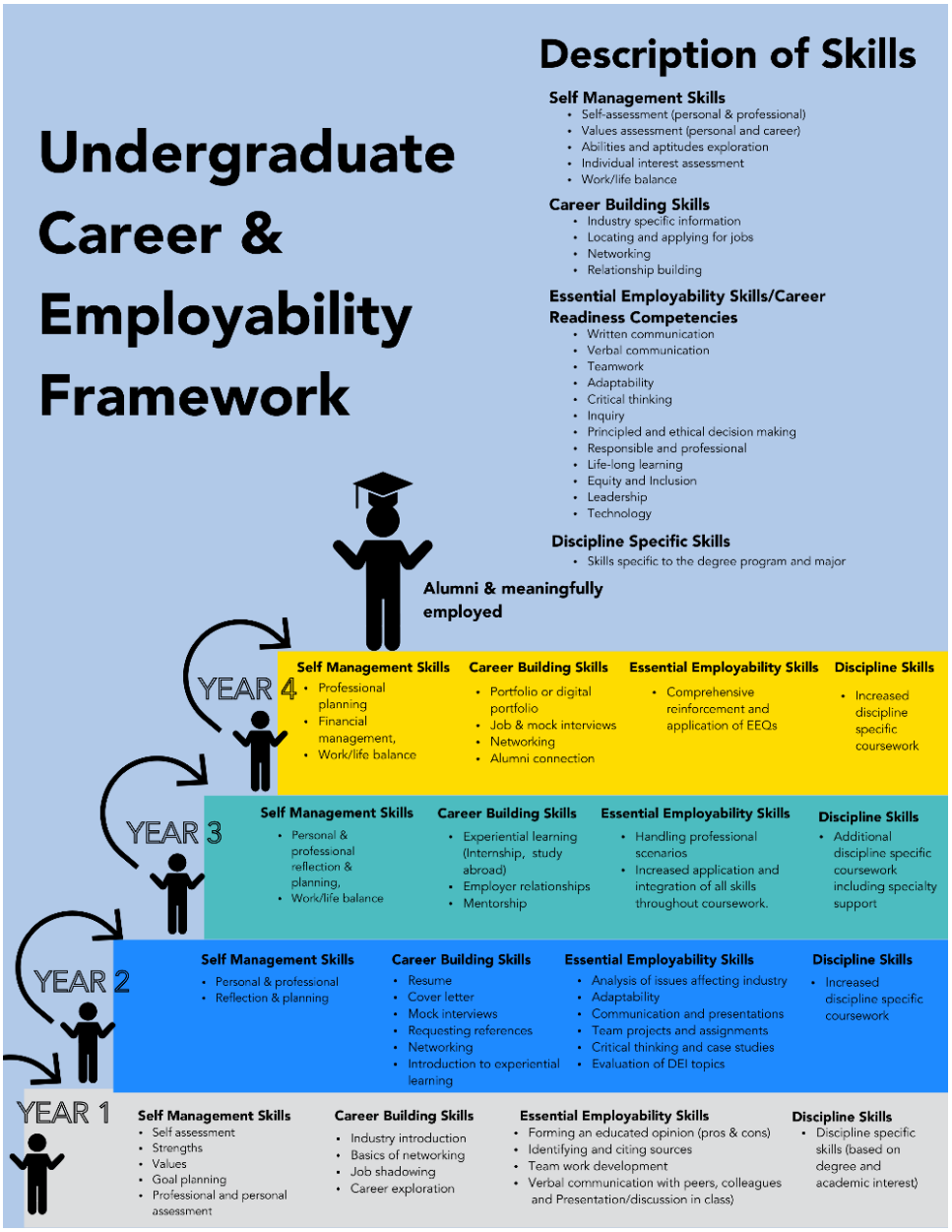
Logic Model

Inputs and Resources	Activities	Outputs	Short-term and long-term outcomes	Impact
Participants Interviews (Faculty/Staff) Technology (zoom) Focus groups (students) Evaluation time Career development staff Qualtrics	Survey - qualitative & quantitative (Faculty/Staff) Survey- qualitative & quantitative (Students) Student focus groups Faculty/Staff Interviews Evaluation Phase survey	ESMA Curricular framework for Career and Employability skill integration	Career development curricular framework implemented within ESMA program (short-term) Students develop a stronger sense of self-efficacy in professional development (short-term) Students develop a stronger sense of self-efficacy in personal development Students grow as professionals with the development of Essential employability skills	Students grow as professionals with the development of essential employability skills Students become competent young professionals Students are gainfully and meaningfully employed in the career of their choosing.

Data and feedback from the evaluation phase were considered and changes were made during the monitoring phase. The recommendations from the evaluation phase have been integrated into a new draft of the Career and Employability Skill Curricular Framework (Figure 3.4). These included (a) year two - an introduction to experiential learning, and (b) year three - research, project management, and increased leadership skill development.

Figure 3.4

Final Proposed Draft of Career and Employability Skill Framework



Additionally, during the prototyping process prior to the evaluation, one recommendation from the UK career service staff that reviewed the documents was to utilize terminology for career readiness competencies from the National Association of Colleges and Employers (NACE). The NACE competencies included career and self-

development, communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and technology (NACE, 2021). Some of these were already incorporated, however, leadership, technology, and equity and inclusion were integrated into the list of essential employability skills.

Study Limitations

Several limitations can be considered regarding this MMAR research study. The first limitation is the lower response rate during the reconnaissance phase from the student respondents. Another limitation is that the study initially focused on the equine science and management program curriculum with additional career support staff; therefore, some of the faculty/staff responses in the evaluation attributed the success of a program like this to additional staffing.

The lack of base knowledge and importance that CAFE faculty and staff place on career and employability skill integration into the curriculum could be another limitation to this study and can impact the desire for programs to self-select to utilize the framework in the future. In addition, while the ESMA contextualized framework was helpful for some respondents to visualize what could work within their own program, it left some respondents confused on how it applied to them.

Another limitation was the inconsistency among definitions of skills and concepts within some of the model assessments. For example, participants used phrases like “soft skills” and indicated that “soft skills” need to be increased (whereas the term “employability skills” encompasses many soft skills). Therefore, providing clearer definitions to help provide consistent frames of reference for respondents could be helpful in the future.

An additional limitation is the evident survey fatigue demonstrated during the evaluation survey. The survey responses began with all 13 respondents providing answers and by the final question there were only eight respondents.

Lastly is the diverse set of programs within CAFE, and the diversity of the employers students will work with upon graduation. The ESMA program also has a wide variety of career areas available for graduates but anticipating the broad range of employers' needs can be a challenging task. While the framework can be modified to add additional concepts or skills necessary for each program's specific needs, it should not be modified to remove skills not being taught yet, have skills moved to another year, or be forced to fit into an existing framework. Given the importance of the yearly scaffold structure, those processes should remain as true to form as possible. However, future considerations could include encouraging programs to allow for additional employer feedback to ensure that the discipline-specific skills being taught are in line with the expectations of employers.

Study Implications

Implications for Curriculum

The findings from this study highlight the need for a more intentional curriculum integration of career and employability skills within the undergraduate experience. While this has been done in the past and some programs are managing to accomplish this, having a systematic and yearly approach for programs to utilize can be the most useful. Undergraduate programs are not all equitable regarding resources and access to providing career resources for students. Some programs have additional funding to ensure programs and resources are offered, while other programs could be much smaller and have more

limited resources. This can occur college-wide within varying institutions and from institution to institution. Programs of any size could also have limited knowledge about how to incorporate or teach these skills within the curriculum. Examining the developmental needs of students on a yearly perspective can help program administrators evaluate curriculum, student learning outcomes, and coursework to determine the most effective and efficient ways to add to the student experience. By meeting the needs of the students each year and integrating the skills and concepts into the curricular expectations, it can provide an equitable way for students to build upon their professional and career journey.

Career and Employability Skill Curriculum Development and Planning

The results from this study specifically highlight the categories of career and employability skills and the years in which they should be introduced, reinforced, and applied within the curriculum throughout the student lifecycle. While the framework was applied to the ESMA program, the framework can be applied to a wide range of programs as well. The equine-specific contextualized framework (Appendix C) has a significant detail, including example assignments, activities, and assessments that can be utilized. Providing program leaders with a framework that they can use can be a helpful resource. They can evaluate their existing curriculum to explore gaps and areas of improvement to provide the best career and employability skill development opportunities for students.

If an academic program is interested in implementing this framework within their curriculum a few things should be considered. These include conducting a program-level self-study, developing an implementation plan, and lastly, implementation, monitoring, or assessment.

Conduct a Program-Level Self-Study. The self-study process should include input and buy-in from instructors, faculty, staff, and program leadership. Working with faculty members and instructors on developing key curricular and co-curricular experiences for students can prove to be valuable (Cruzvergara et al., 2018). This would begin with a review of the existing curriculum student learning outcomes (program-wide and individual course work). This should be conducted to identify what/where skills are currently being taught and if the content is being integrated at the right time for the student lifecycle (according to the framework). In addition, the program should have a set of discipline-specific skills that are important for the student to become proficient throughout the lifecycle. The program needs to identify and reflect on the program's specific discipline skills necessary for the graduates to succeed in the workplace within their industry. The final part of self-study should be a reflection on what skills are currently missing for students.

Development of an Implementation Plan. Individuals within the program taking leadership on implementing this framework should take the information from the self-study and report that back to the program faculty, instructors, staff, and other stakeholders. The group should then establish an implementation plan and draft a detailed framework within the context of their own program (using Appendix C example) that identifies where and how the skills are being taught within the program. This allows specific skills to be moved to other courses if offered at years that are not suitable for the student. If a program is interested in measuring the growth of students within the area of career and employability skills, it could be helpful to integrate the assessment of those skills directly into the program-level assessment plan during this time. In addition,

programs may consider integrating an emphasis on career and employability skills within the program-level student learning outcomes.

Implement and Monitor the Framework Implementation. The instructors, faculty, staff, and leadership team should then plan to implement the framework. An annual assessment of the framework integration could occur with feedback from students, faculty, and instructors. An existing committee of these stakeholder groups, for example an existing curriculum committee, could be utilized or a new one could be created. This would establish a consistent way to provide feedback and support (Cruzvergara et al., 2018). The feedback could be formal or informal, qualitative or quantitative, but with the purpose of reflecting on the effectiveness of the activities, delivery, and application within courses. Based on the feedback, modifications could occur in the following semesters or years.

Implications for Leadership

Academic program leaders can take an active role in helping coordinate the review and implementation of a framework like this. They can also be responsible for generating buy-in around these ideas, providing training and materials, and guiding their programs through programmatic reflection and review.

Programmatic Stakeholder Engagement and Buy-In

One of the essential components of this process is generating buy-in from stakeholders within the program (faculty, instructors, and program leaders). Utilizing a group approach can strengthen this process. In the specific recommendations for self-assessment, it is essential for the academic program leaders to make sure all stakeholders' voices are heard to make recommendations and changes. If an instructor is to alter their

class and add new concepts such as work-life balance or resume writing, they need to be on board with these ideas instead of thinking it is being mandated. This will hopefully establish a more positive approach to integrating career and employability skills within the program. The leadership within each program will need to consider assessing the group dynamics and culture and potentially utilizing some group thinking processes to move forward. Utilizing a collaborative work system design (Tekell et al., 2007) or a whole systems approach (Adams & Adams, 2007) as described in Holmant al.'s (2007) *The Change Handbook*, could be a helpful way to approach the self-study process. Both approach focus on the buy-in from stakeholders in establishing and creating positive change.

Faculty and Instructor Teaching Pedagogy Development

A concern brought forth in the evaluation phase regarding the implementation of this program was the potential resistance from faculty members to integrate these skills within the existing curriculum. This could be attributed to a lack of confidence in the teaching of these skills or to the perception of the importance or relevancy of these skills to undergraduate curriculum. Sarkar et al. (2020) suggest that shifting from more traditional teaching methods to the integration of more reflective practices specifically within hard science-based coursework could help enhance the teaching of employability skills. However, these shifts can be difficult for faculty and instructors. McKinney et al. (2021) report that lack of time, compensation, and knowledge of how to integrate career preparation strategies successfully are some of the biggest challenges to faculty members integrating career and employability skills into their coursework. Therefore, the need for

additional training, educational resources, and materials may be necessary to provide the best experience for both instructors and students.

Student Leadership Development

In addition to the implications for leadership among program leaders, this can also impact student leadership growth. Many of the skills deemed necessary for career and employability development are also necessary for students to develop and grow as current leaders and future leaders. These skills can often be seen within the realm of student leadership education as well (Cruzvergara et al., 2018). Some of these skills include but are not limited to teamwork (collaboration), self-assessment and reflection, verbal and written communication, professionalism, ethical decision making, relationship building, networking, and critical thinking. Therefore, not only will students have the necessary employability skills required for advancement in their future careers, but they could also be better leaders in their future employment endeavors. Even within the field of leadership education there is an increasing need for better and more predictable outcomes for leadership development programs (Rosch & Headrick, 2020). Therefore, more could be explored to seek correlation between students' leadership skill development and success or satisfaction in their chosen career field.

Implications for Research

The problem of practice surrounding this research indicated a growing need to teach career and employability skills in the undergraduate curriculum. However, little information in the literature led to a framework or structure for those skill integrations for undergraduate students. Therefore, the findings from this study can contribute to helping undergraduate programs identify and provide solutions to the growing need.

Assessment of Curricular Framework

Additional research could be helpful in several ways regarding this study. One way would be taking a long-term approach to assessing this framework and evaluating if, over time, it can provide additional evidence of student success in their future careers and gainful employment. If a positive correlation is shown, it could increase the likelihood of programs choosing to implement the framework. However, this could be hard to evaluate given the number of circumstances surrounding job markets, availability, and disparity among leadership within organizations. However, it could be constructive to evaluate if students who participated in a program integrating this framework are better prepared for future careers from both the student and employer perspective. This would be a long-term and multi-year approach to assessment.

Student Growth in Career and Employability Skill Areas

Another area for future exploration is assessing student growth. Formative and summative assessments can both be used to help gain insight into the student's development within each skill area. Formative assessments could be conducted yearly based on the desired outcomes expectations of students each year, and a summative assessment could occur at the end of the student's undergraduate experience. Pre- and post-learning disposition assessments could also be used within the context framework (assessing skills proposed in the framework) to have more of an entry point for growth assessment (Bresciani, 2019).

Currently, the equine science and management program is utilizing the student's e-portfolio as a means of allowing students to self-reflect and highlight their career and employability skills within their final year. However, the program is now considering a

program-level exit interview as a final student assessment. This exit interview could collect quantitative and qualitative data through an in-person interview with an academic advisor and an online survey to assess and evaluate the student's perceived growth and proficiency in each employability skill area. These exit interviews could be a model for other programs as well to assess these skill areas and provide a consistent feedback loop from students. According to Kacius et al. (2015) graduate exit interviews provide faculty with useful and timely feedback to help identify areas of change or improvement. In addition, students enjoy being asked their opinion and providing feedback about their undergraduate experience (Kacius et al., 2015). While exit interviews are not the only means of student assessment, they are one example that could be used. Additional options could include benchmark student self-reflections, self-efficacy assessments, or assignment assessments within each of the skill areas and more. The ESMA program assesses each of the employability skills of students as a part of the existing student learning outcomes assessment, but it does not currently address the self-management or career building skills of students.

Employer Expectations of Discipline-Specific and Employability Skill Categories

Assessing and exploring the employer's expectations within the categories of discipline-specific skills and essential employability skills could be helpful for programs to ensure they are preparing students for the workplace. As the workplace and even technology changes, there could be potential for more frequent changes to discipline-specific expectations within each industry group. Therefore, being aware and cognizant of the changes occurring should be a priority within each specific program. This can be done by regularly accessing employer and alumni feedback. These data could be

collected formally or informally through focus groups, surveys, or interviews. It is also important for this information to be received and filtered within the realm of the academic preparation of students. For example, within the ESMA program, if employers routinely request employees that have base-line skills not necessary for a college graduate, it is the job of the academic program and institution to determine if those are legitimate skills a graduate may need or if an industry sector needs labor that should be fulfilled in other areas. A specific example of this in the equine industry is the desperate need of on-farm groom positions. A groom position on a farm can earn between $12-$16 dollars per hour. The responsibilities of this position could range from cleaning stalls, grooming horses, turning out horses, and administering medication or medical treatment. At this present time the Thoroughbred industry is facing a labor shortage in these specific positions. If these employers specifically demand that students need skills to fill these positions and only these positions, the program-level leadership should evaluate the context of this situation and determine if that is a valid request from the employers. If there are no checks and balances for a given situation a college program may find itself continually switching skills being taught and not preparing graduates for high-level positions within the workforce.

Student Expectations of Self-Management and Career-Building Skills Categories

While employer feedback is important, assessing the student expectations (current and past) within the categories of self-management and career-building skills can help ensure that students are well prepared for the next stages of life. Filling positions in the workforce is important but ensuring that graduates are choosing careers within their areas of interest and talents is where students will gain meaningful employment. Students'

perspectives and needs can also affect the programmatic approach to the skill development and implementation of the framework. For example, if a cohort of students has strong skills in resume writing and interpersonal self-assessment, then less emphasis may be put on those elements within their academic experience. However, if a cohort has no working knowledge of the specific industry, then an increased emphasis could be made throughout their time. In addition, the inclusion of students within working groups, curriculum committees, or assessment committees can be a helpful way to continue to gain feedback on student expectations and needs (Steele et al., 2020).

Conclusion

Students are prioritizing preparation for their future careers as a part of their undergraduate experiences. While students emphasize adequate preparation, industry employers are adding additional pressure to colleges and universities to ensure students have the necessary skills to succeed in the workplace. Traditionally, undergraduate education has emphasized academic and discipline-specific skills required for the students. While college campuses have career support service staff, there are oftentimes gaps in communication between those groups and the faculty members responsible for educating the students on how to utilize those services (Steele et al., 2020). Because of this, universities and colleges must have an intentional approach to integrating career and employability skills within the curriculum to ensure students will be successful in their professional careers. Now more than ever, undergraduate programs should be exploring ways to teach their students career and employability skills. While there are several resources students can access outside of the classroom, the most effective means for growing these students is the intentional integration of these skills within the existing

curriculum. Some skills serve as building blocks to others and should be taught earlier in the student experience, making it important to follow a framework. It is also critical to focus on the integration of all four career and employability skills categories and not just one or two. The four categories include self-management skills, career-building skills, essential employability skills, and discipline-specific skills. The intentional development of those skills into the undergraduate curriculum at the most relevant points in the student's lifecycle is essential. Integrating career and employability skills is critical for programs to stay relevant and students to become employable professionals.

Studies indicate that Generation Z, the generation of students currently enrolled in academia, is presumed to have more job-changing tendencies than the previous generations (Nabahani & Riyanto, 2020). They seek higher-quality job satisfaction and fulfillment; therefore, having more knowledge and foundation in their study of self and setting career goals will be transferable into a diverse career set. It is unrealistic to think that we are only preparing our current college students for one type of job during their lifetime. A career is a professional journey that evolves over time and consists of multiple jobs. Therefore, equipping each student with the appropriate career and employability skills is essential. Specifically integrating self-management, career building, essential employability skills, and discipline-specific skills will be essential in equipping them for higher professional efficacy in the future. However, to properly equip our students we must equip undergraduate program-level faculty and staff members with the resources, materials, people, and tools necessary to provide a high-quality education. Integrating this Career and Employability Curricular Framework can be the first step in the journey to

help our current and future students build the skills and capacity needed to be gainfully and meaningfully employed in whatever career field they choose.

APPENDICES

Appendix A: Student Survey

Savannah Robin, researcher, at the University of Kentucky is inviting you to take part in a survey about employability and career preparation within the ESMA program. You have been asked to participate due to your role as a student in the EQM 490 Capstone Course (Fall 2020 & Spring 2021), with indication that you've completed the majority of the major requirements of the program. It is important that you know that this will not be counted as a grade for this course, nor will your participation or choice to opt out affect your grade.

Although you may not get personal benefit from taking part in this research study, your responses may help us understand more about your experience and career preparation within the ESMA program. Some volunteers experience satisfaction from knowing they have contributed to research that may possibly benefit others in the future.

The survey/questionnaire will take about 25 minutes to complete and there are no known risks to participating in this study. Your response to the survey is anonymous which means no names, IP addresses, email addresses, or any other identifiable information will be collected with the survey responses. We will not know which responses are yours if you choose to participate. At the completion of this survey you will be directed to another survey seeking interest in a focus group session. These sessions will occur two weeks after the surveys have concluded. If you are interested in participating in the focus group session please visit that separate survey that will ask for your contact information. Please note, that completing the second survey for the focus groups is totally separate of the first survey and will not provide identifying information that will invalidate your anonymity.

Please be aware, while we make every effort to safeguard your data once received from the online survey company, given the nature of online surveys, as with anything involving the Internet, we can never guarantee the confidentiality of the data while still on the survey company's servers, or while en route to either them or us. It is also possible the raw data collected for research purposes will be used for marketing or reporting purposes by the survey/data gathering company after the research is concluded, depending on the company's Terms of Service and Privacy policies.

If you choose to consent to participate in this study you will click forward with the blue button at the bottom of the page to advance to the questions.

If you have questions about the study, please feel free to ask; my contact information is given below.

Thank you in advance for your assistance with this important project. You will have two weeks to complete this survey and provide a response. It is the hope to receive at least 50 responses from your student population.

Sincerely,
Savannah Robin
UK Ag Equine Program, College of Agriculture, Food, and Environment
University of Kentucky
PHONE: 502-773-3289
E-MAIL: savannah.robin@uky.edu

If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

University of Kentucky

We are inviting you to take part in the UK ESMA Career/Employability Curriculum Framework survey. We are asking you because you are an ESMA student enrolled or has been recently enrolled in the EQM 490 capstone course. This also indicates that you have successfully completed a series of ESMA courses with career integration (EQM 106; 305; 399; and 490). This survey should take you around 25 minutes to complete.

To what extent do you feel you have obtained the following skills/concepts within your ESMA coursework.

	1 (not at all obtained)	2 (slightly obtained)	3 (moderately obtained)	4 (adequately obtained)	5 (highly obtained)
Self-assessment and reflection (personal and professional)	○	○	○	○	○
Self-assessment and reflection (personal)	○	○	○	○	○
Values (personal core values)	○	○	○	○	○
Values (career values)	○	○	○	○	○
Abilities and aptitude exploration	○	○	○	○	○
Individual interests assessment	○	○	○	○	○
Work/life balance	○	○	○	○	○
Industry information	○	○	○	○	○
Locating/applying for jobs	○	○	○	○	○
Networking and building relationships	○	○	○	○	○
Written communication	○	○	○	○	○
Verbal communication	○	○	○	○	○
Teamwork	○	○	○	○	○
Adaptability	○	○	○	○	○
Critical thinking	○	○	○	○	○
Inquiry	○	○	○	○	○
Principles and ethical decision making	○	○	○	○	○
Responsible and professional	○	○	○	○	○
Life-long learning	○	○	○	○	○

What year(s) during your academic career have you received this academic information (select all year's that apply)

	Year 1	Year 2	Year 3	Year 4	Year 5 and beyond
Self-assessment and reflection (personal)	☐	☐	☐	☐	☐
Self-assessment and reflection (professional)	☐	☐	☐	☐	☐
Values (personal core)	☐	☐	☐	☐	☐
Values - career values	☐	☐	☐	☐	☐
Abilities and aptitude exploration	☐	☐	☐	☐	☐
Individual interests assessment	☐	☐	☐	☐	☐
Work/life balance	☐	☐	☐	☐	☐
Industry information	☐	☐	☐	☐	☐
Locating/applying for jobs	☐	☐	☐	☐	☐
Networking and building relationships	☐	☐	☐	☐	☐
Written communication	☐	☐	☐	☐	☐
Verbal communication	☐	☐	☐	☐	☐
Teamwork	☐	☐	☐	☐	☐
Adaptability	☐	☐	☐	☐	☐
Critical thinking	☐	☐	☐	☐	☐
Inquiry	☐	☐	☐	☐	☐
Principles and ethical decision making	☐	☐	☐	☐	☐
Responsible and professional	☐	☐	☐	☐	☐
Life-long learning	☐	☐	☐	☐	☐

Briefly provide examples of activities/classes/lessons/experiences you've participated in within these categories.

Self-assessment and reflection (personal and professional)	
Values (personal core and career)	
Abilities and aptitudes exploration	
Individual interest assessments	
Work/Life blanace	
Industry information	
Locating/applying for jobs	
Networking and building relationships	
Written communication	
Verbal communication	
Adaptability	
Critical thinking	
Principled and ethical decision making	
Responsible and professional	
Life-long learning	

What are the best delivery methods (ways a concept/skill is taught) to teach the above skills or concepts for you as a learner?

What resources are you using or have you used for career development services?

What areas listed above do you think would be better suited for a different course, timeframe (year in school?

What areas of career and employability development are or were missing for you?

What do you feel are the strengths in career readiness and employability skills within the program?

What do you feel are gaps in career readiness and employability skills from your ESMA experience?

What career readiness and employability major concepts do you wish were covered?

To what degree do you feel career development and employability skill integration is important to the equine science and management curriculum? (integrating these concepts into required classes taught within the major)

	1- Not important	2- Somewhat important	3- Moderately important	4- Important	5- Extremely important
To what degree do you feel career development and employability skill integration is important to the equine science and management curriculum? (integrating these concepts into required classes taught within the major)	○	○	○	○	○

University of Kentucky

By completing this information you are agreeing to be contacted for participation in a focus group follow up from this survey. This does not require your participation but shares your potential interest.

As a follow up you will be contacted by researcher, Savannah Robin, with a request for availability.
Please note the following:
1. Focus groups will be held on zoom (based on your availability).
2. They should last one hour and you will be asked to only participate in one session.
3. We are looking for a minimum of 6 students to participate.

Full Name

Preferred name

Email Address

Preferred general availability (days, mornings, afternoons, evenings, etc.)

Appendix B – Faculty and staff survey

Researcher, Savannah Robin, at the University of Kentucky is inviting you to take part in a survey about employability and career preparation within the ESMA program. You have been asked to participate due to your role in one of the following capacities; a core instructor within the equine science, and management program, assessment committee member, or a curriculum committee member.

Although you may not get personal benefit from taking part in this research study, your responses may help us understand more about your experience in assisting with career and employability preparation with students in the ESMA program. Some volunteers experience satisfaction from knowing they have contributed to research that may possibly benefit others in the future.

The survey/questionnaire will take about 25 minutes to complete and there are no known risks to participating in this study. Your response to the survey is anonymous which means no names, IP addresses, email addresses, or any other identifiable information will be collected with the survey responses. We will not know which responses are yours if you choose to participate.

Please be aware, while we make every effort to safeguard your data once received from the online survey company, given the nature of online surveys, as with anything involving the Internet, we can never guarantee the confidentiality of the data while still on the survey company's servers, or while en route to either them or us. It is also possible the raw data collected for research purposes will be used for marketing or reporting purposes by the survey/data gathering company after the research is concluded, depending on the company's Terms of Service and Privacy policies.

If you choose to consent please select the blue arrow at the bottom of the page to begin the survey.

If you have questions about the study, please feel free to ask; my contact information is given below.

Thank you in advance for your assistance with this important project. You will have two weeks to complete this survey and provide a response. It is the hope to receive at least 12 responses from this population.

Sincerely,
Savannah Robin
UK Ag Equine Program, College of Agriculture, Food, and Environment
University of Kentucky
PHONE: 502-773-3289
E-MAIL: savannah.robin@uky.edu

If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

University of Kentucky

Below is a list of skills/concepts currently taught as a part of the ESMA curriculum to what degree do you believe students obtain this skill by their completion in the program?

	1 (not at all obtained)	2 (slightly obtained)	3 (moderately obtained)	4 (adequately obtained)	5 (highly obtained)	N/A - I am unsure if it is integrated into the program
Self-assessment and reflection (personal and professional)	○	○	○	○	○	○
Self-assessment and reflection (personal)	○	○	○	○	○	○
Values (personal core values)	○	○	○	○	○	○
Values (career values)	○	○	○	○	○	○
Abilities and aptitude exploration	○	○	○	○	○	○
Individual interests assessment	○	○	○	○	○	○
Work/life balance	○	○	○	○	○	○
Industry information	○	○	○	○	○	○
Locating/applying for jobs	○	○	○	○	○	○
Networking and building relationships	○	○	○	○	○	○
Written communication	○	○	○	○	○	○
Verbal communication	○	○	○	○	○	○
Teamwork	○	○	○	○	○	○
Adaptability	○	○	○	○	○	○
Critical thinking	○	○	○	○	○	○
Inquiry	○	○	○	○	○	○
Principles and ethical decision making	○	○	○	○	○	○
Responsible and professional	○	○	○	○	○	○
Life-long learning	○	○	○	○	○	○

What year(s) do you believe these skills should be integrated into the student's curriculum experience based on their developmental need?

	Year 1	Year 2	Year 3	Year 4	Year 5 and beyond
Self-assessment and reflection (personal)	☐	☐	☐	☐	☐
Self-assessment and reflection (professional)	☐	☐	☐	☐	☐
Values (personal core)	☐	☐	☐	☐	☐
Values - career values	☐	☐	☐	☐	☐
Abilities and aptitude exploration	☐	☐	☐	☐	☐
Individual interests assessment	☐	☐	☐	☐	☐
Work/life balance	☐	☐	☐	☐	☐
Industry information	☐	☐	☐	☐	☐
Locating/applying for jobs	☐	☐	☐	☐	☐
Networking and building relationships	☐	☐	☐	☐	☐
Written communication	☐	☐	☐	☐	☐
Verbal communication	☐	☐	☐	☐	☐
Teamwork	☐	☐	☐	☐	☐
Adaptability	☐	☐	☐	☐	☐
Critical thinking	☐	☐	☐	☐	☐
Inquiry	☐	☐	☐	☐	☐
Principles and ethical decision making	☐	☐	☐	☐	☐
Responsible and professional	☐	☐	☐	☐	☐
Life-long learning	☐	☐	☐	☐	☐

If teaching an ESMA course: what resources are you using (if any) or have you used for career development services?

If teaching an ESMA course: What do you believe are the best delivery methods/approaches to teaching employability skills or concepts within your ESMA classes?

If teaching an ESMA course: What do you believe are the best delivery methods/approaches to teaching employability skills or concepts within your ESMA classes?

What areas listed above do you think would be better suited for a different course, timeframe (year in school)?

What areas of career and employability development do you think are missing for students?

What do you feel are the strengths in career readiness and employability skills within the program?

What do you feel are gaps in career readiness and employability skills?

What career readiness and employability major concepts do you believe should be covered but are not presently?

To what degree do you feel career development and employability skill integration is important to the equine science and management curriculum? (integrating these concepts into required classes taught within the major)

	1- Not important	2- Somewhat important	3- Moderately important	4- Important	5- Extremely important
To what degree do you feel career development and employability skill integration is important to the equine science and management curriculum? (integrating these concepts into required classes taught within the major)	○	○	○	○	○

Appendix C – ESMA Curricular Framework

ESMA Career and Employability Curricular Framework - Detailed				
Year	**Course integration**	**Proposed needs for course integration**	**Skill/Concept List**	**Example Integration**

Year 1	Course:
	EQM 101
	• Industry information
	EQM 106
	• Job shadowing
	• Guest speakers (industry introduction)
	• Self-assessment
	  o Strength's Finder, MBTI
	  o Personal Mission Statement (values reflection)
	  o Self-interest survey
	• Professional growth planning
	• Locating and applying for jobs
	EQM 105
	• Equine handling
	• Teamwork
	GEN 100
	• Teamwork (true colors)
	• Scientific writing and analysis
		• Teamwork (small group project)
		• Small writing sample
		• Reflection on working in team based on personalities
			Self-Management Skills:
			• Self-assessment (professional) – I, A
			• Self-assessment (personal) – I,A
			• Values (personal core values)- I
			• Values (career values)- I
			• Abilities and aptitude exploration – I,A
			• Individual interests assessment- I,A
			• Work/life balance- N/A
			Career Building Skills:
			• Industry information- I,R
			• Locating/applying for jobs- I
			• Networking/relationship building- I,R
			
			Essential Employability Skills/Career Readiness Competencies s
			• Written communication- I,R,A
			• Verbal communication- I,R,A
			• Teamwork- I,R
			• Adaptability- I
			• Critical thinking- I,R
			• Inquiry – I
			• Principles and ethical decision making – I
			• Responsible and professional – I
				Industry introduction
				
				Introduction to self
				• Strengths
				• Interests
				• Personality assessment
				• Personal values
				• Personal mission statement
				
				Professional growth planning – introduced
				• Goal setting
				• SMART goals
				• Long-term v. short-term
				• Strategies
				
				Teamwork integration (introduced)
				• What is a team
				• How does it function
				• How do I use my own skills to contribute to a team
				• How do I work with others with different skills
				
				Writing (introduced)
				• Analysis of pros
				• Analysis of cons
				• Forming an educated opinion
				• Identifying quality resources
				• Citing resources and references
				• Utilizing references to write organized thought and idea
				
				Locating and applying for jobs
				• Introduction to job search engines and programs

ESMA Career and Employability Curricular Framework - Detailed				
Year	**Course integration**	**Proposed needs for course integration**	**Skill/Concept List**	**Example Integration**
			• Life-long learning- I • Diversity, Equity and Inclusion - I	Networking and relationship building • Basics of networking • Communication among peers • Communication with industry stakeholders (job shadows, hosting guest speaker) Diversity, Equity, and Inclusion • Integration of diverse guest speakers in courses

ESMA Career and Employability Curricular Framework - Detailed				
Year	**Course integration**	**Proposed needs for course integration**	**Skill/Concept List**	**Example Integration**
Year 2	EQM 305 • Industry information and exploration • Principled and ethical decision making • Job search skills • Mock interviews • Resume • Cover letter • Analytical writing • Communication skills - Written - Verbal EQM 310 • Critical Thinking • Inquiry EQM 320 • Equine management skills • Critical thinking	• Writing skills (peer feedback and review) • Communication skills • Critical thinking • Professional planning	**Self-Management Skills:** • Self-assessment (professional) – R • Self-assessment (personal) – R • Values (personal core values)- R • Values (career values)- I • Abilities and aptitude exploration – I,A • Individual interests assessment- I,A • Work/life balance- N/A **Career Building Skills:** • Industry information- R,A • Locating/applying for jobs- R • Networking/relationship building- R,A **Essential Employability Skills/Career Readiness Competencies** • Written communication- R,A • Verbal communication- R,A • Teamwork- I,R • Adaptability- R • Critical thinking- R,A • Inquiry – I,R • Principles and ethical decision making – R,A • Responsible and professional – R,A • Life-long learning- R • Diversity, Equity and Inclusion - R	Industry information (reinforcement and application) • Issues affecting the industry Career Building Skills • Conducting the job search • Writing Resume • Writing Cover Letter/letter of intent • Obtaining references Networking and relationship building • Participating in mock interviews Communication • Resume • Cover letter • Presentation skills (verbal communication) • Written communication Professional Planning • Setting short-term internship/academic enrichment goals Introduction to experiential learning Diversity, Equity, and Inclusion • Guest speaker focused on DEI topics and training

ESMA Career and Employability Curricular Framework - Detailed				
Year	**Course integration**	**Proposed needs for course integration**	**Skill/Concept List**	**Example Integration**
Year 3	EQM 395/399 (academic enrichment) • Abilities/Aptitudes reflection • Interests • Job application • Networking • Teamwork/collaboration • Professional and responsible skills • Written and verbal communication • Professional growth planning • Personal growth planning • Inquiry AEC 302 • Computer/excel skills • Critical thinking Support courses	• Work/life balance • Adaptability	**Self-Management Skills:** • Self-assessment (professional) – A • Self-assessment (personal) – A • Values (personal core values)- A • Values (career values)- R • Abilities and aptitude exploration – A • Individual interests assessment- A • Work/life balance- I,R **Career Building Skills:** • Industry information- A • Locating/applying for jobs- A • Networking/relationship building- A **Essential Employability Skills/Career Readiness Competencies** • Written communication- A • Verbal communication- A • Teamwork- R,A • Adaptability- A • Critical thinking- A • Inquiry – R,A • Principles and ethical decision making – A • Responsible and professional – R,A • Life-long learning- R,A • Diversity, Equity, and Inclusion	Academic enrichment • Application of skills to date Networking and relationship building • Working with supervisors and colleagues • Individual interviews with supervisor Communication • Poster creation • Presentation • Resume review Diversity and Equity Inclusion • Unconscious bias training Teamwork/collaboration: • Supervisor and colleague collaboration Professional planning • SMART goal review • Long term & short term goal setting • Strategies or achieving goals Adaptability • Handling professional scenarios Work/life balance Experiential Learning experiences Diversity, Equity, and Inclusion • Unconscious bias training

ESMA Career and Employability Curricular Framework - Detailed				
Year	**Course integration**	**Proposed needs for course integration**	**Skill/Concept List**	**Example Integration**
Year 4	EQM 490 • Self-management career skills - Budgeting - Negotiation skills - Accepting and applying for jobs • E-portfolio • Inquiry - Analysis of industry issue • Industry information • Critical thinking • Communication - Written - Verbal presentation skills • Teamwork (small groups)	• Networking/relationship building • Professional reflection • Teamwork • Written and verbal communication	**Self-Management Skills:** • Self-assessment (professional) – A • Self-assessment (personal) – A • Values (personal core values)- A • Values (career values)- A • Abilities and aptitude exploration – A • Individual interests assessment- A • Work/life balance- R,A **Career Building Skills:** • Industry information- A • Locating/applying for jobs-A • Networking/relationship building- A **Essential Employability Skills/Career Readiness Competencies** • Written communication- A • Verbal communication- A • Teamwork- A • Adaptability- A • Critical thinking- A • Inquiry – A • Principles and ethical decision making – A • Responsible and professional – A • Life-long learning- A	Communication • Resume review and update • E-portfolio highlighting all experiences • Presentation (give pitch or proposal, or thesis presentation) Teamwork • Working as a collaborative team for class assignments Networking and relationship building • Connecting with employers • Connecting with alums, stakeholders, etc. Work/life balance Self-management career skills • Budgeting • Job/career benefit analysis • Job application, acceptance and negotiation Diversity, Equity and Inclusion • Diverse speakers and topics for writing in Capstone

Equine Science and Management Specific Model created based on information from (Bridgstock, 2009; Cox & King, 2006; Fallows & Steven, 2000).

Appendix D – Tables

Table D1

Career and employability skill academic exposure by year- student perspective

Career and employability skill	%Year 1 (N)	%Year 2 (N)	%Year 3 (N)	%Year 4 (N)	Total
Self-assessment and reflection (personal)	42.86% (9)	61.90% (13)	80.95% (17)	85.71% (18)	58
Self-assessment and reflection (professional)	28.57% (6)	57.14% (12)	76.19% (16)	80.95% (17)	52
Values (personal core)	28.57% (6)	57.14% (12)	85.71% (18)	76.19% (16)	53
Values - career values	19.05% (4)	47.62% (10)	71.43% (15)	80.95% (17)	47
Abilities and aptitude exploration	38.10% (8)	57.14% (12)	66.67% (14)	52.38% (11)	45
Individual interests assessment	42.86% (9)	66.67% (14)	66.67% (14)	66.67% (14)	51
Work/life balance	14.29% (3)	28.57% (6)	57.14% (12)	85.71% (18)	39
Industry information	38.10% (8)	42.86% (9)	85.71% (18)	80.95% (17)	53
Locating/applying for jobs	19.05% (4)	23.81% (5)	71.43% (15)	76.19% (16)	41
Networking and building relationships	33.33% (7)	52.38% (11)	100% (21)	80.95% (17)	57
Written communication	52.38% (11)	71.43% (15)	71.43% (15)	66.67% (14)	56
Verbal communication	52.38% (11)	76.19% (16)	80.95% (17)	76.19 (16)%	61
Teamwork	52.38% (11)	71.43% (16)	85.71% (18)	85.71% (18)	65
Adaptability	42.86% (9)	57.14% (12)	90.48% (19)	80.95% (17)	58
Critical thinking	57.14% (12)	66.67% (14)	85.71% (18)	80.95% (17)	62
Inquiry	38.10% (8)	52.38% (11)	57.14% (12)	66.67% (14)	46
Principles and ethical decision making	33.33% (7)	47.62% (10)	71.43% (15)	76.19% (16)	49
Responsible and professional	33.33% (7)	47.62% (12)	85.71% (18)	85.71% (18)	56
Life-long learning	42.86% (9)	52.38% (11)	66.67% (14)	90.48% (19)	54

*Participants could select all years they felt these skills were applicable.

Table D2

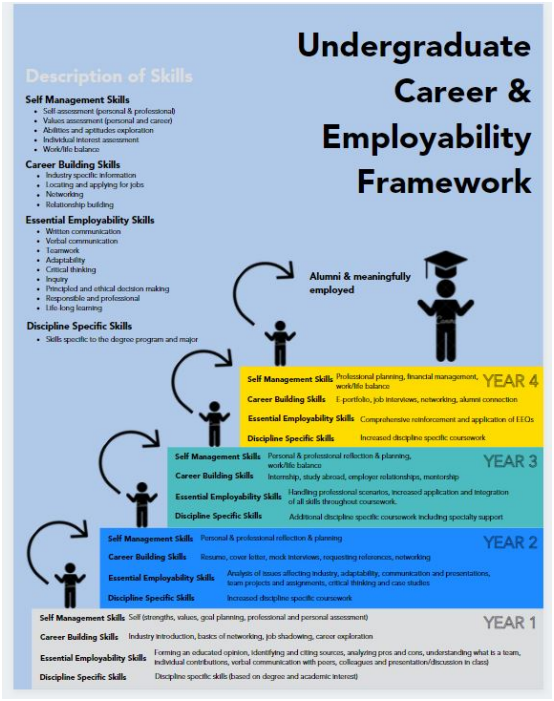
Career and employability skill integration needs by year - faculty and staff perspective

Career and employability skill	%Year 1 (N)	%Year 2 (N)	%Year 3 (N)	%Year 4 (N)	%Year 5 and beyond (N)	Total
Self-assessment and reflection (personal)	57.14% (4)	57.14% (4)	85.71% (6)	71.43% (5)	42.86% (3)	22
Self-assessment and reflection (professional)	29.57% (2)	28.57% (2)	100% (7)	71.43% (5)	42.86% (19)	19
Values (personal core)	85.71% (6)	71.43% (5)	71.43% (5)	85.71% (6)	42.86% (3)	25
Values - career values	28.57% (2)	42.86% (3)	71.43% (5)	85.71% (6)	57.14% (4)	20
Abilities and aptitude exploration	100% (7)	57.14% (4)	42.86% (3)	42.86% (3)	14.29% (1)	18
Individual interests assessment	71.43% (5)	71.43% (5)	71.43% (5)	57.14% (4)	28.57% (2)	21
Work/life balance	28.57% (2)	28.57% (2)	57.14% (4)	100% (7)	57.14% (4)	19
Industry information	85.71% (6)	100% (7)	85.71% (6)	85.71% (6)	57.14% (4)	29
Locating/applying for jobs	43.86% (3)	57.14% (4)	85.71% (6)	85.71% (6)	57.14% (4)	22
Networking and building relationships	85.71% (6)	85.71% (6)	71.43% (5)	85.71% (6)	57.14% (4)	27
Written communication	100% (7)	100% (7)	100% (7)	85.71% (6)	28.57% (2)	29
Verbal communication	100% (7)	100% (7)	100% (7)	85.71% (6)	28.57% (2)	29
Teamwork	57.14% (4)	71.43% (5)	71.43% (5)	85.71% (6)	28.57% (2)	22
Adaptability	71.43% (5)	71.43% (5)	71.43% (5)	85.71% (6)	28.57% (2)	23
Critical thinking	85.71% (6)	85.71% (6)	100% (7)	100% (7)	57.14% (4)	30
Inquiry	71.43% (5)	85.71% (6)	85.71% (6)	85.71% (6)	42.86% (3)	26
Principles and ethical decision making	57.14% (4)	85.71% (6)	85.71% (6)	85.71% (6)	42.83% (3)	25
Responsible and professional	57.14% (4)	71.43% (5)	100% (7)	100% (7)	42.86% (3)	26
Life-long learning	42.86% (3)	28.57% (2)	71.43% (5)	100% (7)	71.43% (5)	22

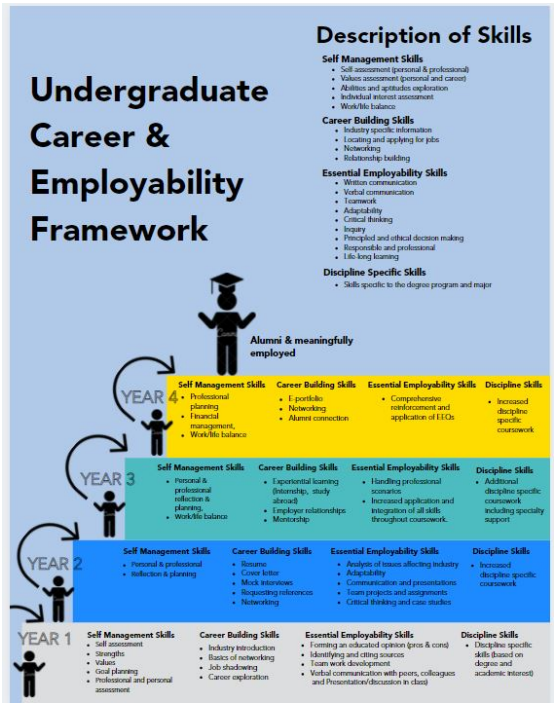
*Participants could select all years they felt these skills were applicable.

Appendix F – Versions of Framework Prototype

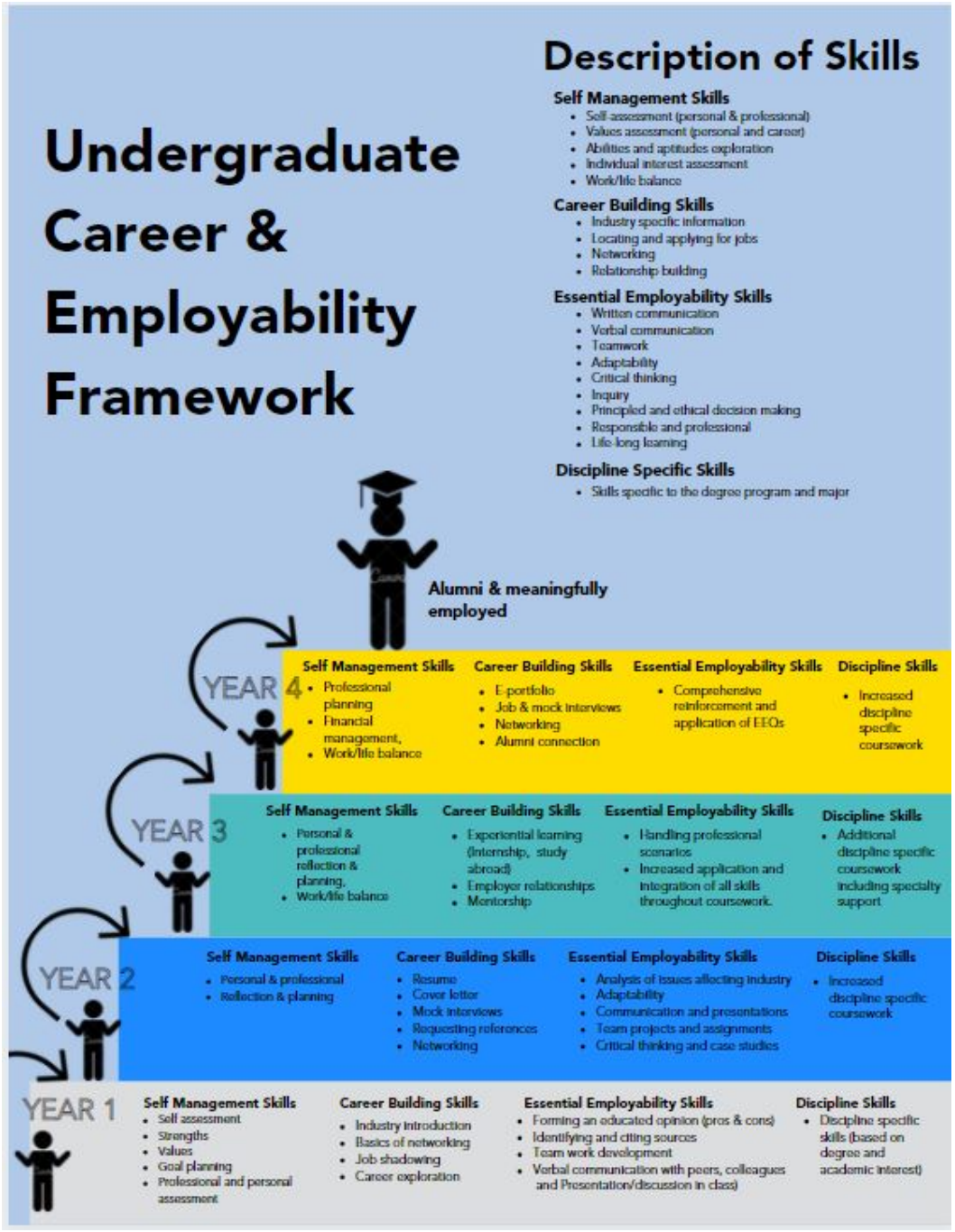
Framework Prototype Version 1



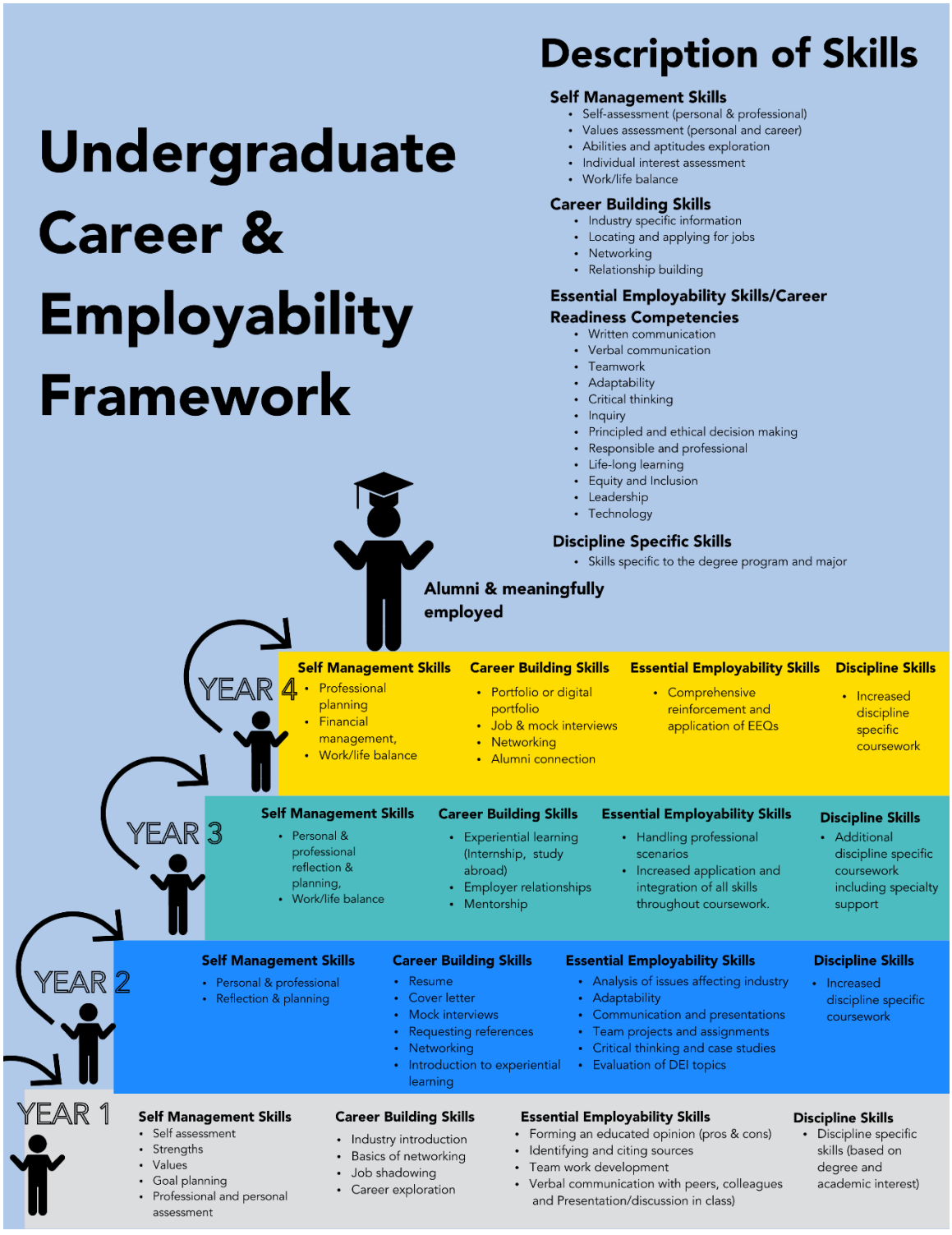
Framework Prototype Version 2



Framework Prototype Version 3



Appendix E — Career and Employability Framework Model – Yearly Approach Updated Draft Based on Feedback



Appendix F – Evaluation Survey

Savannah Robin, principal investigator and graduate student, at the University of Kentucky is inviting you to take part in a survey about a framework for Career and Employability skill prototype. You have been asked to participate due to your role in your academic program working with curriculum and curriculum integration. In the email you were sent that asked you to participate in the study two documents were attached. Please make sure you take time to review these documents and the models prior to moving forward with the survey. The survey questions will relate to the usability and feasibility of this framework. For your planning purposes this may take you at a maximum of 30 minutes to review the materials.

· Document #1: Career and Employability Framework Model (yearly approach)

· Document #2: Detailed framework conceptualized within the equine science and management undergraduate program.

Although you may not get personal benefit from taking part in this research study, your responses may help us understand more about your experience in assisting with career and employability preparation for undergraduate students. Some volunteers experience satisfaction from knowing they have contributed to research that may possibly benefit others in the future. The survey/questionnaire will take about 10 minutes to complete and there are no known risks to participating in this study. Your response to the survey is anonymous which means no names, IP addresses, email addresses, or any other identifiable information will be collected with the survey responses. We will not know which responses are yours if you choose to participate. Please be aware, while we make every effort to safeguard your data once received from the online survey company, given the nature of online surveys, as with anything involving the Internet, we can never guarantee the confidentiality of the data while still on the survey company's servers, or while en route to either them or us. It is also possible the raw data collected for research purposes will be used for marketing or reporting purposes by the survey/data gathering company after the research is concluded, depending on the company's Terms of Service and Privacy policies.

There are no perceived risks to taking part in this study. If you have questions about the study, please feel free to ask; my contact information is given below. Thank you in advance for your assistance with this important project. You will have two weeks to complete this survey and provide a response.

It is the hope to receive at least 30 responses from this population.

If you have read the information above and agree to participate, select "I AGREE" below; if you do not agree to participate, please close this web browser.

Sincerely, Savannah Robin UK Ag Equine Program, College of Agriculture, Food, and Environment University of Kentucky PHONE: 502-773-3289
E-MAIL: savannah.robin@uky.edu
Faculty Advisors & Co-Chairs Beth Rous - beth.rous@uky.edu
Amanda Potterton – Amanda.potterton@uky.edu

If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

I agree to take part in this study.

YES

These questions ask for your feedback on the Career and Employability Framework. Please know this framework is built on the average "four-year" experience for undergraduate education but can be flexible for the developmental process or program needs.

How useful would this framework be as an integrated component to your curriculum?

- Extremely useful
- Very useful
- Somewhat useful
- A little useful
- Not useful at all

What could be done to make this more useful to you in regards to the implementation to your curriculum?

How likely would you and/or your program be to integrate this framework within your curriculum?

- Extremely likely
- Very likely
- Somewhat likely
- A little likley
- Not likely at all

←

→

If anything, what could be done to increase the likelihood that your program would use this within the curriculum?

←

→

As this framework is designed how feasible would it be to implement within your curriculum?

- Extremely feasible
- Moderately feasible
- Neither feasible or not feasible
- Moderately unfeasible
- Extremely unfeasible

If not feasible how could this be made more feasible for you to implement within the curriculum of your program?

How relevant would this framework be to the existing curriculum and student learning outcomes for your academic program?

- Extremely relevant
- Moderately relevant
- Neither relevant nor irrelevant
- Moderately irrelevant
- Extremely irrelevant

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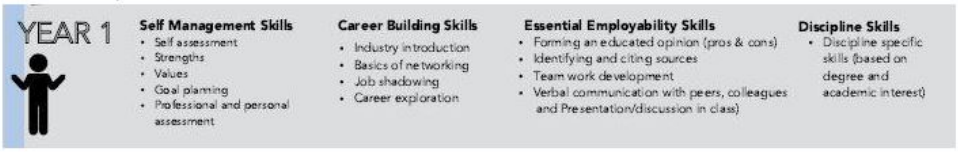
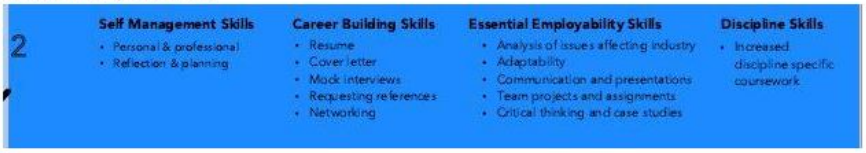
In regards to the concepts covered within **year one**, how relevant do you think they are to the student experience?



- Extremely relevant
- Moderately relevant
- Neither relevant nor irrelevant
- Moderately irrelevant
- Extremely irrelevant

If anything, what is missing for the year one experience for the student?

In regards to the concepts covered within **year two**, how relevant do you think they are to the student experience?



- Extremely relevant
- Moderately relevant
- Neither relevant nor irrelevant
- Moderately irrelevant
- Extremely irrelevant

If anything, what is missing for the year two experience for the student?

In regards to the concepts covered within **year three**, how relevant do you think they are to the student experience?

- Extremely relevant
- Moderately relevant
- Neither relevant nor irrelevant
- Moderately irrelevant
- Extremely irrelevant

If anything, what is missing for the year three experience for the student?

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In regards to the concepts covered within **year four**, how relevant do you think they are to the student experience?

- Extremely relevant
- Moderately relevant
- Neither relevant nor irrelevant
- Moderately irrelevant
- Extremely irrelevant

If anything, what is missing for the year four experience for the student?

What advantages do you see in the potential implementation of this framework within your program?

What challenges do you see you will face in implementing this framework within your program?

What additional comments do you think should be considered in regards to the usability of this framework within your academic program?

What additional comments do you think should be considered in regards to the feasibility of using this framework within your academic program?

← →

Appendix G –IRB Approval Letter

University of Kentucky | Office of Research Integrity
IRB, RDRC

Modification Review

Approval Ends:	IRB Number:
3/29/2027	63351

TO: Savannah Robin
UK Equine Programs
PI phone #: 5027733289

PI email: savannah.robin@uky.edu

FROM: Chairperson/Vice Chairperson
Nonmedical Institutional Review Board (IRB)

SUBJECT: Approval of Modification Request

DATE: 9/22/2021

On 9/22/2021, the Nonmedical Institutional Review Board approved your request for modifications in your protocol entitled:

The creation and evaluation of a career development for equine science and management undergraduate students at the University of Kentucky.

If your modification request necessitated a change in your approved informed consent/assent form(s), the new IRB approved consent/assent form(s) to be used when enrolling subjects can be found on the approved application's landing page in E-IRB. [Note, subjects can only be enrolled using consent/assent forms which have a valid "IRB Approval" stamp unless special waiver has been obtained from the IRB.]

Note that at Continuation Review, you will be asked to submit a brief summary of any modifications approved by the IRB since initial review or the last continuation review, which may impact subject safety or welfare. Please take this approved modification into consideration when preparing your summary.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" available in the online Office of Research Integrity's IRB Survival Handbook. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at 859-257-9428.

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Vita

Savannah Faye Robin

savannah.robin@uky.edu

Educational Institutions Attended

Educational Leadership – Teacher Leader & Principal Certification Program
University of Kentucky College of Education – Lexington, KY

Masters of Science, 2012
University of Kentucky College of Agriculture – Lexington, KY
Community and Leadership Development- Career and Technical Education
Thesis: Cultivating the compass: examining the role of emotional appraisal and professional agency among stakeholders in Kentucky agricultural education.

Bachelors of Science, 2009
University of Kentucky College of Agriculture – Lexington, KY
B.S. Career and Technical Education- Agricultural Education

University of Kentucky College of Agriculture- Lexington, KY
B.S. Community Communications and Leadership Development- Agricultural Communications

Professional Positions

University of Kentucky College of Agriculture, Food and Environment; June 2018-Present
Ag Equine Programs Internship Coordinator
GEN 100 Program Coordinator

Harrison County High School; August 2014-June 2018
High School Agriculture Teacher

National Association of Agricultural Educators; March 2012-August 2014
Meeting Planner and Advocacy Coordinator

University of Kentucky College of Agriculture; June 2010-June 2012
Community and Leadership Development Department
Graduate Research Assistant

Nelson County High School; August 2009-June 2010
High School Agriculture Teacher

University of Kentucky College of Agriculture; July 2007-July 2009
Equine Initiative
Communications and Editorial Assistant

Professional and Scholastic Involvement and Honors

American Quarter Horse Association 1998-Present – Life Member
AQHYA National Youth President 2004-2005
Association for Career and Technical Education (ACTE)-2011-2019
Association for Career and Technical Education Research (ACTER) 2011-2012
Association for Leadership Educators (ALE) 2011-2012
Bourbon County Farm Bureau Board Member 2009-2022
President 2017-2019
Vice President 2010-2017
Secretary 2010-2017
Kentucky Association of Agriculture Teachers (KAAE) 2008-Present
Kentucky Teach Ag Star Program Coordinator 2017-2022
Advocacy Committee Member 2015-2017
National Policy Summit Representative 2011
Kentucky Cattlemen's Association -2009-2022
Beef Educator of the Year 2016
Kentucky Beef Council Young Farmer Representative – 2020-2021
NACADA: The Global Community for Academic Advising – 2019- 2020
National Association of Equine Affiliated Academics – 2019-2021
Kentucky Farm Bureau – 2009-Present
State Education Advisory Committee 2019-Present
State Vision 100 – strategic planning committee member – 2019-Present
Excellence in Agriculture – State Winner and National Competitor 2018
State Political Education Advisory Committee 2018-2019
Kentucky Quarter Horse Association – 2000-Present
National Association of Agricultural Educators (NAAE)-2008, 2011-2017
National Policy Committee Member 2015-2018
National Teach Ag Star Program Committee Member 2016-2017
National Association of Equine Affiliated Academics – 2018-Present
University of Kentucky Equine Science and Management Program
Curriculum Committee Member – 2018-Present
Assessment Committee Member – 2018 – Present
Essential Employability Skill Certification Co-Coordinator – 2018-Present
University of Kentucky College of Agriculture, Food, and Environment
GEN 100 Steering Committee Member – 2020- Present
GEN 100 Course Assistant– 2022- Present

Professional Publications and Conference Presentations

Poster Abstracts

National

Robin, S.F., Hains, B.J. (2012). Good for the goose, good for the gander: an exploration of difficult concepts for students and teachers in agricultural education. American Association of Agricultural Educators Conference. Raleigh, N.C.

Tubbs, J, A., **Robin, S.F.,** Hains, B.J. (2012). International acculturation: the good bad and ugly. American Association of Agricultural Educators Conference Raleigh, N.C.

Craddock, S.F., Chaplin, M. S., Jackman, W.J. (2011). Creating agricultural advocates through in-class curriculum and experiences. Association for Leadership Educators Conference. Denver, CO.

Regional

Tubbs, J.A., **Robin, S.F**., Hains, B.J. (2012). Rural Education: Acclimating Pre-service agriculture teachers to diverse student populations. Southern Association for Rural Sociologists Conference. Birmingham, AL.

Robin, S.F., Tubbs, J.A., Hains, B.J. (2012). Influencing agricultural and educational policies in both rural and urban communities through agricultural education. Southern Association for Rural Sociologists Conference. Birmingham, AL.

Tubbs, J.A., **Robin, S.F.,** Hains, B.J., Logan, K. N. (2012). International acculturation: the good, the bad and the ugly. Southern Association for Agricultural Scientists. Birmingham, AL.

Papers

National

Hains, B.H., Ricketts, C., Tubbs, J.A., **Robin, S.F.** (2012) Cultural immersion: The development of formal and non-formal leaders in agricultural education. Association for Leadership Educators. Key West, FL.

Research Presentations

National

Robin, S.F., & Wilson, K.M, (2021) “They have an equine degree, so what? How can we best prepare equine graduates to excel in the workforce?” National Association of Equine Affiliated Academics Conference, Virtual, [May]

Wilson, K.M., **Robin, S.F**., Urschel, K.L., Rossano, M.G., Heleski, C.R. (2021) “Using Assessment and Curriculum mapping to enhance your undergraduate programming efforts.” National Association of Equine Affiliated Academics Conference, Virtual, [May]

Knobloch, N., Keefe, L., Hains, B.J., **Robin, S.F.,** (2012) “Difficult life science concepts in introductory college courses” National Science Teachers Association Conference.[March].

Knobloch, N., Keefe, L., Esters, L., Anderson, M., Hains, B. **Robin, S.F.** (2011) “Opportunities and Challenges of Career and Technical Education in preparing the future science,
technology, engineering and mathematics workforce.” Association for Career and Technical Education Research Symposium.[November].

Craddock, S.F., Chaplin, M. S., Jackman, W.J. (2011). Creating agricultural advocates through in-class curriculum and experiences**.** Association for Leadership Educators Conference. Denver, CO.[July]

Regional

Tubbs, J.A**., Robin, S.F.,**Hains, B.J. (2012). Rural Education: Acclimating Pre-service agriculture teachers to diverse student populations. Southern Association for Rural Sociologists Conference. Birmingham, AL. [January]

Robin, S.F., Tubbs, J.A., Hains, B.J. (2012). Influencing agricultural and educational policies in both rural and urban communities through agricultural education. Southern Association for Rural Sociologists Conference. Birmingham, AL. [January]

Tubbs, J.A., **Robin, S.F.,**Hains, B.J., Logan, K. N. (2012). International acculturation: the good, the bad and the ugly. Southern Association for Agricultural Scientists. Birmingham, AL. [January]

State

Robin, S.F. (2012). “Marketing your agriculture program locally to impact policy.” Kentucky Agriculture Teachers Conference. Louisville, KY [July]

Craddock, S.F. (2011).“*Agriculture Education Advocacy, Kentucky Council for Agricultural Education.”*Kentucky Association of Agricultural Education Winter Conference. Lexington, KY. [January]

Craddock, S.F. (2011). ‘*Agriculture Education Advocacy, Kentucky Council for Agricultural Education.”* Kentucky Association of Agricultural Education Teachers Conference. Louisville, KY. [July]

Craddock, S.F. (2010).“Agricultural Education Policy and Legislation.” *Kentucky Agriculture Teachers Professional Development*. Elizabethtown, KY. [December].

Professional Presentations

State

Robin, S.F. (2018; 2019; 2020) Teacher Cohort Advocacy and Promotion Training. Kentucky Association of Career and Technical Education. Georgetown, KY [January]

Robin, S.F. (2018;2019; 2020) Get up and do something! High School Student Civic Duty motivation Keynote. Kentucky Association of Career and Technical Education. Frankfort, KY [February]

Robin, S.F., Furnish, A., Whitehead, K., Lemons, W., Mullen, S. (2017) Growing Young Leaders. Kentucky Women in Agriculture State Convention. [November]

Robin, S.F. (2017) Teacher Cohort Advocacy and Promotion Training. Kentucky Association of Career and Technical Education. [January]

Robin, S.F. (2017) Get up and do something! High School Student Civic Duty motivation Keynote. Kentucky Association of Career and Technical Education. Frankfort, KY [February]

Robin, S.F. (2012). 'Advocacy Resources." Kentucky Association of Agricultural Education Teachers Conference. Louisville, KY. [July]

Hains, B., **Robin, S.F.** (2011). 'Ditch the Chalktalk." Kentucky Association of Agricultural Education Teachers Conference. Louisville, KY. [July]

National

Robin, S.F. (2017) "Advocate to Educate" National Association of Agricultural Educators Convention, Nashville, TN [November]

Robin, S.F., (2014) "Share your story- make an impact!" ACTE National Policy Seminar. Washington, D.C. [March]

Robin, S.F., (2013) "Developing and sustaining an advisory committee" Mississippi State Career and Technical Educators Conference. Jackson, MS [July]

Robin, S.F., (2013) "Fighting for your CTE Program!" New York State Agriculture Teachers Conference. Java, NY [June]

Robin, S.F., (2013) "Advocacy in Ag Education!" Virginia Agriculture Teacher & NAAE Region VI Conference. Bristol, VA. [June]

Robin, S.F., (2013) "Advocacy in Ag Education-Telling Your Story!" ACTE National Policy Seminar. Washington, D.C. [March]

Robin, S.F., (2013) "Advocacy in Ag Education!" Indiana Agriculture Teachers

Conference. West Layfayette, IN. [June]

Robin, S.F., (2012) “Fighting for your CTE Program!” Association for Career and Technical Education CareerTech Vision. Atlanta, GA. [November]

Robin, S.F., (2012) “Taking action for your state Ag Ed Program!” National Association for Agricultural Educators Convention State Leaders Luncheon Speaker. Atlanta, GA. [November]

Robin, S.F., (2012) “Developing an advocacy plan and taking action!” National Middle School Teachers Association. Portland, OR. [October]

Robin, S.F., (2012) “Developing an advocacy plan and legislation!” New Hampshire FFA Foundation Board. Concord, NH. [September]

Knobloch, N., Keefe, L., Hains, B.J., **Robin, S.F.,**(2012) “Difficult life science concepts in introductory college courses” *National Science Teachers Association Conference.*
Indianapolis, IN. [March].

Robin, S.F., Hains, B. (2011) “Building a sustainable future for Agricultural Education: discover how one state is starting this quest by developing their own council for agricultural education.”. *National Association for Agricultural Educators National Convention*. St. Louis, MO [November].

Robin, S.F., Chaplin, M. (2011) “Connecting your community to your classroom: using curriculum to develop agricultural advocates.” *National Association for Agricultural Educators National Convention.* St. Louis, MO.[November].

Knobloch, N., Keefe, L., Esters, L., Anderson, M., Hains, B. **Craddock, S.** (2011) “*Opportunities and Challenges of Career and Technical Education in preparing the future science, technology, engineering and mathematics workforce.”* Association for Career and Technical Education Research Symposium.[November].

Jackman, J., Chaplin, M**. Robin, S.F.** (2011) *“Making Advocacy Work for You at the Grassroots Level”* National Association for Agricultural Educators National Convention.[November]