Ontario Guidance Teacher-Counsellors’ Understanding of the Agri-Food Industry and Agricultural Careers

By

Paighton Smyth

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ABSTRACT

ONTARIO GUIDANCE TEACHER-COUNSELLORS’ UNDERSTANDING OF THE AGRI-FOOD INDUSTRY AND AGRICULTURAL CAREERS

Paighton Smyth
University of Guelph, 2019

Advisor: Dr. Helen Hambly

This thesis is an investigation of Ontario guidance teacher-counsellors’ understanding of the agri-food industry and agricultural careers. In order to feed a global population of 9 billion by 2050, everyone needs to be aware of the career opportunities available in the agri-food industry. Guidance teacher-counsellors influence high school students’ career decisions. A study focused on Ontario was conducted using two online surveys to assess guidance teacher-counsellor’s understanding of the agri-food industry and agricultural careers. Guidance teacher-counselors in Ontario have few continuing education opportunities. They hold undergraduate degrees in different disciplines and teaching accreditations with some further accredited courses at the Masters level. Respondents indicated that they have limited knowledge about the agri-food industry but feel that this is a valuable career path for students to pursue. Continued education through conferences, reading materials, presentations and online courses is recommended. The education system and agricultural organizations can collaborate to support guidance teacher-counsellors.
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Chapter One: Introduction

1.1 Background

The Canadian population has never been more interested in what food they eat, where it comes from, the food safety regulations that were upheld producing it, and the best way to feed it to their families. With that said, the Canadian population has also never been farther away from primary production, causing a significant knowledge gap between consumers and professionals in the agriculture and food industry (The Canadian Centre for Food Integrity, 2018). As our population continues to climb, and consumers feel the need to be more involved in their food choices – this is a critical time for information exchange and learning. A key consideration within this knowledge gap is the awareness of opportunities in agriculture careers for high school students. Helping the Canadian population become aware of the changing agriculture and food industry – the goal would be to increase the number of young professionals interested in careers in the sector. This strategy would fill the current deficit in qualified young professionals entering the field (Synthesis Agri-Food Network, 2017). In 2004, one in eight jobs in Canada were in the agriculture and agri-food industry (Agriculture and Agri-Food Canada, 2016). In Canada, each provincial and territorial education system functions under different regulations and guidelines. Therefore, educational counselling research needs to be specific for each area. Previous studies have demonstrated that there is also a difference in enrollment for post-secondary education across Canada, with Ontario having the largest percentage of students who attend post-secondary education (Looker, 2009). For this research, the focus will be on Ontario guidance teacher-
counsellors due to the large student populations and the strong emphasis on post-secondary education.

Also, as the desire for post-secondary education becomes more significant for youth, the need to support guidance teacher-counsellors is critical. In Ontario, there is an average of 381 students to every guidance teacher-counsellor with some schools having a ratio as high as 595 students per counsellor (Hagen & Elyse, 2016). Since 2012, the Ontario Ministry of Education has released key policies that reference guidance teacher-counsellors' wide range of responsibilities (Hagen & Elyse, 2016). Guidance teacher-counsellors' roles have been outlined as: coordinating career and life planning, ensuring effective transitions through school, supporting social-emotional development, providing individual counselling services, supporting student’ mental health, and serving on collaborative school teams (Hagen & Elyse, 2016). Due to the large range of responsibilities of guidance teacher-counsellors, continued encouragement, information and educational opportunities for career counselling are needed.

After parents, although possibly well-below the influence of parents, guidance teacher-counsellors in Ontario play an important role in a high school student's adolescent life and impact their future career decisions significantly (Ontario School Counsellors’ Association, 2018). According to Nadon, Samson, Gazzola, & Thériault (2016) studies have found that the majority of guidance teacher-counsellors in Ontario are teachers with limited training in career guidance counselling (Nadon, Samson, Gazzola, & Thériault, 2016). In Ontario, to become a high school guidance teacher-counsellor one
must have completed a minimum three-year postsecondary degree, obtain a mandatory teaching degree, and have either completed additional guidance counsellor qualification courses or completed a Master’s degree in counselling or psychotherapy (Canadian Counselling and Psychotherapy Association, 2012). Ontario guidance teacher-counsellors are generally highly educated individuals but mostly in fields other than career and school counselling, subsequently managing their positions via their teaching careers and personal life experiences instead of through a formal approach to counselling education (Nadon et al., 2016). Counsellors are also managing a large number of cases of mental health and well-being with little time for career planning outside organized career day events, etc. (Ontario School Counsellors’ Association, 2018).

A key element to improving agricultural education in Ontario is understanding the current formal and non-formal educational programming that exists for students throughout the province. The identified stakeholders in agricultural education are the school system, education organizations, youth development organizations, and the entire agri-food sector (Parker, 2016). These stakeholders all have equal parts to play when working towards increasing agri-food career education efforts. In the University of Guelph’s Planning for Tomorrow study released in 2017, results showed significant growth in the agri-food sector and an increase in the number of new hire positions available in the next five years (Synthesis Agri-Food Network, 2017). Over 75% of food and agricultural employers stated their preference for formal training and over 50% of the employers surveyed reported that half of their positions require a post-secondary
education (Synthesis Agri-Food Network, 2017). The results indicated that 51% of respondents from the food industry and 67% of respondents from the agriculture industry described having difficulties finding recruits for their jobs (Synthesis Agri-Food Network, 2017). Agriculture and agri-food is an industry with substantial growth over the next five years requiring highly qualified personnel with soft skills such as critical thinking, communication and leadership as well as technical or hard skills training (Synthesis Agri-Food Network, 2017).

1.2 Research Goal, Objectives and Questions
The goal of this research project is to understand Ontario high school guidance teacher-counsellors’ information and knowledge of the career opportunities available within the agri-food industry and to evaluate professional learning and development strategies for the guidance teacher-counsellor sector. The research has three objectives, as follows:

Objective 1
To understand the current understanding and knowledge base of Ontario guidance teacher-counsellors on career opportunities in the agricultural industry and food sector.

1.1 What percentage of guidance teacher-counsellors have any type of background in agriculture?
1.2 Where or to whom do guidance teacher-counsellors direct students who demonstrate an interest in careers associated with the agriculture industry?
1.3 What do guidance teacher-counsellors currently understand about the opportunities in agriculture careers?

Objective 2
To gauge the current access to sources of relevant career information.

2.1 What outlets exist to provide guidance teacher-counsellors with information on agri-food careers?
2.2 How are agriculture careers represented in current information channels?
2.3 What current continued education training is required of or available to guidance teacher-counsellors annually?
2.4 What is the most convenient and effective learning method for guidance teacher-counsellors?

Objective 3
To identify guidance teacher-counsellors preferred learning method for continued education.

3.1 What agri-food career opportunities are students most aware of currently?
3.2 Where are the gaps in student knowledge and available agri-food careers?
3.3 What is guidance teacher-counsellor’s role in awareness of agricultural careers?

These research questions were examined using a methodology involving two online surveys, one distributed to all guidance teacher-counsellors in Ontario and the other to a group of qualified experts and personnel. The full methodology is found in Chapter 3.

1.3 Research Limitations and Assumptions
There are some apparent limitations of the project and assumptions that were made during the research process. First, when completing a Master's Thesis, the timeline can be relatively short and condensed. There is a limited period of time to collect data, analyze the results and produce formal recommendations for future work. With this project involving two distinct surveys, the time needed for analysis was somewhat longer than expected. Due to time constraints, the questions that were analyzed had to be prioritized.

The time to return surveys was longer than expected because participants are very busy but at the same time, teacher-counsellors are available only during the school year (September to June). Research was conducted during Fall 2018 and Winter 2019, through a heavy workload time for the education system, especially guidance teacher-
counsellors. Due to the time constraints of participants, response rates were impacted. While all guidance teacher-counsellors in Ontario were given the opportunity to answer the survey, the research design expected a response rate of 6% to 9% based on similar studies. Ideally, a survey would have a much higher rate of response (i.e. above 10%). For the second survey, due to the required participant qualifications to complete this survey (i.e. experts), lower response rates were expected with the hope that respondents who did complete the survey, provided in-depth insights into the topic. This was the case, but again the sample size was low and ideally, a higher rate of response would provide greater confidence in the results of the study.

Due to the researcher’s familiarity with the agriculture sector and understanding of the Ontario high school system, personal bias could affect the results of the study. In this respect, the researcher continuously evaluated any emotional reaction to the topic of the study from design through to data interpretation and reporting.

The research argues that that guidance teacher-counsellors in Ontario have limited knowledge of the agricultural sector. Due to the various backgrounds of educators, some guidance teacher-counsellors will have a greater understanding of the sector, but overall very limited understanding was expected. Furthermore, a second assumption underlying this project is that most Ontario guidance teacher-counsellors need training and have time for this training in light of their many responsibilities for student health and well-being (Ontario School Counsellors’ Association, 2018). Teachers-counsellors complete limited to no continued education courses annually to expand their
understanding of the agricultural sector. This assumption is based on research that demonstrates an inadequate structure for continued education or professional development for guidance teacher-counsellors in Ontario (Ontario Ministry of Education, 2007).

1.4 Significance of Study
With the gap between agri-food consumers and producers continuing to grow, and most Canadians living in urban areas and becoming farther removed from the farm – this is the time to re-evaluate our current agri-food education system and shift towards innovation (The Canadian Centre for Food Integrity, 2018). In particular, education and awareness of the jobs available in the agricultural sector need to expand in order to demonstrate to those interested that the industry does not only employ farmers. The agri-food sector requires a variety of career positions from lawyers, to mechanics to communication experts. There are currently four jobs for every graduate from the Ontario Agricultural College (Synthesis Agri-Food Network, 2017), and with the industry continuing to grow – qualified personnel are required to fill this gap. Students in high school should be aware of the opportunities available for them in their future careers and after their parents although possibly well-below the influence of parents, guidance teacher-counsellors play an important role in a student’s life and career decisions during their adolescent years. This thesis examines the current information and knowledge base of guidance teacher-counsellors and the need for improved programming in this area. The research aims to support the Ontario education system so that it can ultimately build a strategic plan for education and employment in the agri-food sector. For the purposes of this research, the term ‘industry’ and ‘sector’ will be used
interchangeably to describe a group of companies or organizations that operate in the same segment of the economy or share a similar business type.

1.5 Overview of the Thesis

This paper is divided into five chapters. The second chapter introduces the development of agriculture in Canada over the past 100 years and illustrates the shifts in farm operations and careers. Chapter Two provides context to understand the current guidance teacher-counsellor sector within the education system in Ontario. A discussion of the current requirements for becoming a guidance teacher-counsellor is evaluated with a comparison between Ontario and other jurisdictions. Chapter Two highlights the role of the guidance teacher-counsellor in a student's decision to pursue post-secondary education and the continuously changing responsibilities associated with the position of a guidance-teacher counsellor. There is a review of the current programming available for agriculture career awareness throughout Ontario. Chapter Two also provides examples of programming in other countries in order to understand the strengths and weaknesses in the Ontario system. The final part of Chapter Two provides the conceptual framework for this research study. The framework underlines the research that needs to be conducted in order to provide results to the concerned parties: the agri-food industry and education system. The framework illustrates the need for collaboration and shared responsibility among all parties in order to reach the final goal of increasing agricultural career awareness.
Chapter Three presents the methodological approach used in this study. The research collected both qualitative and quantitative data using two online surveys completed by teacher-guidance counsellors and individuals in the education sector that have demonstrated an interest in increasing the awareness of agricultural careers. The survey questions are found in Appendix B and Appendix C.

Chapter Four presents the research findings. The results are compiled according to the two surveys and the following research questions. Subsequently, Chapter 5 discusses the relevance of the results as they relate the objectives of the study as well as the contribution to the body of knowledge and future implications for Ontario’s education system.

Chapter Six completes the study. It provides an overall summary of the research project, final conclusions of the project and the recommendations for future research and use of the results.
Chapter Two: Literature Review and Conceptual Framework

2.1 Introduction

With the global population constantly growing, there is a direct need for increased food production. The key socio-economic factors that drive food demand are population increases, growing incomes and urbanization (Conforti, 2011). As the population grows to an estimated eight billion people by 2025 (Conforti, 2011), the agri-food sector will have to increase both productivity and efficiency to meet the demand. In Canada, it is estimated that 58% of the value of agriculture production is exported as primary commodities or processed food and beverage products (Agriculture and Agri-Food Canada, 2016). In 2014, the agriculture sector in Canada generated $108.1 billion and accounted for 6.6% of Canada’s gross domestic product (Agriculture and Agri-Food Canada, 2016).

In 2014, the agriculture and agri-food system employed 2.3 million people, providing one in eight jobs in Canada and the employment rate continues on an upward trend (Agriculture and Agri-Food Canada, 2016). The University of Guelph completed a large project in 2017 with the goal to understand the future demand for trained personnel to enter the agriculture and food sector workforce in Ontario. The study found that there are four jobs available for every graduate from the Ontario Agricultural College (Synthesis Agri-Food Network, 2017). Moving forward, one of the recommendations made from the results of the study was to increase enrollment in the Ontario Agricultural College (Synthesis Agri-Food Network, 2017). Secondary education is a critical time for youth to develop the skills and understanding to make future career decisions (Marx,
Simonsen, & Kitchel, 2014). Children begin to gain an understanding about themselves during adolescence which allows them to make career choices based on their beliefs and preferences (Marx et al., 2014). A crucial element to increasing enrollment would be expanding the outreach of agricultural program options to high school students.

Teachers, guidance counsellors and the people that adolescents encounter when considering possible careers strongly influence their decisions and future career outcomes (Marx et al., 2014). Research has demonstrated that students who were exposed to agriculture topics through programs such as summer workshops were significantly more positive about pursuing careers and post-secondary education in agriculture (Fraze, Wingenbach, Rutherford, & Wolfskill, 2011). Research also demonstrates the important role a guidance teacher-counsellor can play in shaping an adolescence’s career choice, after their parents. Agriculture in the Classroom Canada (AITC) completed a study in 2017 that surveyed over 1000 high school students about their career goals, and key factors that contributed to their job choices (AITC, 2017). The results establish that 73% of grade 12 students would be ‘very likely’ to consult their guidance or careers counsellors to gain career information (AITC, 2017). When students were asked who had the most influence over their career choice, they ranked parents as the most influential with guidance and career counsellors to be the second most influential in their decision, although substantially less significant that their parents (AITC, 2017). Given the relationship between guidance teacher-counsellors and senior high school students, an effective strategy to address the problem of insufficient number of professionals entering the industry, would be ensuring that guidance teacher-
counsellors are knowledgeable about the opportunities within the agri-food industry, and have the ability to transfer their knowledge to the student population.

In order to explore the role of guidance teacher-counsellors in the agriculture career sector, it is critical to examine the qualifications of this position, current programs and resources available related to agriculture. It is beneficial to consider the role of guidance teachers-counsellors in different jurisdictions, provinces and countries. This study focuses on Ontario, Canada. Therefore, the next section of this chapter will examine a recent study on guidance teacher-counsellors in Ontario that assesses their education, training and the governments’ structure of their position. Section Two will explain the role of guidance teacher-counsellors, and the differences between their job description and their true daily responsibilities. The third section will study the current programming options for agricultural education and guidance teacher-counsellors to understand the gaps in the system. Finally, in Section Four, counselling systems around the world will be evaluated in order to identify potential strategies to develop the Ontario guidance teacher-counsellor and education system.

2.2 Development of Agriculture

As the global population rapidly increases to an estimated 9 billion in 2050, innovation in agriculture is critical to meet demand (Kock, 2013). Throughout history, agriculture has continued to grow, expand and continuously evolve in order to meet the needs of the population. In 2014, Canada was the fifth-largest exporter of agri-food products after the European Union, United States, Brazil and China (Agriculture and Agri-Food Canada,
The agriculture and agri-food system generated $108.1 billion for Canadians, accounting for 6.6% of Canada’s gross domestic product and this number has been increasing since 2004, except during the economic recession in 2009 (Agriculture and Agri-Food Canada, 2017). When reviewing opportunities in agriculture careers, it is necessary to understand the current scope of the industry and occupational implications of this.

Changes in Agriculture & Agri-Food Industry
Canadian agriculture has advanced over time to respond to difficulties, opportunities and the changing economy. In 1921, agriculture was the most common occupation, employing a total of 1 million Canadians (Statistics Canada, 2011). While the number of Canadians employed in agriculture have decreased since then, one in eight Canadians were employed in the agriculture and agri-food industry in 2014 (Agriculture and Agri-Food Canada, 2016). Within the agriculture and agri-food sector in 2014, the foodservice industry was the largest employer, accounting for 5.7% of all Canadian jobs followed by food retail at 3.5%, processing at 1.6% and primary agriculture at 1.5% (Agriculture and Agri-Food Canada, 2016).

Shift in Canadian Farms
There has been a steady decrease in the number of farms in Canada from 732,832 farms in 1941 to 193,492 in 2016 (Agriculture and Agri-Food Canada, 2017). On the other hand, the amount of land per farm has grown, from an average of 40 hectares per farm in 1871 to 332 hectares in 2016 (Agriculture and Agri-Food Canada, 2017).
Overall, Canadian farms have increased in size and decreased in number throughout Canada. Over time, this shift has altered the types of jobs available due to the development of the industry. Farms have become more specialized and producers have adopted innovative tools to increase yield and improve efficiency through the use of technology (Technology Quarterly, 2016). The globalization of agriculture during the 20th century allowed for large-scale trade but with increased information sharing, consumers are increasingly wanting to have locally grown foods (Smit, Nasr, & Ratta, 2001). In order to feed the world, locally grown food is not always possible but consumers who have the choice, are willing to pay a 5-25% premium to know where their food is coming from and understand who is growing it (Smit et al., 2001). This shift encourages smaller scale, local primary producers to continue their business while utilizing technology to attempt to ‘keep up’ with the large-scale producers’ yields.

Types of Jobs
The nature of the industry is moving toward precision and increased accuracy, the jobs available have transformed from mainly primary producers, to a small number of primary producers with numerous support personnel. The amount of technology used on farms today is constantly increasing as these tools move from the lab-testing and prototype phase to on-farm use (Technology Quarterly, 2016). As agriculture evolves, career options will continue to expand and diversify to meet the needs of the industry as the remaining rural farmers are forced to become specialized and productive (Smit et al., 2001). In order to support primary producers, new careers that previously did not exist are developing. For example, a crop producer would have a team of specialists that
advise them in their efforts including: agronomist, accountant, trading advisor, mechanic, communications manager, etc.

Agriculture is a Rural and Urban Livelihood Option
The key point when analyzing the development of agriculture is to understand that being employed in the agriculture industry does not mean that one must live in a rural area and be a primary producer (e.g. crop farmer or livestock producer). Many professionals in the industry live in urban environments and support the on-farm producers from afar such as livestock nutrition advice and accounting for the business. The use of technology has not only advanced agriculture production and telecommuting into and from rural areas, but it has also allowed increased communication and distribution of critical information without face-to-face interaction being necessary (Hambly & Lee, 2017).

2.3 Position Requirements for Ontario Guidance Teacher-Counsellors

The formal training of guidance teacher-counsellors in Ontario has no consistent or structured framework to follow. Guidance teacher-counsellors in Ontario have a wide range of educational levels and have completed various training programs. Due to the inconsistent training requirements, there is confusion among the wider public as well as with the professionals themselves (Nadon, et al., 2016). It may be argued, that there should be a comprehensive set of minimum standards applied across Ontario in order to design and assess effectively the key experience criteria for guidance teacher-counsellors. A recent Canadian study by Nadon, Samson, Gazzola and Thériault in 2016 utilized qualitative research to explore how teachers recognize and explain the
process of becoming a guidance teacher-counsellor in Ontario. The research confirmed the lack of uniformity in the training and experience process through several interviews with practicing guidance teacher-counsellors. The overall conclusion was that although not all practitioners need to hold identical resumes, the education system would benefit from increased structure in the standards (Nadon, et al., 2016). When there is an outline of competency-based standards that are met through experience, education, knowledge and skills, the disciplines’ dependability is dramatically increased to the public and professionals (Nadon, et al., 2016).

Figure 2.1 The shift towards competence-based education (Mulder, 2012).
Competency based education is a concept that encompasses the teaching of knowledge, skills and attitudes towards a specific subject (Mulder, 2012). It should be mandatory for guidance teacher-counsellors in Ontario to have competency-based education throughout both their initial qualification education as well as career development education in order to be effective in their role. By utilizing a competency-based education strategy when evaluating and designing counsellor training, it ensures that the graduates will not only have the knowledge but also obtain the skills to guide the students to their individual path (Mulder, 2012). Figure 2.1 illustrates how knowledge and facts can be developed into professional competence. The figure captures the difference between subject mastery and professional competency and identifies the key steps to bridge the gap between the two. Agricultural education specialist, Martin Mulder from Wageningen University in The Netherlands, presents several key elements that contribute to making the shift from understanding facts to obtaining competence in the subject that can be applied to Ontario counsellors specifically. The top priority elements should be assessment, learning and vision. When developing a program, it is necessary to understand the overall vision and goals associated, which in this case would be providing training that allows guidance teacher-counsellors to be knowledgeable about agriculture careers and have the skills to communicate these opportunities. Second, learning is an important part of the program and identifying the best techniques for educating counsellors is critical to successful training. As technology continues to advance, alternate education techniques such as online training, modules and interactive sessions grows too. Finally, assessment initiatives need to be in place to
complete the program in order to measure the effectiveness of the training or education platform.

According to Nardon et al (2016) Ontario guidance teacher-counsellors are generally highly educated individuals but mostly in fields other than career and school counselling subsequently, managing their positions via their teaching careers and personal life experiences instead of through a formal theoretical framework. Ontario guidance teacher-counsellors are officially qualified with a teaching degree and an additional courses, which requires a workload of 115 hours (Nadon, et al., 2016). In comparison, guidance teacher-counsellors in Prince Edward Island and Newfoundland are required to a have a post-secondary teaching degree as well as a Master’s in counselling psychology or related topic (Canadian Counselling and Psychotherapy Association, 2012). Following other provinces, The United States also requires guidance teacher-counsellors to hold a master’s degree in career guidance.

In Ontario, to become a high school guidance teacher-counsellor one must have completed a minimum three-year postsecondary degree, obtain a mandatory teaching degree, and have either completed additional guidance counsellor qualification courses or completed a graduate degree in counselling or psychotherapy (Canadian Counselling and Psychotherapy Association, 2012). In the United States, although all states have specific requirements based on their education system, most states require a guidance teacher-counsellor to have a graduate degree in school counselling and guidance as well as experience in the field (American School Counselor Association, 2019). In order to evaluate school counsellors in the US, some states have assessments that guidance
teacher-counsellors must complete in order to qualify for the role. For example, in Colorado an applicant must have completed a School Counselling and Guidance Specialty Assessment test with a minimum score. In Delaware applicants must complete a Core Academic Skills for Educators test as well as a Professional School Counselors test with minimum scores in each (American School Counselor Association, 2019). Other assessment tools include written school counselling exams and accredited internship programs.

For further comparison, to become a guidance teacher-counsellor in Ireland one must have a post graduate diploma in Careers Guidance or a master's level degree in either Education or Counselling (Euroguidance, 2017). An online resource, “Euroguidance” provides information on numerous European Union countries and their requirements and goals for guidance teacher-counsellors. Understanding job requirements for guidance teacher-counsellors throughout parts of the world is beneficial when evaluating the potential gaps in the Ontario education system such as education level requirement, and mandatory continued education initiatives.

2.4 The Role of a Guidance Teacher-Counsellor

In Ontario, guidance teacher-counsellor services involve assessment, information giving, individual counselling in the field of careers, and are responsible for organizing school-wide events relating to careers and post-secondary education (Nadon et al., 2016). The Ontario School Counsellors’ Association (OSCA) defines the mission of guidance teacher-counsellors as the following: “Support and promote students’ well-
being and continuous growth in three areas: personal (student) development, interpersonal development, career development in order to help them develop resilience and realize their potential (success) as individuals and as valuable members of society” (Ontario School Counsellors’ Association, 2015). This mission statement is vague and does not clearly identify responsibilities for the guidance-teacher counsellors. Based on the wide range of responsibilities set for guidance teacher-counsellors, it is fundamental to provide guidance services for all high school students. The number of guidance teacher-counsellors employed in Ontario has been declining since the 2014-2015 school year (Ministry of Education, 2018). The number of full-time guidance teacher-counsellors in the 2016-2017 school year was 1,382 (Ministry of Education, 2018) for a total of 605,833 (Ontario Ministry of Education, 2018) secondary students. When guidance teacher-counsellors are responsible for too many students, they are unable to fully and effectively aid those students in their career and life choices.

Research has demonstrated a discrepancy between the Ontario Ministry’s outlined role of guidance teacher-counsellors and the tasks that most guidance teacher-counsellors complete during a work day (Nadon et al., 2016). A group of guidance teacher-counsellors assessed their time breakdown throughout the school year and provided the following analysis; 25% career counselling for students, 40% - academic issues, 20% personal counselling, and 15% on social issues (Nadon et al., 2016). Due to the unclear structure of responsibilities, comments from guidance teacher-counsellors revealed that if a new principal was hired, then the counsellors should expect a major shift in the roles
because each principal has different expectations of the counselling team (Nadon et al., 2016).

OSCA uses the classic framework of Maslow's Hierarchy of Needs to understand an individual student’s needs and requirements throughout their education journey. In the document provided by OSCA which identifies the role of guidance teacher-counsellors, each hierarchical step is briefly discussed, and conclusions are stated about how Maslow’s structure is applicable for guidance teacher-counsellor use.

Throughout all investigations into guidance teacher-counsellors, it is evident that a mandatory supervised work period and/or clinical training would be a beneficial requirement to qualify to become a professional guidance teacher-counsellor in Ontario. Currently, there are no formal supervised training or internship type programs readily available to new guidance teacher-counsellors in Ontario. The lack of mentoring type
programming causes professionals new to the field to heavily rely on their peers and senior guidance teacher-counsellors for continuous support. When recently qualified guidance teacher-counsellors enter the workforce, they require continuous support because they may not fully understand their responsibilities, specific task requirements, or how to handle students coming in with difficult questions (Nadon et al., 2016). Participants from the study stated that they would need to be on the phone to other schools’ guidance teacher-counsellors if they did not have support from senior leadership in their own school (Nadon et al., 2016). Direct quotes from participants verified that new guidance teacher-counsellors have “no idea what to do” and enter the position with only a vague notion of what the role entails (Nadon et al., 2016).

Through the evaluation of Ontario guidance teacher-counsellors’ education and training requirements, it is apparent that the system could benefit from improvement. The Ontario education system should assess other jurisdictions’ existing programs and identify requirements for guidance teacher-counsellors and build upon this experience. To improve students’ and the public’s trust that guidance teacher-counsellor will fulfill their responsibilities, formal guidelines as well as a theoretical framework need to be implemented and enforced in the school system.

2.5 Current Programming Opportunities

When building a platform for Ontario guidance teacher-counsellors to understand the types of careers available, a key element would be improving the existing programming available throughout the country. The identified stakeholders in agricultural education,
are the school system, education organizations, youth development organizations, and the entire agri-food sector (Parker, 2016). These stakeholders all have equal parts to play when working towards increasing agriculture career education efforts.

Agricultural education specialist, Becky Parker (2016), highlighted a four-step plan to increase awareness of the opportunities in the agri-food sector, these involve exposure, engagement, influence and action. For youth to be inspired to pursue a career in agriculture, they must first be exposed to the different opportunities available. Secondly, youth must participate in the programs such as co-ops, 4-H, farm tours, etc. to engage and gain first-hand experience in the field. The influence step in the process involves building a relationship between a student and a key influencer in the industry in order to deepen the understanding of the career opportunities. Finally, the action step is the student pursuing a post-secondary education and/or career in the agriculture industry. There are many players in the agricultural career awareness field throughout Canada but there are few programs that embody key elements from this four-step process.

Figure 2.3 Structure for increasing agri-food career awareness Parker, B. (2016).
The four-step structure designed by Parker (2016) highlights applicable and direct steps to increase awareness of careers in the agri-food sector for students and education professionals. A comparison of the Ontario School Counsellor Association’s structure of Maslow’s Hierarchy, to the Parker (2016) framework finds similarities between them. The graphics are both pyramid structures with one being the invert of the other, highlighting the critical need for a base of knowledge or minimum standards. As you move towards the peak of each pyramid, the suggested needs narrow and are very specific to the goal. Maslow's Hierarchy places 'Esteem needs' towards the top of the pyramid and the Parker structure places ‘Influence’ towards the top where a student has the opportunity to build relationships with key influencers (Parker, 2016). These two levels of the pyramid refer to an understanding of the task or topic at hand which results in the achievement of a sense of accomplishment.

There are other relevant agricultural careers programs across Canada. Farm Credit Canada (FCC) has partnered with local high schools to promote agricultural careers through a program called, Farm Credit Canada Agribiz Case Study: Promoting Careers to Generation Ag (Parker, 2016). The program was piloted in the fall of 2015 and involved industry professionals coming into classrooms to discuss their career choices and personal experiences with the students (Parker, 2016). The program also allowed students to participate in tours of different agriculture businesses that contribute to the local economy (Parker, 2016). The students were asked to develop a marketing plan for an agriculture business, and at the end of the program they had to present their project to a panel of industry representatives (Parker, 2016). In order to spread the message of
the program and agricultural opportunities, a social media campaign involving cracking an egg on your head began so that even students who did not have the opportunity to participate in the program had increased awareness through social media campaigns (Parker, 2016).

As well, Golden Hills School District in Alberta, Canada, has supported a program that encourages students to gain real life knowledge in their field of interest. They encourage students to partake in experiences with local agri-food companies. The students can go on day shadowing trips, or longer-term co-ops depending on the student’s individual needs (Parker, 2016). Students have previously participated in co-ops with heavy machinery mechanics as well as front desk placements at parts shops (Parker, 2016). The program exposes students to various opportunities and allows them to further engage with industry professionals to gain a deeper understanding of the industry and that specific career.

Notably, 4-H is an international, non-profit, youth development organization that provides programs for students to participate in projects that are mostly related to agriculture. These programs expose students to various agri-food industry professionals and career opportunities. Throughout Canada there are a total 24,874 members across, 1926 clubs (4-H Canada, 2017). Ontario houses approximately half of those clubs at 953 with 6,019 4-H members (4-H Canada, 2017). 4-H organizations across the country have recently been partnering with the provincial education ministries to facilitate programs that allow students to earn high school credits for participating in 4-H projects
and activities (4H Nova Scotia, 2018). This programming not only encourages students in grades 11 and 12 to participate in extra-curricular activities, it allows them to tailor their education to fit their personal aspirations and gain an understanding of potential future education opportunities. Ontario has not yet adopted this program but hopefully it will soon follow British Columbia, Nova Scotia, Saskatchewan, and Prince Edward Island who have already implemented the project.

Among the well-known initiatives in Canada is Agriculture in the Classroom, an organization that delivers curriculum-based resources related to agriculture for students of all ages. Agriculture in the Classroom provides resources such as downloadable activity kits that teachers can utilize to explore various agri-food related careers with students in grades 9 through 12 (Agriculture in the Classroom Canada, 2018a). The resources discuss careers such as agricultural business, plant science, food science, etc., and explains the skills needed for each position with a linked activity to work through (Agriculture in the Classroom Canada, 2018a). AgScape, which is Ontario’s branch of Ag in the Classroom, built and supports a website that has interactive videos of 75 professionals in the industry highlighting their careers for students to watch and gain a better understanding of the opportunities available (GrowingCareers.ca, 2016). The website features both a student centre with tips for job searching and scholarships, and a teacher centre which provides simple access to curriculum linked resources (GrowingCareers.ca, 2016). Another one of the interactive programs that AgScape supports is the Teach Ambassador Program where a certified teacher directs a lesson on an agriculture related topic for grades seven through twelve (AgScape, 2019). In the
grade 12 program, students explore the vast opportunities available in the industry for all interests from business to science (AgScape, 2019).

Throughout Ontario and across Canada, there are numerous extension organizations that support agriculture literacy and encourage careers in agriculture (Hambly & Lee, 2018). The education system needs to collaborate with these extension organizations in order to improve the effectiveness of the programming. As Fauske (2002) highlights, collaborative governance is becoming a desirable descriptor in education and a call to action for governance committees. When implementing a collaborative governance system which takes into account the education system, extension organization and the agri-food industry, it is critical to incorporate double loop learning which incorporates learning through both knowledge about the process and integrating new practices into real situations in order to complete changes in practice (Fauske, 2002). A study on the evaluation of successful collaboration among agricultural teachers and extension agents highlights factors that contribute to effective programming and factors that have the potential to decrease the opportunity for successful collaboration. A repeating theory is that successful collaboration starts with each individual’s and organization’s willingness to participate and contribute to the collaboration efforts (Murphrey, Harlin, & Rayfield, 2011). Factors that have been shown to have a negative impact are: physical distance between collaborators; poor clarification of each individuals’ role; and time conflicts relating to communication (Murphrey et al., 2011). Everyone involved should be aware and have an understanding of the other participants’ careers and have a positive perception of their role within the project (Murphrey et al., 2011). All stakeholders share
an equal role in learning solutions to improve agriculture career awareness in today’s students.

2.6 International Guidance Teacher-Counsellors Programs

Agriculture career programming and awareness plans outside of Canada can inform Ontario’s strategy to expand programming and increase students’ knowledge of the nature of the global opportunities available in the agri-food sector. Other countries such as New Zealand, and the United Kingdom are experiencing similar issues to Canada; in many countries, the population is increasingly urban and the amount of youth interested in or aware of careers in agriculture is declining (Parker, 2016).

For example, New Zealand has programming in place that supports the four-step method mentioned above, which encourages students to continue their education within the agri-food industry. In New Zealand, there is a program called Get Ahead which involves all three key stakeholders: the education system, education organizations as well as agri-food companies (Parker, 2016). Students participate in competitions that evaluate small technical skills involved with several different career options. The students complete tasks such as a small mechanical fix, or assessing financial statements to increase their exposure to the wide range of opportunities (Parker, 2016). To further students’ engagement with the agricultural sector, New Zealand also has a program called the Teen Ag Club. The program is set up in high schools across the country to allow students to connect and network around agriculture careers and encourages them to participate in ag related competitions (Parker, 2016). The final
program is set up to influence students, this is called In2 The Field. This program encourages students to pair up with a mentor in the agricultural field. By fostering a relationship, students can develop a thorough understanding of the position and take action towards achieving this career (Parker, 2016).

In the United States, there is a program called Future Farmers of America (FFA) which is a youth development organization focused on the agri-food sector (Future Farmers of America, 2018).

![The Three-Component Model](image_url)

Figure 2.4 Future Farmers of America: The Three Component Model (Agricultural Education, 2015).

The FFA utilizes a three-component model where students are engaged through classroom/laboratory activities, supervised agricultural experiences as well as the FFA events such as leadership opportunities and agriculture related competitions (Agricultural Education, 2015). Career Development Events are an excellent example of
how students can be exposed to information about the agri-food sector, given an opportunity to engage in an interesting activity, and see the real-world application of agriculture topics.

The review of existing literature and programming suggests that in some countries there is more awareness of overcoming stereotypes associated with career opportunities in the agricultural industry, compared to Canada. Stereotypes can discourage students from pursuing agricultural career paths in Canada (Parker, 2016). In Scotland, there is an ambassador program that connects students with careers in the Food and Drink industry to overcome stereotypes such as manufacturing jobs which many people view as being low paying and degrading (Parker, 2016). In Jamaica, the involvement of 4-H in schools attempts to overcome similar stereotypes (Parker, 2016). However, many people still associate an agri-food career with subsistence production or low-waged income. Although programs outside of Canada have different goals, methods and systems, the Ontario agricultural industry can benefit from reviewing and adapting current programming paying attention to specific elements such as overcoming social stigmas associated with agri-food careers, relevant education level and type of education programs (e.g. awareness campaigns, action in the classroom, out-of-classroom experiential, etc.).

2.7 Conceptual Framework
The conceptual framework in Figure 2.5 for this project illustrates how the research is premised on an argument arising from the review of literature that to the education industry requires effective programming to improve agriculture career awareness. The conceptual framework highlights that research is needed to inform invested parties - the education system and the agriculture and agri-food industry - with the opportunity for knowledge on the subject.

![Figure 2.5 Conceptual Framework](image)

With the knowledge of effective training and learning methods for guidance teacher-counsellors, this study presents a framework modified from Fauske (2002) and the concepts of collaboration and collaborative governance between invested parties with the same goal. With collaboration, it is argued, effective programming to increase awareness of agri-food careers can be developed and accomplish the final goal of informing high school students. The conceptual framework further illustrates how filling
gaps identified in this study can ultimately lead to increasing the number of students interested in pursuing careers in the agriculture and agri-food industry. The conceptual framework is built on the overlap of the education system and agricultural industry circles to indicate how the interested parties need to put their efforts together. The operative concept from the literature is collaborative partnerships enabling the connections between education, career planning and the agri-food sector. Recent work from Bhurke and Patil (2018) demonstrates that collaborative partnerships between the education system and the corporate sector help to bring awareness for agricultural university students about the careers available upon graduation. This research focuses on high schools students but similar principals apply – each group has the common goal of fulfilling career aspirations of young students and brings both strengths and weaknesses that complement each other to the partnership (Bhurke & Patil, 2018).

Key systems for a young person’s development are both education and the availability of counselling services. As the education system evolves and the student population’s needs shift, research has shown counselling in high schools to be a positive and useful intervention for adolescents and provides value for students in relation to mental health, achievement and behavior (Pattison & Harris, 2006). Considering the complex role that the guidance team is responsible for during the school year (Ontario School Counsellors’ Association, 2018), creating an opportunity for shared responsibility between the education system and the agri-food industry would be beneficial. There is programming in Canada that currently employs this model, the Choose Science program that is a collaboration between many science industry partners, and the government of Canada (The Government of Canada, 2018). The STEM (science,
technology, engineering and math field) initiative aims to increase the number of Canadians in STEM positions through building resources and materials to get individuals started and motivated to pursue careers in this field (The Government of Canada, 2018). The conceptual lens for this project involves collaborative partnerships and a shared responsibility for human resource development which begins at an early age for youth when they are building their career pathways.

Through evaluation of current training and education strategy in Ontario, three main areas of improvement need to be addressed in the research and programming. The first area is how relevant research and increased training would aid in the development and education of guidance teacher-counsellors. The above discussion of the literature indicates gaps in current knowledge among researchers and practitioners. Studies may be conducted into the types of career development available for counsellors in order to understand the key areas for updating the requirements in Ontario programs. Continued education courses and programming, based on international practices, are argued to be beneficial to the industry in order to expand guidance teacher-counsellors' understanding of the upcoming career opportunities/market demand for students in a continuously evolving career network.

The conceptual approach suggests that a second key area for apparent improvement is increasing communication and building the relationship and collaboration between the education system, agricultural companies and education organizations. Through working together, these organizations can develop a strategy for a greater presence to
students and develop programming that enables a complete system approach by including all invested parties. By increasing communication, the education system can connect with agricultural companies to understand the key skills that employers are looking for and develop programming that builds those talents. Using the framework of Maslow’s Hierarchy, education organizations and the Ontario Ministry of Education can work to understand the basic needs of students in order to achieve their full potential. Programming should be developed that provides students with the necessary tools to cultivate creative thinking and allow for self-fulfillment during their career lifespan. In order to have successful collaboration between organizations, the personal commitment of individuals and willingness to work together is necessary (Murphrey et al., 2011). Key factors that need to be addressed for successful communication are physical distance between organizations, understanding of each other’s professions and the clear roles that each organization plays in the potential project (Murphrey et al., 2011).

Finally, the last area that is of importance is increasing the awareness of agriculture careers to all high school students regardless of whether or not they spend part of their working lives in the industry. Through communication between the education system and agricultural companies, efforts can be put forward to make agricultural career options more ‘mainstream’ for students so they can understand the career options available but also, the importance of the sector. As Ricketts and Place (2005) outlines in their work, cooperative partnerships help to improve the reach of agricultural educators and extension agents with the goal of building on each other’s strengths. Ricketts and Place (2005) found that agricultural teachers and extensions agents value cooperation
between one another and minimal training or exposure is needed to improve the current communications and cooperation between those groups. Organizations invested in this effort can work to be present at career fairs, provide co-op positions for high school students and conduct research on which careers best suit each education district in Ontario. The education system needs to cultivate programs that encourage and enable students to follow a mentor that is currently working in the industry and participate in an internship type program that could potentially be accredited (earning high school credits). By linking with a mentor and immersing themselves in their chosen industry, students can determine if that career is the correct choice for them.

Above these three main conceptual arguments, the literature suggests that developing programming for guidance teacher-counsellors must support communication between all stakeholders. Building partnerships to increase career awareness benefits from Mulders' (2012) framework of competency-based education. By drawing on the concept of competency, Ontario programs will have the capacity to provide knowledge for the guidance teacher-counsellors as well as the skills to utilize the facts and information learned. While encouraging competency-based education, guidance teacher-counsellors will have the ability to lead students in their career path, as well as their own (e.g. continuing education). Ontario could review and adapt the United States' strategies for mentor type programming and skill building in order to increase the capacity for those types of continuing education programs.
2.9 Summary

After parents, although possibly well-below the influence of parents, guidance teacher-counsellors in Ontario play an important role in a high school students’ life and impact their future career decisions significantly. To increase the awareness of the many agriculture career opportunities available to them, it is important to start at the source of career information - the guidance counsellor’s office. As an industry, agriculture would benefit from an increase in the number of students interested in the field due to the number of jobs and limited applicants for those positions.

Through exploring the education and experience requirements of guidance teacher-counsellors, it became evident that pending time constraints, internship and practicum programs would be beneficial in order to further build a guidance teacher-counsellor’s skill and understanding of their role in the school system. With continued education, ideally annually, counsellors could increase their knowledge of developing careers in the agriculture sector as well as other industries. By reviewing and analyzing other countries’ agricultural career programming, the Ontario Ministry of Education can improve their current methods to reach high school students. The industry needs to work together between commodity groups, such as Dairy Farmers of Ontario and education organizations such as Ag in the Classroom to enhance their program development in order to make a greater impact on students across Ontario. By providing more opportunities to explore career paths, the Ontario school system can overcome stereotypes, increase the number of students who pursue careers in agriculture and address the shortage of professionals in the industry.
Chapter Three: Methodology

3.1 Introduction

This chapter explains the methodology of this study. To assess Ontario guidance teacher-counsellors’ understanding and knowledge of agriculture careers, this research used two surveys hosted on Qualtrics to collect data. Survey One was designed to be available to all guidance teacher-counsellors in Ontario through mass distribution of the survey link. The second survey was designed to be completed by individuals in the education system who have shown interest in improving the awareness of agriculture careers. The two different participant demographics were chosen to create an opportunity for comparison between individuals who have shown specific interest in the subject and the general population of guidance teacher-counsellors. Each of these methods is described below. This chapter explains the research context for the project, the distribution methods for each survey, the rationale behind the specific survey questions and the data analysis methodological approach.

3.2 Research Setting

All research for this project was conducted within Ontario, Canada in order to limit the scope and increase the detail within the results. Based on the number of students and distribution of grades in the education system, the number of guidance teacher-counsellors varies every year to meet the needs of the system. See Figure 1. for number of guidance teacher counsellors in previous years.
The research conducted for Survey 1 was sent to all of the 1,382 guidance teacher-counsellors across all school boards (English Public District School Boards, English Public District School Boards, French Catholic District School Board and French Public District School Boards) throughout the province. See Appendix D for reference to the geographical maps of all four school boards.

### 3.3 Research Approach

This research used an exploratory, mixed-methods approach. This approach was relevant because there is a knowledge gap in Ontario on the role of guidance-teacher counsellor in agri-food career decision-making. The most recent study focused on general career planning (Nadon et al., 2016).

To operationalize the research, two online surveys were used to collect qualitative and quantitative data for this project. Due to the large geographical range for this project, online surveys were the most efficient method of data collection that allowed for guidance teacher-counsellors throughout the province to have the opportunity to participate. The ability for a large range of participants to have access to the survey is one of the many advantages to online surveys, with others being that they are inexpensive, flexible and can apply complex conditional logic with the presentation of
the questions (Roberts & Allen, 2015). For example, Survey 1 presented certain questions to participants based on their answers to previous questions. This design was intended to decrease survey fatigue and personalize the survey due to the fact that participants were not asked questions that that did not pertain to them specifically. A related and key advantage to online surveys is the anonymity factor that allows participants to feel that they can answer truthfully without repercussions. Research suggests that within certain populations, online surveys increase the participants’ comfort level and encourage their responses to be more honest (Riggle, Rostosky, & Reedy, 2005). As this survey asked questions about the guidance teacher-counsellors’ knowledge and training, they had the potential to feel that if individual results were released, it could have affected their position.

In Survey 1, the question format was structured from simple multiple-choice answers that gathered basic information to longer format open ended question to encourage participants to answer thoughtfully and honestly. The first few questions in the survey were easy for the participant and take seconds to answer as these set the tone for the rest of the survey and can impact the decision of the whether the participant will choose to continue (Ritter & Sue, 2007). The open-ended questions were asked once the participants began to recall and reflect about their experiences. Further into the survey, participants would feel invested and willing to complete more complex and time-consuming questions (Ritter & Sue, 2007).
As the eligibility requirement for Survey 2 was to have shown specific interest in the subject of agriculture careers, the questions were all open-ended to ensure participants had the opportunity to share their opinions and advice on the subject. One of the issues associated with online surveys is that researchers do not have the opportunity to follow-up or ask questions when a response is unclear (Engelbrecht & Edlund, 2016). For this reason, the questions in Survey 2 were designed to facilitate simple, clear responses that could be analyzed.

3.4 Development and Piloting of Survey

Through reviewing the current information on guidance teacher-counsellor’s role and investigating the need for an increase in qualified personnel entering the agricultural workforce, the research objectives were developed. The three main research objectives became clear and the survey questions were designed to answer those key points (see Research Matrix Table in Appendix A). The first objective is to understand the current understanding and knowledge base of Ontario guidance teacher-counsellors on opportunities in agriculture careers. In order to address this point, Survey 1 hosted questions that allow the respondents to rate how familiar they feel they are with the topic and require them to answer questions that show where they have directed students in the past who has suggested a career in the agricultural industry or food sector. The second objective of this research is to identify the current access to information channels on agri-food careers. In order to evaluate this objective, the survey presented questions where respondents were asked to provide the current channels, they have access to for information on agricultural careers. Finally, the third objective is
to identify what agri-food careers students are most aware of currently and find the gaps in awareness. This objective was focussed on with the survey questions that asked respondents to identify agri-food career types that students had proposed to them previously. While this question asked guidance teacher-counsellors for their answer, the results are a direct reflection of what careers students are currently aware of and actively pursuing. The survey questions for both surveys were designed with the Research Table (refer to Appendix A) in mind, ensuring that the goals of this study were addressed through the questions.

The final survey draft was reviewed by industry professionals for suggestions and edits regarding question formatting, ease of survey for respondents and to ensure the goals of research would be reached using the surveys. The reviewers brought a wide range of knowledge to the survey, with professionals from the agricultural industry, individuals who work with guidance teacher-counsellors and academics who have completed several research projects.

3.5 Methods

Survey 1

The first survey was distributed online through the University of Guelph’s Qualtrics software and distributed to guidance teacher-counsellors in Ontario. The online format of the survey was utilized to encourage completion by the largest number of qualified individuals possible in the two-month timeline. The survey was sent to guidance teacher-counsellors only in order to manage the specific research objectives and gain
reliable responses from individuals who have hands-on experience within the role. The survey was available to all 1,382 guidance teachers-counsellors, distributed through email to approximately 600 qualified individuals and promoted on social media. When the survey was closed, Qualtrics indicated that there was a total of 117 responses, however not all responses were fully completed surveys. Survey 1 evaluated guidance teacher-counsellors’ level of experience, current understanding and knowledge base of agriculture careers as well as their current strategies for directing students with an interest in the industry. For Survey 1, participants were asked to identify which school board in Ontario they are employed by in order to understand where the responses were generated from and if the results represent all of Ontario. The responses from this question were not used to analyze a potential comparison between each school board and the results. The second survey did not ask respondents to indicate their school board or location, but all participants were Ontario residents. A full copy of the survey is included in Appendix B.

Through industry partners, the link and description of the survey were distributed through e-newsletters, social media posts and email. The industry partners that collaborated are presented in Table 3.1:

<table>
<thead>
<tr>
<th>Table 3.2: Industry Partners</th>
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<tbody>
<tr>
<td>AgScape based in Milton, Ontario</td>
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<tr>
<td>The Ontario School Counsellors Association based in Hillsburgh, Ontario</td>
</tr>
<tr>
<td>The Ontario Agricultural College based in Guelph, Ontario</td>
</tr>
<tr>
<td>The Canadian Centre for Food Integrity based in Guelph, Ontario</td>
</tr>
<tr>
<td>Landscape Ontario Horticultural Trades Association based in Milton, Ontario</td>
</tr>
</tbody>
</table>
The survey started with focus on understanding guidance teacher-counsellors level of experience in their role and familiarity with the agriculture and food sector with background questions such as:

- Please indicate your education level and provide details such as school and program.
- How many years of experience do you have in a role as a Guidance-Teacher Counsellor?
- To what degree of experience do you feel you have with the agricultural industry or food sector?

The second section of the survey evaluated if students frequently proposed a career in the agriculture industry or food sector and where guidance teacher-counsellors currently direct students interested in the industry with questions such as:

- In your career, has a student ever proposed a career opportunity in the agricultural industry that they would like to pursue?
- Where did you direct them for post-secondary education options, or additional information to further pursue the career they proposed?

The final section of the survey has an emphasis on continued education and current information channels to gain an understanding of the types of courses guidance teacher-counsellor have completed and prefer through questions such as:

- Have you participated in any continued education programming designed specifically for guidance teacher-counsellors?
- Have you ever received information on careers relating to the agricultural industry or food sector from guidance-teacher counsellor information channels?
The survey employed a variety of question formats to ensure accurate collection of data and maintain the respondents’ attention throughout completion of the survey. For simple quantitative questions, multiple choice and drop-down menu formatting was used with pre-written responses to obtain, quick and accurate results. When additional detail was needed, “fill in the blank” options were provided to respondents to provide a description of their answer. For example, participants were asked to check off their level of education and then provide the school they attended.

Survey questions in a slider bar format were included with a small range of possible number options for participants to indicate responses such as how many continued education courses they have completed.

The survey format was designed to skip certain questions when participants indicated a certain response in the previous question. This skip logic was intended to not burden participants with questions that do not pertain to them and to obtain respondent-specific results.

Finally, the last question format was open-ended boxes and the participants had the opportunity to provide detailed responses to the questions. This format was used for questions such as; Where did you direct [students] for post-secondary education options, or additional information to further pursue the career they proposed? These questions were limited to simplify data analysis and ensure precise results but were necessary to obtain detailed information from participants.
Survey 2

The second survey was distributed online through the University of Guelph’s Qualtrics software and intended for specific distribution to qualified professionals. The survey was distributed to individuals in the education system who have shown an interest in the topic of improving guidance teacher-counsellor awareness of the opportunities in agriculture careers through attending conferences, webinars, workshops, etc. on the subject. The survey was distributed to approximately 80 qualified personnel with a total of 33 responses when the survey closed. The qualified respondents were chosen in order to evaluate and compare between the general population of guidance teacher-counsellors in Survey 1 and the perceptions and ideas of individuals who have shown interest in this subject area. The survey evaluated qualified respondents understanding of the programming currently available to guidance teacher-counsellors, and their opinions on both the most convenient form of education and most effective learning method. A full copy of the survey is included in Appendix C.

Through industry partners, the link and description of the survey were distributed through individual emails to qualified respondents. To comply with the ethics approval for this project, distribution lists were not reviewed, and the survey was distributed by the partners. By not reviewing the email lists, there is potential that the same participants could have answered both surveys.

Refer to Table 2: Industry Partners, to review the partners that collaborated.
The second survey was short and precise with only four questions in order to decrease the opportunity for survey fatigue and to allow for detailed responses to all questions. The first question provided the opportunity for respondents to outline their recommendations for edits to current programming and materials. This question was designed to gain information on both the current programming available as well as if there is an overwhelming view on potential strategies to improve instead of starting over with new projects. The second question asked respondents to provide details about what they feel is the most effective learning method for guidance teacher-counsellors. This question was designed to look at what respondents feel is not necessarily the easiest, but the most effective way for educating guidance teacher-counsellors in the future. The third question gathered participants thoughts on the most convenient way to distribute valuable information to guidance teacher-counsellors. This question was designed to create a comparison between the most effective learning method and most convenient. Regardless of how well the programming is designed, guidance teacher-counsellors need to have the opportunity, time and willingness to participate. The final question simply asked participants to outline any additional suggestions they have for the industry in relation to agriculture and food careers. This question was included to allow respondents to provide details they wish to share that perhaps did not fit within the scope of previous questions.

All questions on Survey 2 were open-ended response formats for qualitative data collection and to encourage detailed and precise answers from participants. These questions were limited to simplify data analysis, ensure detailed responses and limit
respondent fatigue results but were necessary to obtain detailed information from participants.

3.6 Data Analysis

For data analysis, Survey 1 and Survey 2 were analyzed separately. The qualitative data, open-ended questions, from both Survey 1 and Survey 2 was coded and categorized using NVivo software into preliminary categories derived from the Research Design Matrix. The data was sorted, re-read and analyzed until clear themes developed, resulting in coded categories. The quantitative data obtained from Survey 1, was analyzed using straightforward graphs, tables and percentages developed in through both Excel and the Qualtrics survey software (see Chapter 4).

3.7 Ethical Considerations

Overall, this survey was a very low risk to participants. The only risks being minimal social risks such as concern with lack of knowledge to answer the questions and potential for answers to be released comparing school boards and participant responses. To mitigate these risks, participants were encouraged find a private area to answer the survey and they were informed that individual results would not be released. The participants were also notified that results would not be used to compare institutions, school boards or create a ranking system.

This project received approval from the University of Guelph’s Research Ethics Board on November 12th, 2019. The certificate of approval is attached in Appendix D of this document.
3.8 Summary

Chapter Three reviews the methodology and explains the rationale behind the research methods. Online surveys were used due to the effectiveness and ease when a large geographical range of participants is necessary. The research was conducted in Ontario with guidance teacher-counsellors and individuals interested in agriculture career awareness, with a total of 150 respondents for both surveys. The rationale behind the research approach was discussed in detail. Each survey and its questions were explained with regard to formatting, and reasoning behind the chronological approach. A description of the data analysis was included to frame the research results in the next chapter.
Chapter 4: Results

4.1 Introduction
Research was conducted in order to evaluate the current awareness relationship between guidance teacher-counsellors in Ontario and agricultural careers. The research for this projected was conducted through two online surveys hosted on the Qualtrics software platform hosted by University of Guelph. The qualitative data was analyzed using NVivo software and sorted to develop themes within the responses. The quantitative data was reviewed, and simple graphs were built to display responses effectively.

4.2 Overview of Survey Participants
For this research, the two different surveys were distributed through similar communication channels, but the target audience was different. Survey 1 was distributed to all guidance teacher-counsellor throughout the province and all school boards in hopes of gathering research results that reflected Ontario as a whole. Survey 2 was distributed through specific channels because the desired respondents had to meet certain criteria. In order to qualify for Survey 2, respondents needed to be a part of the education system and have previously demonstrated an interest in the topic of agricultural careers. Qualified respondents had attended conferences on the topic, listened to webinars and/or are newsletter subscribers for organizations that promote this subject. Extension organization utilized their attendee lists and distributed the survey to qualified individuals.
4.3 Survey 1 Results

Role in Education System

The first question that respondents answered on this survey asked them to identify their role in the education system. This question was designed to ensure that only individuals with a title of guidance teacher-counsellor were allowed to continue answering the remaining questions. There were a total 104 respondents to this question, with 79 indicating that at least part of their role was a guidance teacher-counsellor. Only the 79 that selected that option had the opportunity to complete the rest of the survey.

Represented School Boards

The second question asked participants to indicate which school board in Ontario they were employed by. There is a total of 72 school boards in Ontario (refer to Appendix D). There was a total of 67 respondents who chose to answer this question and from the 67 respondents, 22 school boards were represented which accounts for 32.84% of school boards in Ontario.

Education Level of Respondents

In order to understand the education levels of the respondents, this question asked participants to identify the types of degrees they hold. There was a total of 73 respondents for this question. Of the 73, 80.82% indicated that their highest level of education is a Bachelor’s degree and 19.18% indicated that they have Master’s degrees.
in addition to the Bachelors.

Experience Level
Participants were asked to indicate the number of years of experience they have in their role as a guidance teacher-counsellor. There was a total of 74 responses to this question. The highest percentage of responses (47.3%) indicated that they had 11 years or more experience as a guidance teacher-counsellor with the second largest percentage (25.68%) indicating that they had minimal experience of 0 to 2 years.
Figure 4.2 Guidance Teacher-Counsellor Years of Experience: How many years of experience do you have in a role as a Guidance-Teacher Counsellor?

Agriculture Knowledge

This survey question asked participants to indicate their perceived degree of experience with the agricultural industry and food sector with a scale of 0 to 5, with 5 meaning they were very familiar with the agricultural industry. There was a total of 72 responses to this question. The mean degree of experience that participants indicated was 2.26. The highest category selected being a level 2 with 21.6% of respondents choosing this category. The self-supported knowledge level is overall very low with only 5.56% of the population indicating they are very familiar with the industry. Nearly the same amount of people indicated that they have zero knowledge of the industry at 4.17% with the majority of the respondents choosing the low end of the scale between 0 and 2.
Figure 4.3 Perceived Degree of Experience with Agriculture Industry & Food Sector: To what degree of experience do you feel you have with the agricultural industry or food sector?

Careers in Agricultural Industry

The guidance teacher-counsellors were asked to indicate the number of students that have proposed, inquired and shown interest in a career opportunity in the agricultural industry. There was a total of 69 responses to this question. The highest category chosen by respondents indicated that 46.38% of guidance teacher-counsellors have had 10 or more students that have proposed a career in the agricultural industry. The second highest category at 27.54%, indicated that they have has 1 to 5 students interested in this type of career. There was a total of 5 responses indicating that zero students have proposed a career in this industry, representing 7.2% of the population.
Students Proposed a Career Option in Agricultural Industry: In your career, has a student ever proposed a career opportunity in the agricultural industry that they would like to pursue?

Types of Agricultural Careers

Guidance teacher-counsellors were asked to identify the specific types of careers that students have proposed in the agricultural industry. Respondents had the ability to list multiple careers if this applied to them. This question helped to identify the types of careers that students are familiar with in relation to this industry. After reviewing the responses, a total of nine categories were developed with a total of 192 listed responses for career types. The top three categories represented were; ‘Veterinarian, Vet Technician & Vet Assistant’ at 30.73% and with ‘Agriculture and Farming’ and ‘Food and Nutrition’ both at 28% of responses.
Table 4.1: Types of Agricultural Industry Careers:
Please provide the title(s) and description(s) of the career option(s) the student(s) proposed.

<table>
<thead>
<tr>
<th>Career Category</th>
<th>References Coded</th>
<th>Percentage of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinarian, Vet Technician, Vet Assistant</td>
<td>59</td>
<td>30.73%</td>
</tr>
<tr>
<td>Agriculture and Farming</td>
<td>28</td>
<td>14.58%</td>
</tr>
<tr>
<td>Food and Nutrition</td>
<td>28</td>
<td>14.58%</td>
</tr>
<tr>
<td>Animal Sciences</td>
<td>26</td>
<td>13.54%</td>
</tr>
<tr>
<td>Plant Sciences</td>
<td>17</td>
<td>8.85%</td>
</tr>
<tr>
<td>Business</td>
<td>10</td>
<td>5.21%</td>
</tr>
<tr>
<td>Environmental Sciences</td>
<td>10</td>
<td>5.21%</td>
</tr>
<tr>
<td>Culinary Arts</td>
<td>8</td>
<td>4.17%</td>
</tr>
<tr>
<td>Large Equipment Management</td>
<td>6</td>
<td>3.13%</td>
</tr>
</tbody>
</table>

Sample Size n=192

Path of Direction for Agricultural Careers

Respondents were asked to provide details as to where they directed students for post-secondary education who suggested pursuing careers in the agricultural industry. The respondents were able to list several answers if this applied to them. The responses were reviewed, analyzed and sorted into five different categories. For this question, the category of ‘Online Resources’ refers to databases of information for students on post-secondary education that are developed and monitored by the Ontario government, for example: eINFO. The top responses from guidance teacher-counsellors were: directing students to a specific university or college at 46.96%, followed by providing the student with an online resource to research the career and post-secondary option at 30.43% and finally, the third most repeated response at 11.30% was offering the students list of variety schools and programs to choose from.
Table 4.2: Path of Direction for Agricultural Industry Careers: Where did you direct them for post-secondary education options, or additional information to further pursue the career they proposed?

<table>
<thead>
<tr>
<th>Direction Type</th>
<th>References Coded</th>
<th>Percentage of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific College or University</td>
<td>54</td>
<td>46.96%</td>
</tr>
<tr>
<td>Online Resources</td>
<td>35</td>
<td>30.43%</td>
</tr>
<tr>
<td>Variety of Schools &amp; Programs</td>
<td>13</td>
<td>11.30%</td>
</tr>
<tr>
<td>Career Day &amp; In-Person Research</td>
<td>9</td>
<td>7.83%</td>
</tr>
<tr>
<td>College and University Websites</td>
<td>4</td>
<td>3.48%</td>
</tr>
</tbody>
</table>

Sample Size n=115

Careers in Food Sector

The guidance teacher-counsellors were asked to indicate the number of students that have proposed a career opportunity in the food sector. There was a total of 66 responses to this question. Fourteen (39.9%) indicated that guidance teacher-counsellors have had zero students suggest a career opportunity in the food sector. The second most chosen category was ‘1 to 5 students’ with 31.82% of respondents choosing this category.

Figure 4.5 Students Proposed a Career Opportunity in Food Sector: In your career, has a student ever proposed a career opportunity in the food sector that they would like to pursue?
Types of Food Sector Careers

When asked what careers students proposed with relation to the food sector, there were a variety of responses from participants. Respondents were able to list multiple careers if this applied to them. After reviewing the responses, the careers were sorted into six distinct categories. The most common responses were in the category of culinary at 30.16% of all responses, followed by food business at 19.05% and dietitian/nutrition and food science/research with the same number of references of 15.87% of all responses recorded, for each.

Table 4.3: Types of Food Sector Careers: Please provide the title(s) and description(s) of the career option(s) the student(s) proposed.

<table>
<thead>
<tr>
<th>Career Category</th>
<th>References Coded</th>
<th>Percentage of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culinary Arts</td>
<td>19</td>
<td>30.16%</td>
</tr>
<tr>
<td>Food Business</td>
<td>12</td>
<td>19.05%</td>
</tr>
<tr>
<td>Dietitian and Nutrition</td>
<td>10</td>
<td>15.87%</td>
</tr>
<tr>
<td>Food Science &amp; Research</td>
<td>10</td>
<td>15.87%</td>
</tr>
<tr>
<td>Quality Control</td>
<td>7</td>
<td>11.11%</td>
</tr>
<tr>
<td>Food Service &amp; Hospitality</td>
<td>5</td>
<td>7.94%</td>
</tr>
</tbody>
</table>

Sample Size n=63

Path of Direction for Food Sector Careers

When asked where guidance teacher-counsellors directed students who proposed a career in the food sector, the responses were similar to those who proposed a career in the agricultural industry. Respondents were able to list several answers if this applied to them. For this question, the category of ‘Online Resources’ refers to databases of information for students on post-secondary education that are developed and monitored by the Ontario government, for example: eINFO. The results sorted into three categories: Online Resources for Post-Secondary Education, Specific University or
College and Variety of School and Programs. The top response indicated that guidance teacher-counsellors are directing students to a specific university or college at 68% of all responses, followed by online resources at 18% and the least common response – a variety of schools and programs at 14%.

<table>
<thead>
<tr>
<th>Direction Type</th>
<th>References Coded</th>
<th>Percentage of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific College or University</td>
<td>34</td>
<td>68%</td>
</tr>
<tr>
<td>Online Resources</td>
<td>9</td>
<td>18%</td>
</tr>
<tr>
<td>Variety of Schools &amp; Programs</td>
<td>7</td>
<td>14%</td>
</tr>
</tbody>
</table>

Table 4.4: Path of Direction for Food Sector Career: Where did you direct them for post-secondary education options, or additional information to further pursue the career they proposed?

Guidance Teacher-Counsellor Continued Education

Participants were asked to indicate the number of continued education courses they have completed designed specifically for guidance teacher-counsellors. There was a total of 61 responses to this question, with a wide range of answers. The highest category chosen was 3 courses completed with 39.34% of respondents choosing this category, followed by the 5 or more courses with 31.15% of respondents choosing this category. Overall, 75.41% of the guidance teacher-counsellors in this group have completed 3 or more continued education courses.
Career Information Distribution

The guidance teacher-counsellors were asked to indicate if they had ever received information on careers relation to the agricultural industry or food sector. There was a total of 63 responses to this question with 69.84% of responses indicating that they have received information about agriculture or agri-food careers at some point in their role. Only 17.46% of respondents are clear that they have not received any information and only 8 of the 63 (12.7%) responses are unsure.
Channel of Received Career Information

One of the most critical questions in this research, asked participants to identify where they currently receive and have received information in the past about the different careers in the agricultural industry and food sector. Respondents were able to list multiple channels if this applied to them. This question is important because it helps the interested parties understand what resources the guidance teacher-counsellors currently utilize and therefore which areas to focus new efforts towards. Through reviewing the responses, and analyzing the results, four main categories were developed. Guidance teacher-counsellors indicated that the most common type of communication channel is through either printed or online literature at 49.09% of
responses, with conferences and meetings and industry organizations both at 20% of total responses.

Table 4.5: Channel of Received Career Information: Please provide details of the information on agricultural and food careers distributed such as type of channel, title and date.

<table>
<thead>
<tr>
<th>Type of Communication Channel</th>
<th>References Coded</th>
<th>Percentage of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Printed or Online</td>
<td>27</td>
<td>49.09%</td>
</tr>
<tr>
<td>Conferences &amp; Meetings</td>
<td>11</td>
<td>20.00%</td>
</tr>
<tr>
<td>Industry Organizations</td>
<td>11</td>
<td>20.00%</td>
</tr>
<tr>
<td>Presentations &amp; Tours</td>
<td>6</td>
<td>10.91%</td>
</tr>
</tbody>
</table>

Sample Size n=55

Valuable Career Opportunities

Close to the end of the survey, participants were asked to simply indicate if they believe if the agricultural industry and food sector have valuable career opportunities for students. There was a total of 62 responses to this question with over 95% of responses indicating that participants feel the agriculture and agri-food sector have valuable opportunities for students. There were no responses that indicated there is no valuable careers and only 4.84% indicating they are unsure.
4.4 Summary of the Key Findings of Survey 1

Survey 1 provides thought provoking results which have the ability to help future efforts when creating awareness in agricultural careers. Overall, guidance teacher-counsellors indicated that they feel they have a low knowledge of the agriculture industry. Only 19.18% of guidance teacher-counsellors hold a graduate level degree which is mandatory for this role in many other jurisdictions. Students are interested in agriculture careers, but many are not aware or do not associate sub-sectors such as business with agriculture. The results indicate that less students have suggested a career in the food sector but those who have shown an interest, indicate they may have an understanding of the wide variety of opportunities such as marketing, quality assurance, etc. Most responses indicate that guidance teacher-counsellors would find value in continued education through conferences, reading materials and hands-on activities or tours. Regardless of the respondent’s familiarity with the agriculture industry and food sector,
over 95% of participants indicated that they feel the agri-food industry has valuable
career opportunities for students.

4.5 Survey 2 Results

Suggestions for Improvement
The first question of the second survey asked participants to provide any improvements
that they feel could be made to the existing continued education programming.
Participants highlighted several different types of improvements and suggestions for
guidance teacher-counsellors to become familiar with agriculture and agri-food careers.
After analyzing the responses using NVivo software, there were three distinct themes
that developed.

The first key theme that was suggested for increasing awareness was additional hands-
on demonstrations and events that would allow guidance teacher-counsellors to
understand the wide-range of options available. Hands-on activities such as university
tours or career workshops provide guidance teacher-counsellors with different options
for students that could not be presented through reading material alone. Through
interactive education, the guidance teacher-counsellors get firsthand knowledge of the
numerous specific types of careers available and have the opportunity to ask questions
that may pertain to their students specifically. The responses highlighted suggestions of
university tours, meetings between guidance teacher-counsellors and co-op positions
with partner companies. This type of education allows for the counsellors to share
information with their peers, develop relationships with others in their sector and learn
through doing so when their students ask them questions about different career options,
they can provide personal insights.
The second theme established was the option for individualized education for guidance teacher-counsellors depending on their geographical location, type of school, etc. Participants highlighted that there should be specialized education efforts that focus on the specific needs of industries in their area, careers with different types of post-secondary education and current trends within agriculture and agri-food. Based on the geographic location of the school board, there could potentially be individualized programming that pertains to the general characteristics of that student body. For example, in a rural area in Northern Ontario guidance teacher-counsellors could be provided with careers that are supported in that area such as forestry management. All guidance teacher-counsellors should be given information on all types of careers as students are able to move locations for school and their careers, but a focus on the labour workforce in specific areas would be beneficial.

The third and final trend that developed in this question was simply additional opportunities in general. Many respondents indicated that while there are programs, conferences, etc., there needs to be more. One respondent stated, “More frequent opportunities for continuing education so that they do not land on days that are impossible to get out of the office”. This response highlights that guidance teacher-counsellors are aware of the programs available but due to the limited number of opportunities, their schedules may not allow them to attend. The implications of these results suggest that additional opportunities need be created by increasing the number of workshops, conferences, etc. that are available. In addition to increasing the number of opportunities, there needs to be programs throughout the province allowing guidance
teacher-counsellors to simply leave for the day instead of having a conference for several days. Overall, respondents emphasized that there needs to be additional opportunities available, a focus on hands-on experiences and specialized education depending on the specifics of their school.

Effective Learning Methods

The second question asked participants to identify the most effective learning method for guidance teacher-counsellors. Through reviewing the responses, there were four main themes that developed within the data. The first suggestion from respondents was to increase the number of reading materials available with emphasis on “clear and concise reading materials”. In contrast to many respondents that suggested increasing the amount of reading materials, there was one response that stated, “There are many, many, reading materials available”. These results demonstrate that although there may be numerous reading materials available, a condensed information resource with clear program outlines would be ideal for guidance teacher-counsellors. The second theme in the data was mentor programs. Several responses indicated that mentor-type programs with other guidance teacher-counsellors would be the most effective continued education programming but highlighted that time constraint was a disadvantage with this type of program. By giving guidance teacher-counsellors the opportunity for mentor type programs, professionals throughout the industry could collaborate and share their knowledge with others. This type of programming is not a short one-day conference, so it provides participants with the opportunity to ask numerous questions, provide
feedback on their work and create lasting changes within their career but does require a significant time commitment.

The use of technology and online resources was a strong topic within the responses. Suggestions of online resources were repeated with ideas such as training videos, webinars and printable materials. By using technology for continued education efforts, guidance teacher-counsellors have the ability to complete the programming when it fits into their own schedules. Although this option does not encourage as much networking, with the internet and specific software programs, guidance teacher-counsellors do have the capability to connect with others in the field and provide feedback to one another. Finally, a recurring theme presented was hands-on activities for both students and guidance teacher-counsellors. Workshops, campus tours, networking events, and presentations from college/university personnel were all suggested learning methods. This type of learning method provides the opportunity for guidance teacher-counsellors to network and gain insights that can be presented to students from personal experiences. This question identified the most effective learning methods to be mentor programs, increased reading materials, online resources as well as hands-on activities for students and guidance teacher-counsellors.

Convenient Learning Methods

For the third question on Survey 2, respondents were asked to identify the most convenient forms of continued education programs for guidance teacher-counsellors. The responses from this question were organized into three distinct themes from the data results. After analyzing using NVivo software, the most prominent suggestion was
annual conferences. A key point made by a respondent specified, “Annual conferences because it dedicates that time and allows for networking instead of relying on personal time management to complete an online course”. Other responses from this theme indicated “conferences can have high and low spots depending on speakers” and “time away from school is an issue”. The responses demonstrated the pros and cons associated with industry conferences, but overall respondents indicated that this type of learning would be impactful and allow participants to designate time to increase their awareness of the opportunities in agriculture careers.

The second repeated learning method was online education. Several responses indicated the convenience with online courses and materials being available to be completed when each individual’s schedule allows. The third theme within the data was in-school education for both guidance teacher-counsellors and students. One respondent argues that “teachers need to spend more time with students not at conferences” and that employers should be visiting the classrooms to explain the opportunities within the sector. This type of learning would benefit not only the guidance teacher-counsellors but allow the students to interact with industry professionals and ask specific questions. By allowing industry representatives into the classroom, the time spent on continued education would decrease for the counsellors, and it increases the collaboration efforts between industry and the education system. This question identified the most convenient learning methods to be annual conferences, online courses and resources, and in-school education presentations and initiatives.
Open-Ended Question

The final question on the survey was intentionally open-ended. It asked participants to provide any comments or suggestions relating to agriculture and food careers. Due to the broad question wording, there were a wide variety of responses, but two main ideas were repeated. The first theme highlighted was a call for industry tours for guidance teacher-counsellors to gain first-hand knowledge of the opportunities available. The second theme presented was the idea of promoting the specialized programs available throughout high schools in Ontario that provide enhanced learning about the agriculture and agri-food industry. With relation to promoting these programs, there should also be efforts to demonstrate the large number of scholarship and training opportunities available for students pursuing a career in the agriculture and food sector. Other ideas suggested were providing resources to educate parents on the opportunities, simple information on the programs in areas of need and speaking to employers to match the needs of the industry with students’ skills. The last question of the survey demonstrated that guidance teacher-counsellors feel hands-on training and tours are important, and there needs to be efforts put towards promoting the specialized programs and opportunities available for students pursuing a career in agriculture and agri-food.

Overall, the results of Survey 1 suggest that guidance teacher-counsellors are open and encouraging of collaboration between their field as well with agriculture and food industry partners. The need for collaboration and shared responsibility among interested parties is highlighted in the Conceptual Framework (refer to Figure 2.5) in order to
accomplish the final goal of promoting careers in agri-food industry and increasing the number of students of pursue a post-secondary education in this area.

Comparison of Results from Survey 1 and Survey 2

The two surveys were purposely designed to have two target audiences in order to be able to compare and contrast the results. As the first survey was designed for guidance teacher-counsellors, the responses would be from individuals with first-hand knowledge of the role and an understanding of what is achievable for continued education. The second survey was built for individuals who have shown an interest in the topic and therefore may be more willing to put the time and effort into the cause. When comparing the two surveys, the responses that provide suggestions for continued education learning methods are quite similar.

Survey 1 highlights the current top forms of communication channels are reading materials printed or online at 49.1%, followed by conferences/meetings and industry organization ties with 20% of the population, then finally presentations/tours at 10.9% of responses. The second survey presented the top choices for effective learning methods to be mentor type programs, online resources and hands-on activities. The top answers for convenient learning methods were: annual conferences/meetings, reading materials and in school-presentations. Although the two surveys did ask slightly different questions, there is clear overlap between the responses. The two groups of respondents identified similar responses between where guidance teacher-counsellors
currently receive their information and where the engaged group feels continued education efforts should be focused.

4.6 Summary
The research from the two surveys provided insight into the understanding of agricultural careers within the education system. The survey instrument was designed for clear responses and accurate data analysis. It is clear that most respondents would like to understand more when it comes to agricultural careers, as 95% of respondents indicated that they feel the agricultural and agri-food sector have valuable career options for their students.

When guidance teacher-counsellors were asked to identify the types of careers students have proposed, the food sector question provided responses such as health safety officer, chef and food marketer demonstrating a knowledge of the different types of careers available. While the agricultural industry question provided a variety of career options, the specific answers indicated a narrower view of the types of careers available with the top responses being ‘Veterinarian, Vet Tech, Vet Assistant’, and ‘Agriculture and Farming’. Respondents demonstrated that the convenient forms of education are not always the most effective, as one of the top responses for effective was mentorship and the top response for convenience was annual conferences. Long term investments in time for continued education may be ideal but not practical as guidance teacher-counsellors need to maintain their position during their continued education training.
Throughout the two surveys, the respondents indicated that annual conferences, online education as well as improved reading materials would be viable options for continued education learning methods.

Moving forward, it is necessary for the involved parties to provide clear, accessible information through several channels to make the shift towards more guidance teacher-counsellor understanding the opportunities available. This will be further discussed in the next chapter.
Chapter 5: Discussion

5.1 Introduction

The previous chapter illustrates the results from the research conducted with Ontario guidance teacher-counsellors and qualified industry professionals. In Chapter 2, a review of relevant literature provided background information on guidance teacher-counsellors and agricultural career awareness programming internationally. The gaps in the existing knowledge base on this topic were identified and a conceptual framework for the study presented. This chapter will compare the existing literature and knowledge base to the key findings from this research. The overall goal of this study is to understand Ontario high school guidance teacher-counsellors’ knowledge of career opportunities available in the agriculture and agri-food industry. To review this topic and discuss results, the research focused on three specific objectives presented in the Research Design Matrix Table (Appendix A). This Chapter will discuss the main topics addressed in the study in relation to the current body of knowledge.

5.2 Guidance Teacher Counsellors

The first objective of this project is to understand the current understanding and knowledge base of Ontario guidance teacher-counsellors on the opportunities in the agricultural industry and food sector. Regardless of the career type, it is important to understand the general knowledge base and familiarity of guidance teacher-counsellors in relation to agriculture and agri-food. The respondents indicated that they feel they have relatively little experience with the industry as the average answer was 2.26 on a scale of 0 to 5, with 5 being very familiar with the industry. Based on these findings, it
seems that the general guidance teacher-counsellors answering the survey feel that they have inadequate knowledge, and subsequently have limited knowledge of the career types available to students.

To further this line of questioning, participants were asked questions about their experience level within their role as well as their formal education background. In Chapter 2, a reflection of education requirements for guidance teacher-counsellors in several countries is reviewed. The survey results show that all respondents hold a Bachelor’s degree. Of the 71 respondents, 14 specified that they have graduate (Master) degrees in addition to the Bachelors. In Ontario, a Master’s degree is not mandatory for guidance-teacher counsellors. Moving forward Ontario should be reviewing their requirements to ensure guidance-teacher counsellors have qualifications in line with other jurisdictions and provide opportunity to reach these requirements. This point needs to be linked to the findings that 47.3% of guidance teacher-counsellors participants have 11 years or more experience in their role. Due to the length of their professional experience, annual professional development learning and continued education opportunities would be beneficial to keep guidance teacher-counsellors in tune with the evolving careers available in the agri-food sector.

5.3 Agricultural Industry Careers

When students do propose a career in the agricultural industry or food sector, one of the roles of the guidance teacher-counsellor is to direct them to school or program information that suits their needs. When respondents were asked to indicate the number
of students that have considered a career in the agricultural industry, the highest chosen category was ’10 or more students’ signifying that this industry is relatively common in a guidance teacher-counsellor’s office.

When respondents were asked to identify the types of careers proposed by students in the agricultural industry the responses were coded into 9 categories in total. Although there were several categories, there was a limited variety of career options presented. The most popular response was a ‘Veterinarian, Vet Technician, Vet Assistant’ with ‘Food and Nutrition’ and ‘Agriculture and Farming’ tied for second. There were a nominal number of careers proposed in the agriculture business industry, the plant sector and mechanical field. These results from the guidance teacher-counsellors suggest that students may have knowledge of the agricultural field in general but maybe are unfamiliar with the variety of specific roles available requiring educated, qualified candidates. Emphasis needs to be placed on the career opportunities in sub sectors that are less common.

Chapter Two reviews other efforts to provide high school students with programs that demonstrate the types of careers available. To kickstart action among high school students, Parker (2016) presented that they need to be exposed to the types of careers available, engaged in activities that determine the pros and cons of the role, and finally influenced by industry professionals to solidify their interest. Ontario needs to review other international curricula and work to develop programming that enables students to have first-hand knowledge of agri-food careers such as competitions that use the skills needed in the field, co-ops worth high school credits and mentor opportunities. Students
need to be introduced to a wide variety of career choices through the guidance teacher-counsellor network.

5.4 Food Sector Careers

Although the agriculture industry and food sector are interwoven and rely on each other, the general population views them separately. For this reason, the respondents were also asked to identify food sector careers proposed by students. The guidance teacher-counsellors’ answers illustrate that students may be more aware of specific careers available in the food sector. Students appear to recognize the business career opportunities within the food sector confirmed by the high response rate in that category at 19.1% of the total responses. Although the most frequent response was a professional in the culinary arts, unique and less known careers such as food safety inspector were reported. These results reflect that students are potentially more aware of the sub-sectors available within the food industry. Interestingly, the results show that a significantly smaller number of students have entered the guidance office presenting a career in the food sector. A total of 39.4% of responses indicated that zero students had proposed a career in the food sector, and 31.8% chose the category of 1 to 5 students. Although students who did propose a career in the food sector demonstrated their knowledge of the specific opportunities available, there were less students overall that presented a career in this area compared to the agricultural industry. In order to combat this lack of awareness, students should be exposed to the food industry and the different sub-sectors of careers available.

5.5 Continued Education
Through initiatives such as the Professional Learning Framework from the Ontario College of Teachers, guidance teacher-counsellors have the chance to refine their professional knowledge, skills and standards through ongoing professional learning (Ontario College of Teachers, 2016). This framework highlights the process for educators to expand their knowledge through programs and workshops. The Ontario government provides teachers with six professional development days each school year for educators to leave their offices and classrooms and work to learn themselves (Ontario Ministry of Education, 2007). When reviewing other professions such as lawyers, medical professionals, accounting, etc., education is the only profession that does not have set standards and requirements for training (Ontario Ministry of Education, 2007). The survey results show that over 75% of respondents in this group have completed three or more continued education course. This question highlighted that although many guidance teacher-counsellors have completed courses, 3.3% of respondents indicated they had completed zero professional development courses and 4.9% have only completed one course.

The Ministry of Education states that they feel the obligation for ongoing professional development should be up to the educator in their capacity as professionals (Ontario Ministry of Education, 2004). Educators are encouraged to pursue professional development and continued education through multiple avenues, and given six days per year to do so, but not all educators take this opportunity. Moving forward, the standards for professional development should be regulated with mandates for continued education annually. Research has shown that even if educators feel the materials are
interesting, and intellectually stimulating, they had not implemented the professional
development skills simply due to a lack of time (Demetrikopoulos et al, 2004). An
example of a successful learning platform is a program in the US where educators
complete online professional development that is research informed, interactive and
could be completed throughout the year – a program called Transforming Teaching
through Implementing Inquiry (T2I2) (Ernst, Clark, & Bowers, 2016). The online course
is researched-based, interactive and educators complete the program throughout the
year (Ernst et al., 2016). A study found that this type of programming found high quiz
scores upon completion and the sample demonstrated this type of learning promoted
self-reflection and analysis of their current practices (Ernst et al., 2016). The key to
developing the standards is to make the requirements flexible and adaptable for each
educator so they feel the opportunity is beneficial to them in their unique role.

5.6 Channels for Career Information
Survey 1 asked the general population of guidance teacher-counsellors to provide the
channel where they currently receive information on agri-food careers. The top
response was literature either printed or online at 49.1%, followed by
conferences/meetings and industry organizations both at 20%. This response was
expected as all schools throughout Ontario provide guidance offices with information
packages about the programs they offer, and they also contribute to the College and
University Dialogues which are annual reports released to guidance teacher-counsellors
that contain information about new and key programs at each school. Specific
responses to this question emphasized that although the reading materials were used
most often, several respondents indicated that conferences and hands-on learning such as tours are the most effective tools for information distribution. In this research, continued education involves both formal learning methods such as interactive workshops and information dissemination such as distributed reading materials.

When respondents of Survey 2 were asked about what they feel are the most effective learning methods, the top responses included online courses, clear reading materials and hands-on activities. This question specifically asked for the most effective learning method to understand the best methods regardless of time, effort or money input. The respondents were also asked about the most convenient which brought forward answers such as conferences/meetings, in school presentations and online resources as the key themes. All three of these questions were designed to encourage different responses in order to come at this idea from several angles. The responses from these questions were all quite similar, proving that the current channels that guidance teacher-counsellors use are also thought to be the most effective and convenient. This research shows that the current distribution channels do not need to be removed, but an overhaul to simplify the options would be ideal. As educators lead a busy schedule, the key element when designing continued education efforts is creating the ability for the programs to fit into their day. The priority for improvement should be to create simple and clear reading materials that outline the different school and the unique programs they offer that is accessible to all educators.
Creating online teacher-counsellor and student resources is critical due to its flexibility for educators, so they can complete the programming at the time that best suits them. The online resources should be easy to decipher and have the opportunity for networking between professionals in the field. Research has shown that having interactive features such as online chat groups where learner-learner interaction can occur is beneficial (Jain & Jain, 2015). As numerous respondents suggested, there needs to be additional conferences and meetings throughout Ontario. Guidance teacher-counsellors struggle to leave their position for several days if the program is out of their neighborhood and due to the limited number of opportunities, the days do not fit into everyone’s schedule. The final element to consider for continued education is hands-on activities and presentations for the high school students and the guidance teacher counsellors. These activities could involve industry professionals entering the classroom to talk about the careers available or providing guidance teacher-counsellors with school and industry tours to gain personal insight into the types of careers available. Overall, the current information channels are sufficient but improvements to increase the awareness of the agri-food careers are essential.

5.7 Summary
Through background research and the results from the surveys, it is evident that guidance teacher-counsellors in Ontario need supplementary support and tools to improve best practices in their roles. Moving forward, the education system needs to review the current requirements for becoming a guidance teacher-counsellor in other jurisdictions and analyze them when updating Ontario’s regulations. In addition to the
initial qualifications, guidance teacher-counsellors’ professional development should be more structured and mandatory. By looking at other professions, the education system is one of few sectors that does not enforce annual professional development. For continued education practices, key themes for improvement were illustrated through this project’s research. The top priorities identified in this research are creating clear and concise reading materials, hosting additional conferences/meetings, online resources with networking opportunities and finally hands-on activities for both students and guidance teacher-counsellors. These suggestions are not simple, and they require time, money and effort to bring them to fruition. Through looking at the conceptual lens that this research is built upon, constructing these resources should be a shared responsibility between both the education system and the agricultural industry. Both parties need to collaborate to bring forward their strengths and share the responsibility through an effective partnership. When building shared responsibility initiatives for increasing agricultural career awareness, a review of the Choose Science program that is currently active would be beneficial to understand best practices for designing the initiative. The first step is analyzing where the improvements could be made and developing a plan to begin.
Chapter 6: Final Summary, Conclusions and Recommendations

6.1 Final Summary

As the global population grows to an estimated 9 billion by 2050 (Kock, 2013), the need for healthy affordable food will continue to increase dramatically. Canadian consumers are becoming farther removed from the farm and current production practices, creating a detrimental communication gap. Research from the Canadian Centre for Food Integrity shows that the percentage of Canadians that felt the food system was on the right track decreased from 43% in 2017 to only 36% in 2018 (The Canadian Centre for Food Integrity, 2018). With the gap between consumers and producers growing, the development of innovative education systems has never been more critical. The agri-food industry plays a significant role in the Canadian economy, representing 6.6% of Canada’s gross domestic product and 2.3 million jobs in 2014 (Agriculture and Agri-Food Canada, 2016). Recent research from the Ontario Agricultural College (2017) found that the agriculture industry and food sector are struggling to find enough qualified personnel to fill in their job positions.

In order to encourage students to pursue a career in the agriculture industry and food sector, they need to understand the wide variety of opportunities available. For students to be aware, take action and follow-up with a career in agri-food, the first step would be to expose them to their options. New Zealand hosts a “Get Ahead” program that puts high school students in small competitions where they utilize the skills required for specific jobs in agri-food. The next step would be engagement where students can be involved in programs such as 4-H that enable them to be involved in extra-curricular
activities. The final step would be influence where students have the opportunity for co-ops, internships, etc. that allow them to follow a professional in their role and gain personal insight. When creating programming to increase awareness of careers, reviewing other jurisdictions training allows for implementations of best practices. In Ontario, there is limited effort put towards programming in this area and collaboration between interested parties; the education system, extension organizations and the agriculture industry. The conceptual framework for this research illustrates how the research results should be distributed to the education system and agri-food industry to allow for collaboration, shared responsibility for human resource development and collaborative governance between the two groups. With collaboration and competency-based education, the strategic goal of guidance-teacher counsellors having the information and knowledge tools to support student’s awareness and decisions about agricultural careers can be accomplished.

As high school guidance teacher-counsellors play an important role in an adolescent’s choice for post-secondary education, after their parents, it is clear that they should be aware and engaged in the wide range of career opportunities available to students. In Ontario, the role a guidance teacher-counsellor requires an undergraduate degree with a teaching accreditation with some further accredited courses at the Masters level compared to other provinces and countries that a Master’s degree and/or in-depth specialized programming is required. Unlike other professional industries such as accounting, medicine, etc., education does not make annual continuing education mandatory. The Ministry of Education in Ontario encourages continued education by
providing a total of six days for educators to be involved in professional development but takes the stand that the obligation is to be answered by teachers in their capacity as professionals (Ontario Ministry of Education, 2004). This study examined the role of guidance teacher-counsellors in Ontario in relation to agri-food career decision-making using an exploratory, mixed methods approach involving two online surveys. The first survey was available to all guidance teacher-counsellors in Ontario and circulated through extension organizations e-newsletters, social media, and email. The survey format included multiple choice questions, open-ended responses and simple sliding bars. Survey 1 was designed to understand guidance teacher-counsellors’ current understanding of the agricultural industry, the careers available and what channels they receive their information through on the subject. Survey 2 was distributed to qualified personnel who have experience in the education system and expressed an interest in the subject of agriculture careers through their involvement in specific conferences, webinars, and programs. Survey 2 was all open-ended format questions in order to gain deep insights into the most effective, and most convenient forms of continued education for guidance teacher-counsellors. The quantitative data from Survey 1 was analyzed through simple graphs in Excel and the qualitative data from both surveys was reviewed and coded to reveal key themes through NVivo software.

Survey 1 revealed that most guidance teacher-counsellors in Ontario do not hold a graduate degree and feel they have a low level of knowledge about the agriculture industry and careers available. Through the guidance teacher-counsellors answers,
students indicated that they may be more aware of careers in the agriculture industry compared to the food sector but understand more of the unique types of careers available in the food sector. Guidance teacher-counsellors currently receive their information through conferences, reading materials and tours. Overall, 95% of respondents demonstrated they feel the agri-food industry has valuable career options for students. Survey 2 revealed that the most effective types of continued education would be mentor type programs, online resources and hands-on activities for both students and guidance-teacher counsellors. The most convenient forms of continued education were annual conferences, online courses and in-school presentations. Overall, the responses between the two surveys were cohesive and similar key themes were identified in both questionnaires.

Guidance teacher-counsellors need support to provide effectively accurate information to their students. Improvements to the current continued education programming for educators, to allow easy access and effective learning is necessary, especially for guidance teacher-counsellors in Ontario.

6.2 Conclusions

Educators are often deeply involved in student’s lives; from teaching them life skills such as problem solving, curriculum requirements like math and English and guiding them down individualized pathways. Guidance teacher-counsellors in Ontario are influential people in a high school student’s post-secondary education next to their parents (Agriculture in the Classroom Canada, 2018b). Guidance teacher-counsellors
need support in order to understand the careers available and opportunities for learning. As previously mentioned, guidance teacher-counsellors in Ontario are not required to hold graduate degrees or complete mandatory annual continued education. From reviewing other efforts in jurisdictions outside of Ontario, it is clear that a review of the position requirements for guidance teacher-counsellors would be advantageous. As the Ministry of Education provides educators with days to complete continued education and invests funding into this initiative, mandatory requirements should be established that are conceivable. As guidance teacher-counsellors are busy professionals, their continued education initiatives need to be flexible and easy to access to allow completion of the programs.

The results of this study confirm that additional annual conferences and workshops throughout the province are needed for counsellors. In addition to annual conferences, guidance teacher-counsellors receive their agricultural career knowledge through reading materials sent by all universities and colleges throughout the province as well as government developed resources. For effective learning and knowledge dissemination, the resources provided should be evaluated, and a simple concise system should be used to allow guidance teacher-counsellors to access accurate information in a timely manner. Online resources were another suggested response for professional development as this channel allows educators to learn when it is convenient for them.
Furthermore, a key point for online courses is that there should be opportunity for networking within this channel to encourage peer support among guidance teacher-counsellors. The final channel of continued education that would benefit from a revamp would be agri-food tours and in-school presentations. The respondents wrote that hands-on tours are beneficial due to the opportunity for questions with industry professionals and personal insights into the careers. An important suggestion was in-school presentations from industry which would not require additional time from guidance teacher-counsellors and provide both the students and educators with the perspective from professionals in the sector. Research suggests that one of the top three factors that high school students take into account when choosing a career is that it will be rewarding and they will have a positive job outlook (Agriculture in the Classroom Canada, 2018b). As the Canadian population identifies healthy affordable food to be a top concern (The Canadian Centre for Food Integrity, 2018). Collaboration and collaborative governance between agri-food stakeholders and the education system in Ontario can enable opportunities for students to get involved in careers that are truly rewarding to them. The key is a shared responsibilities approach between education and industry and the development of a collaborative partnership.

6.3 Recommendations for Future Research

To support change in the education and career planning system and impact the agriculture and agri-food industry, all key parties needs to collaborate. As the scope of this research was limited, future work should be completed to increase the number of individuals represented within the data and results. Considering the Ministry of
Education in Ontario currently leaves the requirement for continued education up to the individual educator, policy needs to be updated through reviewing outside sources from other jurisdictions and professions. Interested stakeholders in the larger education system, such as the Ontario Agricultural College, can direct communication efforts towards guidance teacher-counsellors,

Further research should be conducted with Ontario guidance-teacher counsellors to understand the advantages and disadvantages of specific continued education channels. The results from this work could help to inform educational program developers on unique details that would help guidance teacher-counsellors and encourage them to complete relevant professional development training and continuing education.

By increasing funding and efforts in those specific areas, the organizations can help to bridge the gap between Ontario’s education system and agricultural sector. Although this research focuses on agricultural careers specifically, future studies should be conducted to evaluate the need for awareness of other continuously advancing industries that support agri-food such as the field of information technology and the careers available within them. Ideally, research should determine best practices for providing guidance teacher-counsellors with career options from a variety of progressing industries. Finally, as the agri-food industry has limited connections with the education system, they need to work with the extension organizations such as Agriculture in the Classroom to gain access into guidance teacher-counsellors offices
for presentations, tours and workshops. Future efforts should be put toward understanding best practices for shared responsibility between the education system and the agricultural industry to build awareness through collaborative partnerships. Although research has been conducted to understand the correlation between the number of students who have been exposed to agricultural careers and the number of students who pursue a career in the industry, additional efforts should be put towards evaluating this collaboration and collaborative governance for agri-food education and career planning in Ontario and throughout Canada.
References


GrowingCareers.ca. (2016). Did you know?


Appendix

Appendix A: Research Matrix Table

The goal of the study/project is to understand Ontario high school guidance counsellors’ knowledge of career opportunities available within the agriculture and agri-food industry.

<table>
<thead>
<tr>
<th>Objectives (of the study/project)</th>
<th>Research Questions/ Hypotheses</th>
<th>Source(s) of Data/ Methods</th>
<th>Notes for analysis (what is the test to be done on the data) (what codes you might use to organize your data)</th>
</tr>
</thead>
</table>
| **Objective 1:** to understand the current understanding and knowledge base of Ontario guidance counsellors on opportunities in the agricultural industry and food sector | 1.1 What percentage of guidance counsellors have any type of background in agriculture?  
1.2 Where or to whom do guidance counsellors direct students who demonstrate an interest in careers associated with the agriculture industry?  
1.3 What do guidance counsellors currently understand about the opportunities in agriculture careers? | 1. E-Survey  
- Release to all Ontario high school guidance counsellors  
- Promote through Social media  
- Distribute through Ag in the Classroom association  
2. Content Analysis  
- Board documents  
- Prior sector studies | - Types of agriculture careers mentioned  
- Post-secondary pathway suggestions  
- Agriculture career background |
| **Objective 2:** to identify the current access to information outlets | 2.1 What outlets exist to provide guidance counsellors with information on agri-food careers?  
2.2 How are agriculture careers represented in current information channels?  
2.3 What current continued education training is required of or available to guidance counsellors annually?  
2.4 What is the most convenient and effective learning method for guidance teacher-counsellors? | 1. E-Survey  
2. Content Analysis  
- Current training methods  
- Board documentation | - Types of existing education  
- Agriculture careers represented  
- Most utilized existing education training |
| **Objective 3:** To identify what careers students are most aware of currently and find the gaps in awareness | 3.1 What career opportunities are students most aware of currently?  
3.2 Where are the gaps in student knowledge and available careers?  
3.3 What is guidance teacher-counsellor’s role in awareness of agricultural careers? | 1. E-Survey  
2. Content Analysis  
- Current training methods  
- Board documentation  
3. Industry survey results | - Types of agriculture careers mentioned by students  
- Guidance counsellors’ perceived roles in the education system |
Appendix B: Survey 1 Instrument

UNIVERSITY of GUELPH

Consent Letter

A review of Ontario guidance counsellor’s role in relation to agriculture careers You are invited to participate in this research project because you are a guidance counsellor in Ontario. This information letter is to help you decide if you want to be involved in the project which will involve completion of a five (5) minute online survey.

The purpose of this research is to evaluate Ontario guidance counsellors’ understanding of the career opportunities in the agricultural industry. Although there is no direct benefit to survey participants, this research hopes to find information on how to improve the communication gap between industry and counsellors.

Who is conducting this research study?

Principal Researcher

This research study is being conducted by Dr. Helen Hambly in the department of School of Environmental Design and Rural Development (SEDRD) the University of Guelph, hhambly@uoguelph.ca. Please contact Dr. Hambly if you have any concerns or need more information.

Student Researcher

Paighton Smyth, Master’s student in the department of School of Environmental Design and Rural Development (SEDRD) the University of Guelph, psmyth@uoguelph.ca. The information being collected will be used for my thesis.

Participation & Confidentiality

Your participation in this study is completely voluntary. There is minimal risk to participants which primarily includes privacy. There is no direct benefit to participants. You are eligible to complete this study if you are an English-speaking guidance counsellor in Ontario. As a participant, you are responsible for answering the 5-minute survey questions to the best of your ability. You may also choose to skip any questions. You may withdraw at any time for any reason without any penalty. If you would like to withdraw from the study at any time, you can do so by closing your browser. You are able to withdraw your answers from the study until December 31st, 2018 if you provide your email at the end of the survey by contacting the principal researcher. If you withdraw, all of your responses will be deleted. After December 31st, 2018 you are unable to withdraw your responses from the project. You do not waive any legal rights by agreeing to take part in this study.
Who will know what I said in the study?
Please note that confidentiality cannot be guaranteed while data are in transit over the Internet. However, all collected data will be stored the student investigator’s encrypted computer on a secure server dedicated to these types of surveys. In order to enhance the privacy of your responses, we recommend that you use a private computer in a private setting. As a participant, there is very minimal risk of your individual answers being distributed as the study will use collective responses. All survey data will be stored for one year after completion of the research. All data will be used for this study only. The survey will not ask for any personal information. The results will not be used to compare institutions school boards or create a ranking system among institutions or school boards.

What are the risks and benefits of participating?
The results from this survey will help to understand the gap in knowledge of agriculture careers, and lead to a change in the current education system. Students will benefit as they will gain access to additional information about potential careers choices. The agriculture sector will benefit from this research because with increased awareness of the career opportunities, more students will pursue careers in agriculture and therefore there will be a great number of qualified young professionals in the field. There is minimal risk to participants which primarily includes privacy. There is no direct benefit to participants.

Will I receive any incentives for my participation?
Participants will be entered in a draw for a 1 in 400 chance to win a $100 VISA gift card. You can consent to being entered into the draw by providing your email at the end of the survey. All email addresses will not be used to link to survey responses and will be deleted after a winner in contacted. Participants may skip questions until they get to the section that requires an email address to be entered.

Will I receive information about the results of this research?
The final report will be available to you by checking the website [link to be determined] after April 31st, 2019.

Inquiry Information
This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants.

If you have questions regarding your rights and welfare as a research participant in this study (REB#18-10-003), please contact: Director, Research Ethics; University of Guelph; reb@uoguelph.ca; (519) 824-4120 (ext. 56606).

Please print a copy of this information for your records.
By clicking the “I agree” button below you are consenting to take part in the study.

By clicking below, you are agreeing to participate in this study. Yes, I agree.
Please sign below to indicate you have read the consent form and agree to take part in the study.

× SIGN HERE

Please indicate your title/position in the school system. (Click all that apply).

Guidance Counsellors Teacher
Principal
Other

Which school board are you employed by?

Please indicate your education level, and provide details such as school and program. (Click all that apply).

Bachelors Degree
Masters Degree
Other courses relating to you guidance counselling position

How many years of experience do you have in a role as a guidance counsellor?

0-5 5-10 1-15 15+

Do you have any experience with the food industry, agri-food sector or farming? For example: grew up on a farm, worked in the agriculture sector, etc.

Yes
No Unsure

If so, please explain your experience and familiarity with the agriculture sector below.


In your career, has a student ever proposed a career option in the agricultural field that they would like to pursue?

Yes
No
Unsure

If so, please provide the title and description of the career option the student proposed.

Where did you direct them for post-secondary education options, or additional information to further pursue the career they proposed?

Have you participated in any continued education programming designed specifically for guidance counsellors?

For example: The Ontario School Counsellors' Association's Additional Qualification Courses.

Yes
No
Unsure

If you have completed continued education courses, please provide the program name and year completed.

For example: OSCA Guidance & Career Education Part 1 - January 2018

Have any current information channels for guidance counsellors provided information on careers relating to the agri-food industry?
If you have seen any current information channels provide information on agriculture careers, please provide details of the information distributed.

In your opinion, does the agriculture and agri-food industry have valuable career opportunities for students?

Yes
No
Unsure

Thank you for taking the time to complete the survey.
If you wish to enter into the survey draw for a $100.00 Visa Gift Card, please enter your email below.

We estimate that there will be 400 people taking part, and there will be one prize draw for a $100 Visa gift card. By providing your email, you are registering to be entered in the draw. All emails will be stored for 30 days on an encrypted computer after the survey is closed until a winner is contacted through email and then the information will be destroyed.

Yes, I would like to sign up to be entered into the draw. Please enter email address below.
Appendix C: Survey 2 Instrument

Consent Letter

A review of Ontario guidance counsellor’s role in relation to agriculture careers
You are invited to participate in this research project because you are a guidance
counsellor in Ontario or have experience in the industry. This information letter is to help
you decide if you want to be involved in the project. Participants will be asked to work
through three surveys that build on one another in order to develop solutions the current
communication gap.

The purpose of this research is to evaluate Ontario guidance counsellors’ understanding
of the career opportunities in the agricultural industry. Although there is no direct benefit
to survey participants, this research hopes to find information on how to improve the
communication gap between industry and counsellors.

Who is conducting this research study?

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This research study is being conducted by Dr. Helen Hambly in the department
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need more information.

Student Researcher
Paighton Smyth, Master’s student in the department of School of Environmental Design
and Rural Development (SEDRD) the University of Guelph, psmyth@uoguelph.ca. The
information being collected will be used for my thesis.

Participation & Confidentiality
Your participation in this study is completely voluntary. You are eligible to complete this
study if you are an English-speaking guidance counsellor in Ontario or have experience
in the education industry. As a participant, you are responsible for answering the 10-
minute survey questions to the best of your ability. You may also choose to skip any
questions. You may withdraw at any time for any reason without any penalty. If you
would like to withdraw from the study at any time, you can do so by closing your
browser. Participants are able to withdraw anytime from the three- part survey process
and will be given information on withdrawing prior to each survey. Once the first-round
survey is aggregated to inform the second round, participants cannot withdraw what
they have said in the first round. So, while withdrawal is possible prior to each survey,
once the data have been aggregated, participants cannot withdraw data they have already provided. You do not waive any legal rights by agreeing to take part in this study.

Who will know what I said in the study?
Please note that confidentiality cannot be guaranteed while data are in transit over the Internet. However, all collected data will be stored the student investigator’s encrypted computer on a secure server dedicated to these types of surveys. In order to enhance the privacy of your responses, we recommend that you use a private computer in a private setting. As a participant, there is very minimal risk of your individual answers being distributed as the study will use collective responses. For this research, verbatim quotations from participants can be used in the second and third surveys, so participants are encouraged to avoid phrases that could potentially be indirect identifiers in their responses. All survey data will be stored for one year after completion of the research. All data will be used for this study only. The survey will not ask for any personal information. The results will not be used to compare institutions school boards or create a ranking system among institutions or school boards.

Will I receive any incentives for my participation?
Participants will be entered in a draw for a 1 in 50 chance to win a $100 VISA gift card. You can consent to being entered into the draw by providing your email at the end of the survey. All email addresses will not be used to link to survey responses and will be deleted after a winner is contacted. Participants may skip questions until they get to the section that requires an email address to be entered.

What are the risks and benefits of participating?
The results from this survey will help to understand the gap in knowledge of agriculture careers, and lead to a change in the current education system. Students will benefit as they will gain access to additional information about potential careers choices. The agriculture sector will benefit from this research because with increased awareness of the career opportunities, more students will pursue careers in agriculture and therefore there will be a great number of qualified young professionals in the field. There is minimal risk to participants which primarily includes privacy. There is no direct benefit to participants.

Will I receive information about the results of this research?
The final report will be available to you by checking the website [link to be determined] after April 31st, 2019.

Inquiry Information
This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants. If you have questions regarding your rights and welfare as a research participant in this study (REB# 180-10-003), please contact: Director, Research Ethics; University of Guelph; reb@uoguelph.ca; (519) 824-4120 (ext. 56606).
Please print a copy of this information for your records.
By clicking the "I agree" button below you are consenting to take part in the study.

By clicking below, you are agreeing to participate in this study. Yes, I agree.

Please sign below to indicate you have read the consent form and agree to take part in the study.

_________________________________________ × SIGN HERE

In your opinion, what improvements should be made on the existing continued education programs for guidance counsellors in Ontario?

In your opinion, what is most effective learning method for continued education initiatives for Ontario guidance counsellors?
For example: Mentor type programming, provided reading materials, etc.

In your opinion, what do you feel is the most convenient form of continued education for Ontario guidance counsellors? For example: Online Courses, Annual Conferences, etc.
Thank you for taking the time to complete the survey.
If you wish to enter into the survey draw for a $100.00 Visa Gift Card, please enter your email below.

We estimate that there will be 50 people taking part, and there will be one prize draw for a $100 Visa gift card. By providing your email, you are registering to be entered in the draw. All emails will be stored for 30 days on an encrypted computer after the survey is closed until a winner is contacted through email and then the information will be destroyed.

Yes, I would like to sign up to be entered into the draw. No, I would not like to sign up to be entered into the draw.

Please enter email address below.
Appendix D: Maps of Ontario School Boards

English Public District School Boards

Source: (Education Funding Branch, 2017)
French Public District School Boards
Source: (Education Funding Branch, 2017)
French Catholic District School Boards

Source: (Education Funding Branch, 2017)