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Career AGsperience: An Innovative Approach to Teaching Teens about Agriculture Careers

Abstract

In response to the growing need to obtain and retain workers in the agriculture-related industries, a team of 4-H educators from University of Maryland Extension developed the Career AGsperience program. Career AGsperience is a career literacy program designed to increase participants' knowledge of agricultural careers and preparation for careers in Animal Science, Environmental Science, Agri-Business and Leadership, and Agriculture Science and Technology. The Career AGsperience team has developed a curriculum with six lessons related to agriculture careers, career planning, resume development, internship acquisition, interviewing skills, and social etiquette. This curriculum was developed for agriculture-related workforce preparation. The curriculum includes supplemental materials and assessment tools for virtual and in-person programming. Additionally, the Career AGsperience program is supported by a website and YouTube channel that contain supplementary career resources.

Introduction

Although agriculture is a multi-billion dollar industry which directly affects everyone in the world, employers still struggle to find qualified candidates to fill vacancies within the agriculture career sector. "As a multi-billion dollar industry, it's shocking to know how

many job seekers are unaware of the incredible, high-paying opportunities agriculture has to offer. It's an industry that is constantly evolving and consistently in desperate need of new talent. Ag careers provide job security, competitive pay rates, and the chance to really have an impact on your community." (Moyer, 2019).

There are more than 300 million people in the United States who need to put food on their tables. Over the next 35 years the world's population will increase to near 9.6 billion, making the need for increased food production through agriculture more significant than ever. The agriculture community needs to work together to increase agricultural production by 70%; therefore, generating qualified candidates for agriculture jobs around the world will be essential for many years to come (Moyer, n.d.)

Maryland's growing population of more than 6 million is largely located in urban and suburban areas, and most of the population is several generations removed from direct work in farming. Therefore, it is imperative to educate youth about Maryland's agricultural heritage and importance, as well as related agricultural careers. Enabling teens with little knowledge of agriculture and teens with an existing interest in agriculture is essential for workforce preparation. Exploring the vast array of career opportunities connected to agriculture will increase teens' pursuits of postsecondary training and degrees connected to agriculture, as well as enhance their interest in and success at pursuing careers within agriculture-related fields.

Twelve years ago, University of Maryland Extension developed an agricultural educational program called AGsploration: The Science of Maryland Agriculture with initial grant funds from a United States Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) grant. The AGsploration program is based on a 24-lesson, peer reviewed curriculum (Figure 1) developed by University of Maryland Extension educators to address the widening gap between a more urban population and the knowledge of where their food and fiber comes from. The program's target audience was middle school youth because little or no middle school agriculture education was taking place across the state. AGsploration also focused on bolstering youth abilities in science, technology, engineering and math (STEM) and getting them to consider

agriculture and STEM fields as potential educational or career tracks. The curriculum is free and is supported by a website and a YouTube channel. It has been disseminated using trained teen teachers, Extension staff, volunteers and public, private, and homeschool teachers. More than 50,000 Marylanders have enjoyed participation in AGsploration lessons with great results: 25% of youth indicated wanting to pursue an education or career in agriculture or science and more than 50% could better identify careers in those related areas helping to create the next generation of agriculturalists, scientists and informed consumers.



Figure 1. Curriculum cover page

Encouraging youth to look at skills through a workforce preparation lens may help make a connection between what they are learning now and skills needed for the future, provide a level of urgency and motivation by making a real world connection, and foster opportunities to practice these skills in 4-H. (Cochran et al., 2010). Recognizing that educating about agriculture was only one component of a multi-faceted approach and there was a need to obtain and retain workers in the agriculture industry, a teen agricultural workforce preparation program was developed. Through the development

and implementation of Career AGsperience, there is a focus on teen agricultural workforce preparation.

“Providing robust college and career readiness programming—informed by the literature and stakeholder perspectives—can offer youth novel opportunities to develop a clearer sense of future opportunities for their success.” (Gee et al., 2019). Career AGsperience is a career literacy program designed to increase participants’ knowledge of agriculture careers and preparation for careers through a curriculum with six lessons related to agriculture careers, career planning, resume development, internship acquisition, interviewing skills and business etiquette. This curriculum was developed for agriculture-related workforce preparation. The curriculum includes supplemental materials and assessment tools for virtual and in-person programming. Furthermore, the Career AGsperience program is supported by a website and YouTube channel that contain supplementary career resources.

Methods

Innovation

In recent years, many Maryland school systems have increased emphasis on preparation for direct entry into the workforce and postsecondary education including attending trade schools and two-year or four-year colleges or universities. According to the Maryland State Department of Education “Raising students’ awareness of their strengths and positive traits helps set the stage for building skill sets that are transferable as children mature into adolescence and adulthood and subsequently into the 21st Century workplace.” Unfortunately, in many Maryland counties, public school career education tends to rely on a “one size fits all” approach with instruction that is geared toward a generic concept of careers. This instructional approach lacks a depth of focus on specific career sectors. Some school systems require students to select career majors or pathways, but these programs often lack intentional articulation between the career majors, the courses that are organized under each major and the workforce opportunities.

The Career AGsperience Program is innovative in that it has identified a unique, specific target audience that is often overlooked: teens with an interest in careers connected to agriculture and those who may develop an interest following exposure to agricultural careers. Agriculture was selected as the program focus because when considered as a whole, it is one of the largest sectors of the state's economy and greatest contributors to the state's gross domestic product. Although only a small percentage of Maryland residents work directly on farms, the agriculture sector includes diverse careers in areas including forestry, turf grass, seafood, food distribution, agribusiness, agriculture communications, agriculture engineering, and agriculture research. The array of career opportunities in agriculture is vast for today's youth.

Career AGsperience accomplishes two goals that schools struggle to reach: (1) enable teens to visit agriculture enterprises and experience authentic interactions and networking with agriculture professionals; and (2) offer hands-on agriculture-focused workforce preparation lessons that address essential workforce preparation concepts such as researching careers and identifying career internships, applying and interviewing for jobs and college admissions and self-marketing through resumes, cover letters, and social media. This targeted approach helps teens with an interest in agriculture discover the career opportunities available to them, narrow their areas of interest, and prepare for entry into the agriculture workforce or agriculture-related postsecondary education.

Program development

A team of University of Maryland Extension 4-H educators collaboratively applied for and received a grant from USDA/NIFA in 2019 which provided the seed money for Career AGsperience to be developed and implemented. With the team meeting every month in the first year, lessons were written, developed and pilot tested using the recommended Maryland Department of Education lesson plan template model. Each lesson is written in the 5E (Engagement, Exploration, Explanation, Extension and Evaluation) lesson format (Figure 2). The six lesson plan topics include:

- Agriculture-Related Careers
- Your Future: Planning and Goal Setting
- Resumes: Marketing Yourself Professionally
- How to Find and Make the Most Out of Internships
- The Pieces of Interviewing
- Social Etiquette for Success



Figure 2. Screenshot of 5 E lesson plan format

Additional resources, supplementary materials and Institutional Review Board (IRB) approved evaluation tools were developed to be utilized in conjunction with the lesson plans (Figure 3). Some examples are:

- Delivery and Replication Information including example schedules
- Ag Career Bingo
- Ag Career Kahoot Game
- Ag Career Minute to Win it Games
- Ag Intern and Ag Career Panel Questions
- Ag Career Trivia Game

- Social Media Examples
- Social Etiquette Scenarios
- Example Resumes and Cover Letters
- Mock Interview Questions
- YouTube channel with career connection videos



Figure 3. Examples of additional resources and supplementary materials to support the lessons.

With the exception of contacting guest presenters, the curriculum is self-contained and ready to be taught with little advance preparation virtually, hybrid or in-person.

Delivery methods and replication

The Career AGsperience program can be taught in-person, hybrid or virtually. It can be taught as a complete program, a series of consecutive lessons, or independent standalone lessons.

Replication of the program can easily be accomplished because the curriculum is written in a user-friendly 5E format. The curriculum is self-contained and ready to be taught with little advance preparation.

Items to consider in advance:

- Advertisement of the program
- Management of a registration process
- Communication with registered participants
- Securing guest presenters in advance to serve on Agriculture career/internship panels

The curriculum has been evaluated and published through the University of Maryland FastTrack Publication system and is located at

<https://extension.umd.edu/resource/career-agexperience-ec-15>

Program implementation

As the curriculum was being developed to be taught in-person with full and multiple day sessions, the pandemic transformed the direction of the project. Therefore, the finalized curriculum was developed to be taught in-person as a full-day session or virtually through a series of six 90 minute learning sessions. The lessons can be taught independently of each other or as a series. Although the curriculum has been developed for agriculture-related careers, most topics can easily be adapted for career exploration in other career sectors.

Since its inception, the curriculum has been taught:

- as a virtual six week series where youth participated in 90 minute sessions each week over a consecutive six week period.
- in-person as a day long program with youth engaging in hands-on experiential learning activities
- as individual lessons integrated into other 4-H programming including being presented at teen workshops, club meetings, after-school venues and through library programs.
- as a program overview at the National 4-H Youth Agri-Science Summit.

Results

The Career AGsperience program is meeting the needs of youth in career and skill development and helping plan for their future endeavors in agriculture-related careers:

Career AGsperience program results – virtual (2020-2021)

- 100% learned “a lot of” new information about workforce preparation.
- 100% indicated that presenters were effective in communicating program content.
- One Career AGsperience participant stated that “they learned so much and they wished that the 6 session program was not ending.”

Career AGsperience program results - National 4-H Youth Agri-Science Summit (2021)

- 98% of youth participants increased their knowledge of agriculture-related careers.
- 100% said the summit increased interest in pursuing agriculture-related careers.
- 73% of youth participants said that they identified one or more careers in agriculture that are a good fit.

Career AGsperience program – in person (2022). Youth attendees completing the post-survey strongly or somewhat agreed to the following statements

- 100% better understand how science is involved in agriculture.
- 100% know more about agriculture-related career opportunities.
- 100% are interested in learning more about agriculture-related careers.
- 100% are interested in pursuing an agriculture-related career.
- 80% better understand how agriculture affects them.
- 80% better understand why agriculture-related careers are important.
- 80% feel better prepared for pursuing their future educational/career aspirations.
- 100% answered yes that they plan to go to college or seek other vocational training after high school.

Additional results include

- In 2022, the curriculum went through the University of Maryland Extension peer review process and was accepted (EC-15).
- To date, 25 individuals from 6 states have downloaded the curriculum.
- Since 2020, the Career AGsperience program inception, 38 youth have been taught the entire AGsperience curriculum and 263 youth and college interns have been taught a lesson or the overview by team members.
- The Career AGsperience program was featured at a Junior Achievement of Central Maryland Virtual Booth for over 10,000 youth.
- Since 2021, 115 educators or volunteers have attended an AGsperience program training or presentation.
- As of December 31, 2022, the 28 public & 2 unlisted AGsperience/Career AGsperience educational videos on YouTube have had 18,578 unique views (3,851 unique views in 2022) including adding 13 new Career Connection videos in 2022.
- The team conducted a Maryland educator training in June 2022.

- The team highlighted the program in August 2022 for the National Association of Extension 4-H Youth Development Professionals (NAE4-HYDP) Ag Literacy Group Lunch & Learn.
- A Career AGsperience presentation and poster was presented at the NAE4-HYDP Conference in October.
- The program has been connected with the University of Maryland Agriculture and Natural Resources Advance Innovative, Profitable, and Sustainable Agricultural Production Systems Strategic Initiative, which includes the Agricultural Careers and Entrepreneurship (ACE) Virtual Center.
- The team has also been in discussion with the Maryland Agricultural Education Foundation middle school education director about sharing the curriculum through their educational programs, including a direct mailing containing a Career AGsperience lesson and promotional materials to Maryland middle school guidance counselors.
- The curriculum will be used to highlight agriculture career preparation as part of the free university-wide open learning platform.

Conclusions

Many times when youth are asked about agriculture-related careers, the top two careers they identify are farmers and veterinarians. However, there are a vast array of agriculture-related jobs and careers available. It is imperative to continue educating youth about agriculture as well as agriculture-related careers and it is essential for agriculture workforce preparation. Exploring the vast array of career opportunities connected to agriculture will increase teens' pursuits of postsecondary training and degrees connected to agriculture, as well as enhance their interest in and success at pursuing careers within agriculture fields. The Career AGsperience Program takes a fresh approach to educating youth through hands-on engaging activities to explore agriculture-related career opportunities and gain knowledge to be successful in their endeavors.

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