Educational Program Planning Guidelines for Agricultural and Natural Resource Extension Educators

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Section 1: Introduction

Background Information to Express the Need for the Project

Extension programming has been influential to the growth of the United States since it was created in 1914 as a result of the Smith-Lever Act. “The [Smith Lever]act was introduced by Senator Hoke Smith of Georgia and Representative A. F. Lever of South Carolina to expand the vocational, agricultural, and home demonstration programs in rural America. The creation of a formal outreach arm for a university that was supported by federal, state, and local funding was a unique and innovative idea growing from the land-grant universities, which had been founded to provide practical higher education opportunities to the common man” (Rasmussen, 1989). Extension has provided education to people regarding agriculture and natural resources, community development, nutrition, and has provided youth development opportunities for over 100 years. Two people that were also inspirational in starting Extension education were Seaman Knapp and George Washington Carver. Both men were innovative in their on-farm teaching methods and helped many farmers throughout the late 1800’s. The framework for the way Extension agents, now called Extension educators, would carry out their work mirrored the work of Knapp and Carver.

The identified need for enhancing education and communication for agricultural producers started with the need for increased food production. “The effect on agriculture production in this country was rapid and firmly established a trend that would eventually position the United States as one of the top agricultural economies in the world” (Gould, Steele and Woodrum, 2014). By the early 1900’s, cities were starting to develop and expand, and

people who lived in those urban areas had an increased need to rely on agricultural producers to keep them fed. Prior to this time, the majority of the population in the United States lived in rural areas and grew their own food. Most farmers only raised enough to feed their own families and did not sell much of the commodities they produced. As more people moved to urban areas to work in factories and other non-agricultural jobs, the need arose for increased food production. Leaders of the country recognized the need to educate farmers to be more efficient with their methods to enhance their production output. At the time, many farmers did not go to college to further their education, therefore the instruction had to be less formal and brought to them. “These visionary leaders realized that the great amount of learning that was going on in the land-grant colleges needed to find a broader audience if it was truly going to influence the rural society of the day. The leaders worked hard to expose farmers to the new technologies and techniques coming forth from agriculture schools by doing on-farm demonstrations, field trips, and home visits to show the practical applications of this knowledge” (Gould, Steele, & Woodrum, 2014). The mission of land grant universities providing outreach and education is still a vital resource for many rural communities today.

Extension has provided the opportunity to educate agricultural producers and promote farm practices to enhance production. Extension programming has provided the opportunity for producers to attend educational events at little or no cost and to receive up to date information on management practices, technology, and other attributes of running a more efficient farming operation. Sherman A. Johnson noted in 1949 that “the adoption of combinations of improved farm practices could bring about major changes in farm productivity…the improvement of every part of the farm operation resulted in a vastly greater

increase in productivity than might be expected if the increases resulting from each individual improvement were added up" (Rasmussen, 1989). Throughout the decades, Extension programming has evolved to meet the changing needs of agricultural producers, as well as its broader audiences.

Extension has enabled agricultural producers to continue their on-farm education as new information is discovered. As regulations, best management practices, and other agricultural aspects change over time, producers are able to learn about the new breakthroughs in their own community instead of traveling to a university or other areas of the state.

Extension has evolved, just as agricultural production methods have changed over time. In addition to agricultural and natural resource educators, programs for youth development, home economics, community development, and others have been added to Extension. These programs broadened the potential audience for Extension personnel and have made it possible to improve the lives of more people expanding the impact to non-traditional audiences.

Importance of Extension Programming Today

The need for agricultural producers to continue to learn new production and management methods has not changed. Urban areas continue to expand and the amount of food required to keep the world fed is increasing. "Development is irreversibly diminishing the limited supply of U.S. farmland, raising serious food-production, economic and environmental concerns. Almost 31 million acres, double the amount previously documented, were lost to development from 1992 to 2012" (Knutson, 2018). Farmers have been able to increase

production per acre due to more efficient practices and through the use of technology. Extension plays a critical role in assisting farmers in making educated changes on their farms to achieve this increased production.

Many of today's Extension programs now include certifications for producers to continue their farming practices. These programs include fertilizer application, pesticide application and beef quality assurance certifications. By allowing Extension educators to provide certifications in their local area, the producers do not have to travel out of their own county to benefit from the program. As a result, Extension continues to influence agricultural producers and help them solve the issues they face. Producers are able to keep up to date with the most efficient and effective methods and they can also keep up to date with laws and policies.

Significance of Extension Programming

Each county in the United States has an Extension office, supported by land grant universities (National Pesticide Information Center, N/A). The structure of each Extension office varies depending on the needs of the community. The centennial celebration in 2014 provided an opportunity for Extension to pause and review the tremendous accomplishments that Extension facilitated throughout the past 100 years, but it also provided an occasion to consider its place in contemporary society and lay the groundwork for another century of accomplishments (Gould, Steele, & Woodrum, 2014).

The work that Extension carries out has expanded to reach beyond agricultural producers. Extension now connects with a consumer population that has been removed from

agriculture and educates not only about food production but how to properly prepare it. “With an increased emphasis on issues pertinent to urban clientele, Cooperative Extension has maintained its support of traditional producer education programming, while assisting people in different environments than previously considered possible. A major emphasis has been given to the expansion of organically managed crops, and there has been an increased focus on local and regional food systems to provide fresh, high quality produce” (Gould, Steele, & Woodrum, 2014). As producers work to make their farms more productive and profitable, Extension aids in the process for producers to diversify their traditional production methods.

In a modern digitalized world, it is critical for Extension to maintain its relevance and protect its heritage while also impacting the future. It is important for educators to not only take the time to plan educational events relevant to communities, but it is also important to motivate the clientele to attend the events. People have increasing power and knowledge at their fingertips with technology. In order to motivate people to attend Extension events, the events should be intellectually stimulating and provide quality information that is helpful to participants. The information being presented by an educator should be organized in a way that the audience understands and can apply. A tool that would assist Agricultural and Natural Resource educators in the planning of Extension programs to ensure they meet program objectives, enhance outreach, and promote career development would be a significant benefit. If more Extension audiences have a positive experience at one Extension program, they could be more apt to attending another. A tool that provides guidelines and best practices based on research that Extension educators can reference when program planning could assist educators

in promoting educational opportunities in their area. This could result in an increased number of clientele who work with Extension educators.

Issues Faced by Extension Educators

“When asked to "prove our worth," Extension educators respond by sharing "program achievements" (Graf, 1988). Maximizing the quality and quantity of programs is key to an Extension educator's success. However, producing quality Extension programs requires time, a resource of which there never seems to be enough. A program planning tool that improve Extension educators' program production efficiency or return on time invested have value (Bowling, 2001). A set of program planning guidelines that can be effective for all Agricultural and Natural Resource Extension educators would allow educators to be more efficient with their time, and promote effective planning of programs in their communities. “The challenge for those who design and deliver professional development for Extension educators is that no two Extension educators are the same. They are professionals with varied areas of subject matter expertise and experiences that determine their individual training needs” (Knowles, Holton, & Swanson, 2005). Some educators will spend their careers educating their local clientele on subjects that are never covered by other Extension educators. A set of program planning guidelines must be applicable when planning programs about livestock and dairy production, crop production, farm business management and any other program that an Agricultural and Natural Resource Educator would be responsible for planning across the state.

The lack of recognition of Extension programming within communities can be detrimental to the future of Extension and the people that are benefited by Extension

programs. “In spite of its community ties and impacts on health behaviors, the system continues to function as one of the nation's ‘best kept secrets’. This lack of recognition could be detrimental, as public perception of Extension and the measurable impact the system has on population health are tied to funding streams and decision making regarding its value and structure (Franz, 2014; Warner, Christenson, Dillman, & Salant, 1996). To better disseminate results and increase public perception and health value, stronger Extension program planning and evaluation are needed” (Balis, John, and Harden, 2019). A tool that can help Ohio Extension educators with these tasks, that is supported by researched theories, is not currently available.

Available Planning Tools

A program planning tool was created to be used by 4H educators by Cornell University. “In 2002, members of the 4-H Science and Technology Program Work team (PWT) initiated a group process to understand more about what constitutes a fun, exciting, and successful science-oriented learning experience” (Eames-Sheavly, Gans, and Coffman, 2007). The team compiled ideas from both educators and youth into a planning tool that would help 4H educators in being more deliberate as they renew existing and develop new science and technology programs. The planning tool was then presented to educators to use as they worked through the planning of science and technology-based programs. “A 2005 survey of 24 New York 4-H educators showed that most recognized its validity, but felt they had internalized the ideas and did not need to constantly refer to the checklist. The checklist was most frequently used when training new volunteers and staff” (Eames-Sheavly, Gans, and Coffman, 2007).

The RE-AIM (reach, effectiveness, adoption, implementation, maintenance) framework for program planning is one resource utilized by the Extension profession. “RE-AIM can be used to prioritize the focus of activities toward intended audiences and outcomes, determine how each dimension will be assessed, and develop data collection, management, evaluation, and reporting guidelines” (Balis, John, and Harden, 2019). The RE-AIM framework was developed to assist in the planning of health behavior interventions but has been adopted by educators in each branch of Extension.

Project Need

Although there are resources that exist for Extension educators to utilize when planning educational programs, a review of literature identified a gap in resources specific to agricultural producers. The difference in the Program Planning Fact Sheet proposed by this project from the RE-AIM tool and the tool created by Cornell University will be the theories used as the basis for program planning. The Program Planning Fact Sheet will include the use of Diffusion of Innovation Theory as a lens to promote programs and a guide for how to choose a location to carry out those programs. Allowing participants to see other farming operations instead of sitting in a meeting room could increase their interest in a program. This theory will be used to build the preplanning portion of the fact sheet. Self Determination Theory will be used to build the planning portion of the fact sheet and Expectancy Value Theory will be used in the promotion portion of the fact sheet.

Project Objectives

This project aims to provide a resource to assist Agricultural and Natural Resource Extension educators plan educational programs. Extension education is diverse to reflect the local communities and their needs. Therefore, the resource must be able to be used in the planning of all areas of Agricultural and Natural Resource Extension education.

The primary objective of this project is to develop a Program Planning Fact Sheet (PPFS) for Agricultural and Natural Resource Extension educators. The PPFS will serve as a resource that Extension educators can utilize as they plan educational programs. The PPFS will be developed using research supported best practices and motivational theories. After the PPFS is developed, it will need to be made available to Extension educators across the state. The goal is for the PPFS to help Extension educators increase attendance to the educational programs they carry out. The PPFS will provide guidelines for Extension educators to utilize when planning programs, as well as include practices that should be avoided.

A secondary objective of this project is to assist Agricultural and Natural Resource Extension educators in building stronger relationships with their clientele through local educational programs. If the Program Planning Fact Sheet can guide educators to utilize best practices when planning educational programs, including guidelines to help make programs applicable in the local context, then the intended outcome would be to support credibility of the educator and foster the educator-clientele relationship. If clientele are able to apply the information they receive from an Extension program, and the application leads to perceived

benefits on their farm, clientele could become more motivated to attend additional Extension programs.

Procedures

Information for developing the Program Planning Fact Sheet was gathered from peer reviewed and research supported sources. The information was collected, analyzed for relevance, and organized with the objective of developing a resource for Agricultural and Natural Resource Extension educators to aid in program planning. Feedback from experienced Extension educators helped to establish content validity and to ensure the PPFS is an applicable resource for Extension educators in the field. Agricultural and Natural Resource Extension educators in Guernsey, Monroe, Noble, and Belmont counties were invited to provide feedback on how the PPFS could be used by Extension educators and ideas for content that should be included. Feedback was received from Clif Little, Agricultural and Natural Resource educator in Guernsey county and Caitlyn Turner Agricultural and Natural Resource educator in Monroe county. Their suggestions were applied to the PPFS. Expectancy value theory, self-determination theory, and diffusion of innovation theory were used as a lens for developing the PPFS to help educators better understand how their clientele learn and to recognize how motivation can be used in the planning of educational programs.

Section 2: Procedures followed to conduct the project.

Information gathering procedures

A. From whom/where gathered

The information gathered to develop the Program Planning Fact Sheet for Agricultural and Natural Resource Extension educators to follow when planning educational programs predominately came from current and past Extension educators. The online Journal of Extension provided information about program aspects that help with the positive response from clientele. Articles within the Journal of Extension included information on how theories can be used to help understand how people learn and how those theories can assist with the planning of Extension programs. Common search words used when researching this topic included 'motivation, program planning, attendance, clientele relationship, and promotion'. The articles containing these words were selected. The articles were reviewed to find relevant information for this project.

Information was also gathered from Agricultural and Natural Resource Extension educators from Monroe and Guernsey counties. The Program Planning Fact Sheet was sent to the educators via email. The PPFS was also sent to educators in Noble and Belmont counties. They did not respond. The educators then provided me with feedback after they had reviewed the PPFS. Each educator included additions that could be made to the PPFS to make it more beneficial for educators working through the program planning process. Clif Little, Guernsey County Agricultural and Natural Resource educator has been an educator since 1990. His experience has provided him with vast knowledge of successful program planning. Caitlyn

Turner, Monroe County Agricultural and Natural Resource educator has been in the position since April of 2019. She has not had the opportunity to plan many programs in the first months of her Extension career. The two educators were able to look at the PPFS with different perspectives which provided me with valuable feedback.

B. When gathered

Information was gathered from online sources throughout the Summer 2019 and Autumn 2019. Information gathered from Agricultural and Natural Resource Extension educators occurred during the second half of the Autumn 2019 semester.

C. How gathered

Information was gathered by reading through journal articles and other accredited sources and determining which information added value to the project. Information was also gathered by interviewing Agricultural and Natural Resource Extension educators from Monroe and Guernsey counties in person and through phone interviews.

Assembly and Analyses Procedures

The information gathered was combined to express the importance of a Program Planning Fact Sheet for Extension educators and to identify how that information that will assist in the creation of a resource. Journal articles written by Extension educators that have been published by the Journal of Extension include aspects that make a program successful and theories that explain how people learn which can be a basis for program planning.

In order to create the PPFS, I analyzed other fact sheets that had been created by Extension educators. These fact sheets are available online. I organized guidelines into the layout of a fact sheet. Those guidelines were derived from the three motivational theories focused on for this project. The guidelines were broken up into four planning phases.

The PPFS includes preplanning, planning, and promotion guidelines. Diffusion of Innovation Theory will be used in the creation of the preplanning guidelines. Self-determination theory is an aid to the planning of projects. Expectancy value theory will be used to create promotion guidelines.

Diffusion of Innovation Theory is used by Extension educators in the planning of programs. The theory breaks members of a group into five categories that include innovators, early adopters, early majority adopters, late majority adopters and laggards. By breaking participants of past programs up into these categories, educators can evaluate why each participant fell into the category that they did. Also, once educators determine the innovators in their area, they can always refer to those individuals when they need advice on a topic, or a location to hold future programs.

In order to keep the interest of clientele, educators need to work to meet their needs. Self-determination theory was used by Extension professionals in Minnesota to create a Master Gardener Volunteer recruitment and training model. “We knew that meeting volunteer needs would be key to our success. In developing materials for the project, we considered the self-determination theory tenet that people are more likely to be intrinsically motivated when basic psychological needs, such as autonomy, competence, and relatedness, are met and key

volunteerism priorities, such as flexibility, preparation of skills, and support from Extension staff and other volunteers, are considered" (Frendo, 2013). If someone is more motivated to learn the information that is going to be presented at a program, they are more likely to take the time to attend the program and give their full attention to the educator. This theory can be used as a constant reminder to find the needs of the community and plan programs that are applicable to community members.

Expectancy-value theory of achievement motivation relates to the willingness for people to attend educational events held by Agricultural and Natural Resource Extension educators. This theory explains how people are more likely to attend a program and try to gain new knowledge if they have the belief that the knowledge is going to benefit them. Attainment value is defined as the importance of doing well on a task. If the clientele has the belief that the information covered will be difficult to understand, they may not feel that they will be able to comprehend the information. "When individuals do tasks that are intrinsically valued, there are important psychological consequences for them, most of which are positive (Deci & Ryan, 1985).

Literature Review

One of the issues that Extension educators, as well as other adult educators, face is keeping the attendance up at the workshops they carry out. With all of the time, money, and other resources that are spent on planning and facilitating programs, having low attendance or even no attendance make it difficult for the educator to feel like they are making an impact.

There are factors that affect the attendance of programs held by Extension professionals. One of the factors is that some people are not interested in learning new information and they are content with the way they already do things. One barrier to communicating with clientele that is frequently listed is the lack of interest in AGNR-related issues from clientele, “specifically, clients do not see how AGNR affects them and how they can make a difference in the issues addressed by agents” (Brain, Irani, Hodges, and Fuhrman, 2009). Another barrier preventing the communication with clientele is the overall lack of time (Brain, Irani, Hodges, and Fuhrman, 2009). The lack of time has increased the use of the internet to allowed people to gain knowledge from home. It is more convenient for people with full time jobs, families, and farm work to do in the evenings to simply log on to a computer and search for information. Another factor that can impact attendance is the quality of the relationship that the educator has with their clientele. If the local clientele have a high satisfaction with the programs they have attended, those people are more likely to return to future programs (Terry & Israel, 2004). Another important consideration when examining attendance of educational events is the social aspect. Many participants come to events to visit with friends and neighbors with similar interests (Burkhart-Kriesel & Caine, 2004).

Status of Farmers

A contributing factor for decreased attendance to educational programs geared toward farmers is the fact that there are less people making farming their sole source of income. “Of America's 3.4 million farmers, nearly two out of three work off the farm. And a whopping 40% of all farmers work 200 or more days off the farm every year, according to the 2017 U.S. Census of Agriculture” (Agweek Editorial Board, 2019). It is difficult for new agricultural professionals to

start out in the agricultural industry due to the high costs of land, equipment, livestock, and other resources required to get started. Farmland values continue to rise every year and is getting harder for young producers to acquire land to start their operations. As a result of this, the average age of farmers in the US in 2012 was 58.3 years old (Census Highlights, 2017). One of the causes of these high land values is urban expansion. “It is estimated that 1.5 million acres of productive farmland are lost every year to urbanization. This figure averages out to almost two acres every minute” (Sell, 2000).

Since more people earning their main income from off the farm jobs, they may be less concerned about making a profit and staying up to date on the best management practices possible. They are farming because they enjoy it and like to grow something on the land that they have available. They are likely to use the practices that were taught to them by their parents and grandparents.

Just as in any profession, there are some agricultural producers who are content with the way they operate their farms, even if it is not the most efficient and effective way. Veteran farmers may be apprehensive to trying something out of the ordinary. The result may not be what is expected so they continue to use the methods they are used to.

Technology in Agriculture

There has been an increase in the use of the internet throughout the last two decades. According to Census Bureau’s 2015 American Community Survey, “Among all households, 78 per- cent had a desktop or laptop, 75 percent had a handheld computer such as a smartphone or other handheld wireless computer, and 77 percent had a broadband Internet subscription”

(Ryan & Lewis, 2017). The majority of people in the United States have internet access and are able to conduct research on their own. This trend has decreased the need for farmers to build a strong working relationship with their county Agricultural and Natural Resource Extension educator. It has also led many educators to embrace the technology and use it to their advantage. The use of social media and webinars are forms of technology that have been used to reach clientele that educators may not have worked with any other way. While the increased use of the internet has allowed for more distance learning options, for many people, a traditional workshop setting is still preferred.

Social Aspect of Educational Programs

It has been historically noted that some people who do attend meetings held by Extension professionals are simply there for the social aspect, which is also a learning tool for some agricultural producers. Participants are able to hear about what their peers are doing differently and may take some of the information into consideration on their own operations. “It didn't take long for the first County Extension agents to realize that social interaction was an important component of traditional face-to-face educational programming. Initially, interaction was necessary to counteract the social remoteness of agricultural life, and to some degree it still is important for that same reason. Today Extension professionals casually joke about the use of food as a component to entice people to attend meetings. Perhaps educators are doing a disservice by not looking deeper--what does that social time offer the adult learner? In reality, it provides a venue for social interaction that will enhance the learning process. In 1999, colleagues reminded us of this fact. “Never underestimate the need for social interaction. Due to the remoteness of agricultural life and the nature of the business, people look forward to

attending Extension meetings for the social aspect as well as the educational materials. Schedule time before or after the program for social interaction. After a few years, this social time becomes tradition and supports attendance at meetings. Many times, more Extension work takes place at these social functions than during the program itself" (Torrell, Bruce, & Kvasnicka, 1999, 3; Burkhart-Kriesel & Caine, 2004).

Educator/Clientele Relationship

A crucial step in successful Extension meetings is establishing credibility with clientele. (Torrell, Bruce, & Kvasnicka, 1999, 3). It could take time for a new educator to gain the respect that the previous educator in that county had. New educators should work closely with their mentor to become better planners and presenters of information. "Additionally, as new educators are recruited and hired, experienced educators should mentor and encourage them, develop relationships with them, and convey the positive aspects of being an Extension educator" (Penrose, 2017).

Diffusion of Innovation Theory

Diffusion of Innovation Theory is used by Extension educators in the planning of programs. "Throughout the years, it has remained instrumental to Extension professionals, scholars, and students alike and continues to be useful in countless other fields, including medicine, telecommunications, information technology, and social marketing. Diffusion is the process by which an innovation is communicated through certain channels over time among members of a social system" (Rogers, 1963). The theory breaks members of a group into five categories that include innovators, early adopters, early majority adopters, late majority

adopters and laggards. “These five categories are often visually represented as S- and bell-shaped curves. The S-shaped curve indicates the cumulative number of adopters from innovators to laggards; the bell-shaped curve represents the resulting normal distribution” (Rogers, 2003). The S-shape curve illustrates the amount of adoption based on amount of time. At the beginning, few people are willing to implement a new practice, concept, or new technology. Over time, as innovators and early adopters use the new practice, concept, or technology, they influence the early and late majority. “In summary, all things being equal, the more profitable, understandable, personally compatible, observable, and testable the participant considers the innovation, the higher the potential for adoption” (Hubbard and Sandmann, 2007).

“Other concepts relevant to the diffusion of innovations framework and having influence on adoption/rejection decisions include those relating to the communication channel, social networks, and external factors” (Rogers, 2003). The communication channel is the agency working to promote new innovations. “Social networks and systems include support systems such as a local farmer/forest owner organization or association and the type and amount of interaction with professionals following the educational intervention” (Hubbard and Sandmann, 2007). External factors affecting innovation adoption include cost of adoption, potential return on investments, and time available to implement new practices, concepts, or technology.

Self-Determination Theory

Self-determination theory states that people have a need, or instinct, to gain knowledge. People want to gain knowledge that they feel is important. “Reasons for

participation often determine one's performance in a given endeavor. Extrinsic motivation is reflected in one's response to others' expectations or desire to attain an award, goal, or status; intrinsic motivation is reflected in one's self-interest and personal enjoyment and plays a role in why youth will participate and how much effort they will put into the activity (Deci & Ryan, 1985).

Self-determination theory can be used by Extension educators in the planning of their educational programs. Self-determination theory was used by Extension professionals in Minnesota to create a Master Gardener Volunteer recruitment and training model. “We knew that meeting volunteer needs would be key to our success. In developing materials for the project, we considered the self-determination theory tenet that people are more likely to be intrinsically motivated when basic psychological needs, such as autonomy, competence, and relatedness, are met and key volunteerism priorities, such as flexibility, preparation of skills, and support from Extension staff and other volunteers, are considered” (Frendo, 2013).

Expectancy Value Theory

“In the expectancy-value theory, both expectancies and values play an important role in predicting an individual's future decisions, engagement, persistence, and achievement. According to the Expectancy-Value theory, motivation depends on an individual's retention of positive expectancies and values” (Call, Green, Price, & Trahan, N/A).

John William Atkinson developed the expectancy-value theory in the 1950s and 1960s in an effort to understand the achievement motivation of individuals (Eccles, 1983). The theory has been further developed by Jacquelynne Eccles and her colleagues. “The theory postulates

that achievement-related choices are motivated by a combination of people's expectations for success and subjective task value in particular domains. For example, children are more likely to pursue an activity if they expect to do well and they value the activity" (Leaper, 2011). This theory explains how people are more likely to attend a program and try to gain new knowledge if they have the belief that the knowledge is going to benefit them. Attainment value is defined as the importance of doing well on a task. If the clientele has the belief that the information covered will be difficult to understand, they may not feel that they will be able to comprehend the information. "When individuals do tasks that are intrinsically valued, there are important psychological consequences for them, most of which are positive (Deci & Ryan, 1985).

Martin Fishbein also worked with expectancy value theory throughout the 1970's. "In laymen's terms the Expectancy Value Theory examines the ways in which a person's attitudes affect their intent, goals and behavior. From the time Fishbein initially formulated its functionality, the Expectancy Value Theory has been adapted for use in various fields outside of social psychology including education, advertising, and public relations (Landram, 2016).

Section 3

Project Findings

Through a review of literature, it was found that there is a lack of program planning tools available to assist Agricultural and Natural Resource Extension educators with planning and promotion of programs. Specifically, program planning tools that are grounded in theory, including diffusion of innovation theory, self-determination theory, and expectancy value theory were not found through review of literature and Agricultural and Natural Resource Extension resources. After completing a thorough review of literature, it was concluded that the three theories, diffusion of innovation, self-determination theory, and expectancy-value theory are appropriate to guide Extension educators in the planning of educational programs because they align with learning preferences of clientele. Through this project, a set of guidelines in the form of a Program Planning Fact Sheet was created to assist educators as they plan educational events for their clientele. The goal of the PPFS is to increase program attendance and assist educators in building stronger relationships with clientele through education programming delivered through research supported best practices.

Diffusion of innovation theory is used to describe the adoption rate of new technology or practices, and categorizes people into five groups based on how early or late they adopt the new technology or practices. The five categories of adopting innovation include: 1) innovators, 2) early adopters, 3) early majority, 4) late majority, and 5) laggards. This theory can guide Agricultural and Natural Resource educators in both the preplanning and revision of educational programs. If educators can identify innovators and early adopters of technology or

practices, they can build relationships with these clientele and gain insight to how the new technology or practice has been beneficial. The information could be used in the planning of programs for teaching clientele about these items. The innovators and early adopters can assist the educator in deciding if other producers within the same area would benefit from an educational event to provide knowledge of the new technology or practices and how it could be implemented. If an educator determines a program would be beneficial, they can plan to hold the event at the farm or property of one of the innovators or early adopters so the majority and laggards can see the technology or practices in use, or see the results after the practices have been implemented. If educators determine that the new technology or practice is not practical for other clientele in the area, they can shift their focus to a different program topic that is more beneficial to local clientele.

After an Extension program is conducted, it should be evaluated to identify whether or not the program had a positive impact on participants and if it should be continued. Soon after a program, Extension educators should request feedback from clientele who implemented the new technology or practices and those who have not. Feedback collected from program participants could include whether or not the program provided information about how the technology or practice could be implemented in the context of other local clientele that could be achieved. Educators should determine if program participants plan on implementing the technology or practices covered throughout the program. Long term follow ups with program participants are recommended to collect data on the impact of the information covered at the program, and whether or not the program was beneficial to participants.

Throughout the planning phase of an Extension education program, self-determination theory can be used as a lens to plan a program that will motivate local clientele to attend. Self-determination theory states that people have a need for intellectual growth (Cherry, 2019). People have an instinct to acquire more knowledge of subjects that they are interested in. Throughout the planning phase of educational programs, educators should keep in mind that clientele who attend their programs have learning goals. The educator should communicate with their local clientele to identify their needs and then determine which types of programs would best address these needs. Local clientele should also be included in the planning of the program. Educators should utilize clientele that they have established relationships with to collect feedback that the program planning is appropriate for the needs of the local clientele. Agricultural and Natural Resource educators in other counties within the same demographic area can also be contacted by the program planner to gather insight on which types of programs they are holding, and if those programs are attracting participants. If a program is going to cover the information that clientele have been seeking, they will be more likely to take time to attend. Educators should seek to find out the type of production systems are predominant in the area, as well as concerns and struggles that exist, in order to plan programs that are applicable to that area.

Expectancy value theory can be utilized to promote programs that are in the planning process. When making the local clientele aware of an Extension education program, the clientele should be made aware of the benefits they will gain by participating in the program. The goals of the program should be stated on all promotional platforms that are used. Promotional methods could include mailing lists, flyers, radio advertisements, newspaper

advertisements, as well as phone calls to make clientele aware of the program being planned. Clientele who can clearly identify that program goals align with the goals that they may have for their operations, may be more interested in attending the program. In addition to communicating goals of the program, the promotional advertisements should include obstacles that the program is going to address and how to overcome those obstacles. The Extension educator should include as many aspects of the program that they feel are necessary when carrying out promotional efforts, but should also avoid including too much information that the clientele do not take the time to read it. If the promotional material is too lengthy, it will not be given as much attention as it would if only main points are covered.

Extension Program Planning Fact Sheet

Wyatt Feldner, ACEL Graduate Student

Objective: The objective of the Program Planning Fact Sheet is to provide Agricultural and Natural Resource Extension educators with a set of guidelines to assist them in the planning of educational programs. A secondary objective of this fact sheet is to help increase attendance to Extension educational programs through enhancing the quality and promotion of the program.

Background: Agricultural and Natural Resource Extension Educators are expected to plan and deliver programs on various topics relevant to local needs. Topics may be ones that Extension educators are familiar with or they may be topics that the educators do not have experience with. With a limited amount of time available for planning educational programs, this program planning tool offers educators a resource guide to assist in planning Extension programs. The guidelines within this fact sheet are designed to help increase program attendance and to assist in building stronger relationships with clientele. These guidelines use three motivational theories as there lens.

Motivational Learning Theories:

Diffusion of Innovation Theory- Diffusion is the process by which an innovation is communicated through certain channels over time among members of a social system. 1.(Rogers, 1963)

Self-determination Theory- People have a need, or instinct, to gain knowledge about subjects they are interested in. 2.(Deci and Ryan, 1985)

Expectancy Value Theory- People make decisions based on how they value an activity. Decisions are also made based on the success that people believe they will have after completing an activity. 3.(Wigfield, 2014).

The guidelines are organized into different stages of the program planning process. The stages include preplanning, planning, promotion, and revision.

Preplanning: Determine the needs of the community. The theory of diffusion of innovation supports the need to identify innovators in the local area. Using the innovators for new

technologies and practices can help identify practices that could be shared with other community members.

Suggested Best Practices:

- Conduct onsite visits: Work with clientele with whom your relationship is strong. See how they have implemented different practices into their operation and the benefits those practices are providing.
- Research: Determine if the new methods are feasible and attainable for the majority of producers in the area. Talk with innovators on both large and small operations.
- Survey: Work to find out from local clientele if the new technology or methods are something they want to know more about and would possibly want to implement it on their own farms. Does the clientele answer the survey within a short period of time? Do they want to learn more about the topic right away? Work with other entities, such as SWCD's, NRCS, Farm Bureau to see what issues their clientele are faced with.
- Do you have sufficient feedback to begin the planning of a program or do you drop the idea and move on to different topics?

Planning: Self-determination theory is the lens used to aid in the planning of educational programs. Clientele will be more motivated when they feel their needs are being met by the educational program.

Suggested Best Practices:

- Extension educators should gain a better understanding of who their potential program participants will be.
- Educators should seek advice from other educators who have planned similar programs.
- Clientele with whom educators have a strong relationship should be included in the planning process to ensure information that needs to be covered will be presented.
- Programs should be relevant to the area in which the information is being presented.

Promotion: Expectancy value theory is the lens used in the program promotion process. When making the local clientele aware of the program, the clientele should be made aware of the information they will gain throughout the program. If the clientele expects to gain knowledge from the program, they will be more likely to have interest in the program.

Suggested Best Practices:

- Include the goals of the program. Producers will be more interested in attending when their production goals line up with the goals of the program.
- List the obstacles the program will help the participants overcome.
- Express the increase in productivity that is possible after the information from the program is taken in.

- Express the decrease in inputs that is attainable after attending the program.
- Use multiple platforms for advertising to ensure awareness of programs by clientele.
- Include all necessary aspects while being concise.

Revision: Extension programs are often repeated to various audiences. The program can be improved after each time it is presented. The diffusion of innovation theory framework can be used to aid the revision of the program to ensure that the program covers current best practices.

Suggested Best Practices:

- Follow up with participants after the program has ended to see who has applied the information presented to their farm, who is considering applying the information, and who does not plan on making any changes to their operation.
- After practice adoption rates are determined, educators should seek reasoning behind applying the information or choosing not to.
- Aspects of the program that lead to practice adoption will not need altered. Aspects that lead participants away from applying the information should be altered to express the positive outcomes that those aspects can bring.
- Hold future programs at locations where information taken from the program has been applied and has led to overall improvements of production systems.

Quiz:

1. **T** or **F** Extension educators throughout the state of Ohio all cover the same material in the educational programs they plan.

2. **T** or **F** The theory of diffusion of innovation, which states that in the adoption process of new technology or practices, people are considered to be innovators, early adopters, early majority, late majority, or laggard, can be used to assist Extension educators in the preplanning phase of programs.

3. **T** or **F** Extension educators should not seek input from clientele when planning educational programs.

4. **T** or **F** When promoting the educational program, goals of the program should be stated.

5. **T** or **F** Clientele are not important to the program revision process.

Answers: 1. F, 2. T, 3. F, 4. T, 5. F

1. Rogers, E. M. (1963). The adoption process: Part I. Journal of Extension

2. Deci, E. L., & Ryan R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

3. Wigfield, A. (2014). Expectancy-Value Theory of Achievement Motivation: A Developmental Perspective. Educational Psychology Review

Discussion, Limitations, Implications and Conclusions

Discussion

The theories that were chosen to assist in the creation of the Program Planning Fact Sheet would remind Extension educators that disseminating knowledge, which leads to the success of their clientele, is the primary goal of Extension. If an educational program has low attendance, but those participants gain new knowledge, provide positive feedback, and are able to apply the knowledge to improve their practices, then the educator has planned a successful program. If a group of program participants talk with others about their positive experience at a program, others could gain interest in attending that same program in the future.

Through the use of diffusion of innovation theory, program participants get a chance to see the new technology or practices either in use or hear about it from other producers in the area. Firsthand experience can have more of an impact than information that is compiled from internet sources. An Extension program can include struggles that early adopters experienced and include ways that those struggles can be avoided. “Observability relates to the degree to which the potential adopter has had the opportunity to see the practice implemented or see the results of the implemented practice. Some practices are obviously more observable than others (planting trees vs. preparing an estate plan, for example) and therefore might be adopted by individuals more quickly” (Hubbard and Sandmann, 2007).

Understanding self-determination theory can help educators plan the programs that clientele in their area are truly interested in attending. Specifically, agricultural producers want

to learn new information that can help them with production on their farm. The first step educators should take is to learn what their local clientele are interested in learning and then figure out how to present that information in a way that they will accept it. Using self-expectancy theory when planning programs can help decrease the number of programs that are not well attended, or are not applicable to the clientele of the area. Educators should recognize that because there is a need for an educational program does not always mean it will be well attended. In which case, other factors should be explored to examine why participants do not attend. This theory was used by Extension educators in Minnesota when they wanted to improve their Master Gardener Volunteer program. “We knew that meeting volunteer needs would be key to our success. In developing materials for the project, we considered the self-determination theory tenet that people are more likely to be intrinsically motivated when basic psychological needs, such as autonomy, competence, and relatedness, are met and key volunteerism priorities, such as flexibility, preparation of skills, and support from Extension staff and other volunteers, are considered” (Frendo, 2013).

Expectancy value theory explains that people will be more motivated to learn something new when they believe they will easily learn it, and if they truly value the information being covered. “When individuals do tasks that are intrinsically valued, there are important psychological consequences for them, most of which are positive (Deci & Ryan, 1985). This theory is one of the reasons for the need to have clear promotion of educational programs. If clientele know the goals of the program, and those goals line up with their own goals, attending the program will make since to them. The promotional material, whether it is a flyer, radio ad,

or newspaper ad, it should include which information will be covered and common issues that will be addressed.

Limitations

The goal of the Program Planning Fact Sheet is to guide Extension educators in the planning of educational programs. However, the limitation of this fact sheet is that there is no guarantee that clientele will attend an educational program. Whether they have attended poorly planned programs in the past or have never attended one at all, it can be hard to reach local clientele that had negative opinions of Extension, or have had no prior experiences with Extension. Some clientele maybe would like to attend a program, but simply do not have time due to other commitments, such as off the farm jobs and families.

Another limitation of the fact sheet is the number of Extension educators that will look for a set of guidelines as they plan educational programs. The PPFS is likely to be used by younger Extension educators with less experience planning their educational programs and who have not had the chance to build relationships with clientele in the area. Experienced educators are likely to have already developed a routine for the planning of programs that they prefer to use. The fact sheet could still provide them with a reference to go back to when they have to cover topics that they are not familiar with.

Even with the set of guidelines to refer to, Extension educators will continue to have to stay current with new technology, knowledge, and trends to be able to best serve their clientele. Agriculture is constantly evolving, which leads to a constant need for educational

programs that cover new content. Educators need to be able to answer questions they receive, or at least know how they can find the answer.

Implications

As an Agricultural Technician for Monroe Soil and Water Conservation District, my position has many similarities to Agricultural and Natural Resource Extension educators. Programs that I have planned and others I have attended have not had many participants. Many of the participants who do come to the programs are there for the social aspect and not solely to gain new knowledge from the information being presented. While some programs are not well attended, there are some programs that are. Starting in early 2019, Monroe, Noble, Guernsey, and Belmont counties worked together to form a grazing council. Each county hosted one grazing meeting where different topics were covered. The meetings were successful with approximately 50-60 participants attending each meeting. One reason for the success is the fact that both Extension educators and Soil and Water employees worked together through the program planning process, from preplanning to presenting. Each entity has clientele that they work with on a regular basis. Some clientele work with both, but some have strong relationships with one entity or the other. By collaborating, the two organizations were able to discuss the needs identified in the county, and could plan a program that could fulfill those needs.

Conclusions

As the Program Planning Fact Sheet is used by Extension educators, feedback can be requested to determine any updates that should be made. Extension educators may have

recommendations for changes that can be made to the fact sheet to make it more beneficial for other educators to use. In order to validate that the fact sheet is being utilized, Agricultural and Natural Resource Extension educators throughout the state can be contacted to find out if they have implemented the information into their program planning, and if so, how often they have referred to it.

In order to make this Program Planning Fact Sheet available for Extension educators to use, it can be submitted to Ohio Line, The Ohio State University Extension's site for fact sheets. The Program Planning Fact Sheet could also be sent directly to Extension offices throughout the state, so not only Agricultural and Natural Resource Educators, but all Extension personnel can be made aware of the new source.

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