

Program Change Model: A Process to Promote Change

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Program Excellence

William C. Ashley and James Morrison stated that change is no longer a characteristic of organizations; change is the essence of the organization (Ashley & Morrison, 1995). In today's educational environment, Extension educators must more effectively anticipate change, shift from being reactive to proactive, prioritize issues, deploy educational resources in a timely manner, and provide educational interventions that result in specific clientele change. This change is often evident in a behavior change or adopting technology or best practices that affect program impacts in terms of economic returns or social or environmental impacts. Program excellence meets clientele needs through identifying and implementing effective programming that results in positive clientele change. This is the type of outstanding programming the Texas A&M AgriLife Extension Service must provide.

AgriLife Extension embraces the following characteristics of excellence:

- Issues are defined at the local level and will involve the anticipation of and response to on-going and emerging issues.
- Committees, coalitions, task forces, leadership advisory boards, and 4-H and youth boards are involved in the development, implementation, and evaluation of educational programs focusing on the degree of change and the interpretation of programs.
- Educational programs will result in clientele change, including:
 - » Behavior change
 - » Technology or best practices adoption
 - » Economic returns
 - » Social impacts
 - » Environmental impacts
- Extension educational programs will effectively serve culturally diverse audiences.

Current Level of Clientele Change Evaluated by County Extension Agents

A review of the 2019 annual plans currently approved by regional program leaders revealed 1,017 in-depth plans, 1,214 outreach plans, and 129 organizational support plans. Analysis of the 1,017 in-depth plans showed that 443 (43.56%) of them measure knowledge gained, 520 (51.13%) measure application (change in behavior, technology, or best practices adopted), and 54 (5.30%) measure client satisfaction. Of the 1,214 outreach programs, 523 (43.08%) measure knowledge gained, 255 (21.0%) measure application, and 436 (35.91%) measure client satisfaction. And, of the 129 organizational support plans, 46 (35.65%) measure knowledge gained, 32 (24.81%) measure application, and 51 (39.53%) measure client satisfaction. Figure 1 illustrates the percent of plans at various levels of change.

- Accelerate the change process through diffusing and legitimizing programs.
- Involve clientele in learning experiences that prepare them to actively manage the change process.

In addition to dealing with changes from the perspective of our clientele and the community, AgriLife Extension must also recognize that our AgriLife Extension educators have also changed, and examine whether the current systems and processes AgriLife Extension uses are

- effective for a quick response to contemporary issues,
- easily understood by AgriLife Extension educators,
- executed readily with educational interventions that result in clientele change, and
- easily understood by committee members, task force members, coalition members, and leadership advisory boards.

Program Change Model: A Process to Promote Change

Extension programs have remained relevant to society because of the systematic approach used to create them. This approach includes identifying and prioritizing issues, implementing educational intervention to address identified issues, as well as evaluating the educational interventions to redirect future programming. Cartwright, Case, Gallagher, and Hathaway (2002), stated that change in economics, demographics, technology, and the environment challenges Extension in the 21st century to provide information useful to a changing clientele, with changing technology, in a changing world.

Extension program development is based on a philosophy of change (Boyle, 1981). To realize such change, Extension must mobilize and develop human resources that can implement programs most effectively (Boyle, 1981). AgriLife Extension educators promote effective change in clientele by involving them in program planning to:

- Attain more accurate decisions regarding the relevancy of an issue and programming opportunities.

Level of Planned Change by Plan Type–2019

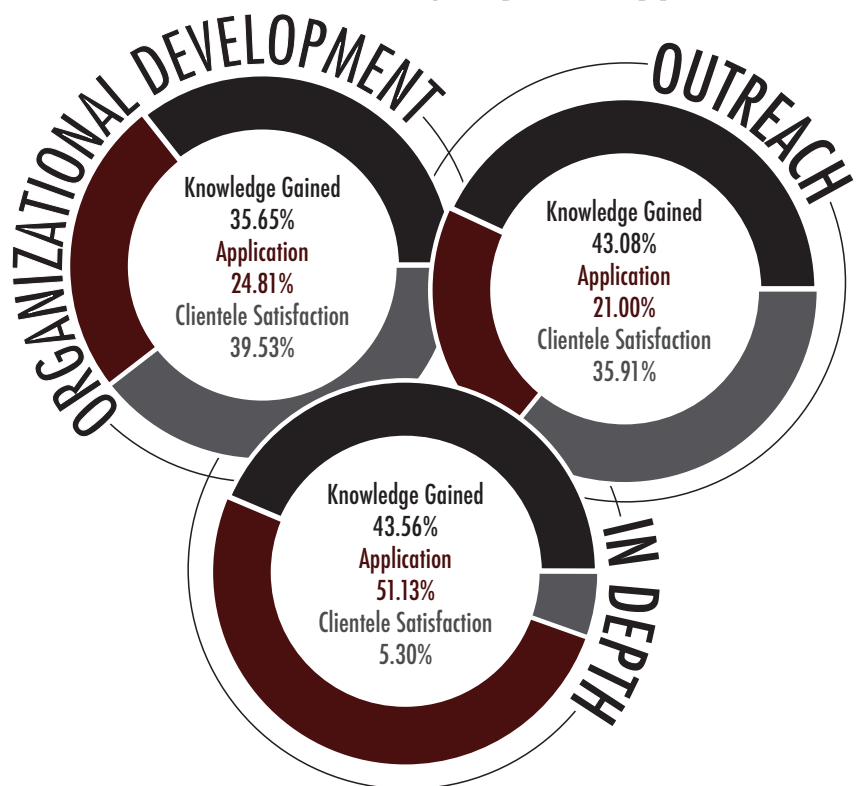


Figure 1. Level of planned change by plan type (2019 AgriLife Extension annual plans).

Program Change Model

For many decades, AgriLife Extension has used a systematic approach to develop programs. The communities that AgriLife Extension educators live and work in today are extraordinarily different from 15 to 20 years ago. While technological advancements and the demographics of clientele and communities have undeniably changed the educational landscape, there is still a need for a systematic program development process that enables AgriLife Extension educators to rapidly plan, implement, evaluate, and interpret educational programs that result in change.

The **PIE Program Change Model** for program development represents the fundamental elements

of program development—**PLAN, IMPLEMENT, and EVALUATE**. The guiding principles for this model include:

- Promote clientele change.
- Provide AgriLife Extension with a process that deploys educational resources that result in clientele change.
- Make the process easy for AgriLife Extension educators and volunteers to understand.
- Design a process that AgriLife Extension educators can easily execute.

Figure 2 illustrates the phases and steps of the proposed PIE Program Change Model.

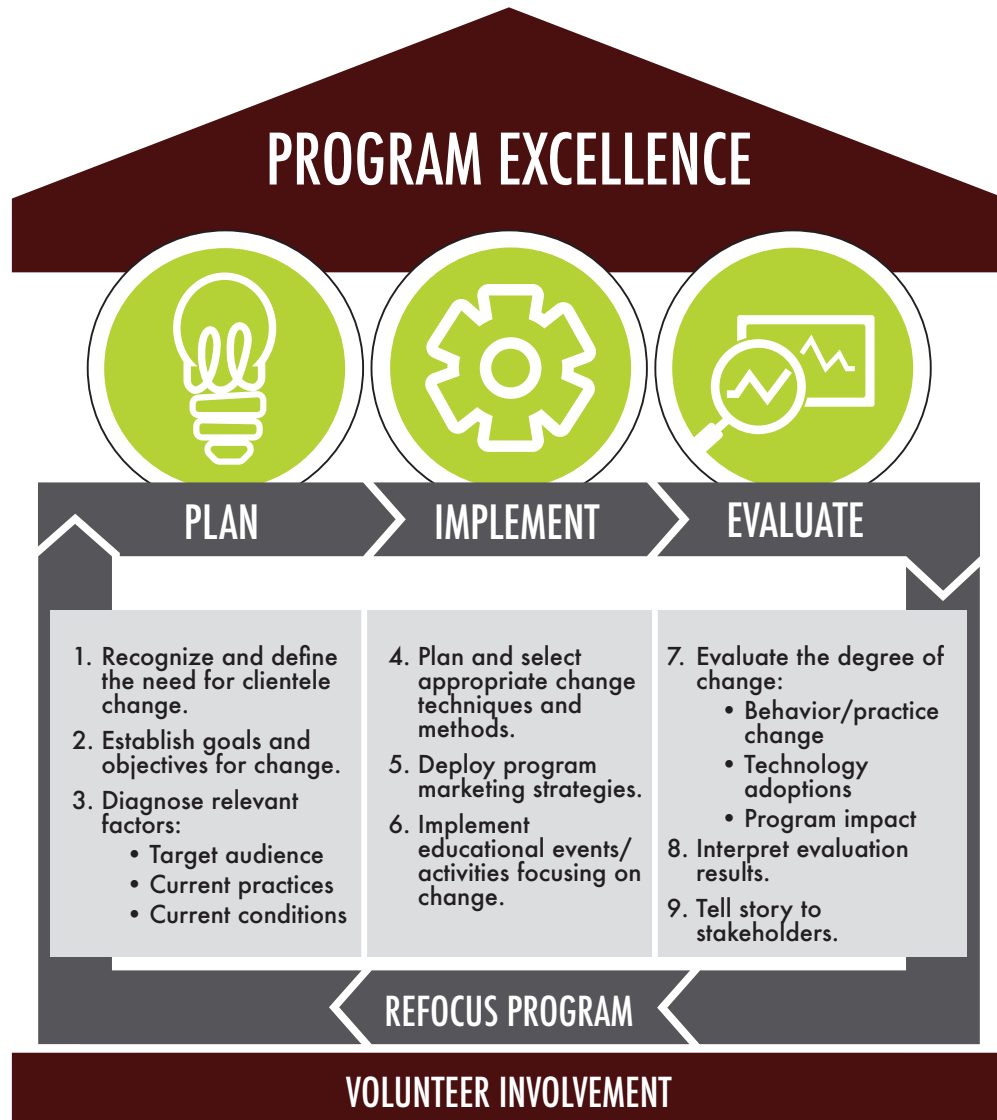


Figure 2. Phases and steps of the PIE Program Change Model.

The **PLAN** phase focuses on these steps:

1. **Recognize and define the need for clientele change.** Identify the issue or problem by using appropriate sources such as leadership advisory boards, program area committees, coalitions, 4-H and Youth Development boards, commodity groups, AgriLife Extension specialists, state or federal mandates, elected officials, and Texas Community Futures Forum data.

It is critical for AgriLife Extension educators to clearly define the situation in terms of its scope and severity, as well as its social, economic, or environmental impact. A formal or informal needs assessment to determine baseline data is also essential.

2. **Establish goals and objectives for change.** Develop measurable objectives that will provide a programming “roadmap” that results in clientele behavior change and adoption of best practices or new technology.

After developing measurable objectives, the AgriLife Extension educator should:

- Develop a realistic vision for what can be accomplished
- Select content to teach
- Select appropriate intended change indicators to use in program evaluation
- Convey to internal and external funding sources the intended change resulting from the programming

3. **Diagnose relevant factors.** Diagnose all factors that contribute to planning and developing an educational program. Specifically, identify and describe the following:

- Target audience
- Current practices
- Current conditions

Different target audiences may require different approaches or levels of information regarding a subject or issue. For example, a nutrition program targeting registered dietitians may require a different level of programming than a nutrition program delivered to the general public.

Through formal or informal needs assessments, AgriLife Extension educators should determine current practices. These practices can include

clientele production practices, technologies used, dietary habits, and exercise regimes. This assessment of current practices gives AgriLife Extension educators benchmark data to compare against later change measures. The current conditions of the clienteles’ physical surroundings should also be assessed and can include environmental conditions, their mean income levels, and the poverty level in their county.

The **IMPLEMENT** phase of this model includes:

4. **Plan and select appropriate change techniques and methods.** Develop a series of sequentially organized educational events that build on previous knowledge and skills to realize clientele change. During this process, Extension educators should consider the factors that affect the rate of adoption. The plan is the outline of an entire educational program from beginning to end.

5. **Deploy program marketing strategies.** Marketing educational programs is critical to program attendance and success. Promotional materials create visibility for the program, inform the public about it, and encourage them to seek more education about the topic.

Marketing strategies begin with a focused plan and goals that provide potential clientele with clear benefits of participating in or attending educational events. Some effective marketing strategies AgriLife Extension educators can use include:

- Work with the media.
- Motivate potential participants by showing how they will benefit from participation.
- Use program area committees, task forces, leadership advisory boards, coalitions, and other volunteers to publicize educational events.
- Provide excellent customer service.
- Use social media to promote and communicate about the program.

6. **Implement educational events and activities focusing on clientele change.** Effective educational programs produce clientele change when the program is well-planned, organized, and delivered. Delivery methods appropriate for a specific educational purpose can help accomplish an educational objective.

Proper program delivery methods depend on the target audience, educational objectives, type and

context of the instructional information being presented, characteristics of the delivery methods, the sequence of educational events, as well as the method's efficacy in providing the desired measurable outcomes. It is imperative for AgriLife Extension educators to consider which delivery method(s) (individual, group, or mass media), aligns best with their target audience's learning style and the program's educational objective.

Remember, AgriLife Extension educators should implement educational events in a sequential manner designed to build on the previous event, and, ultimately, sequenced in a logical order so clientele can build on an educational continuum from basic concepts to more complex ones.

The **EVALUATE** phase involves:

7. **Evaluate the degree of change.** After all educational events and activities have been conducted, AgriLife Extension educators then identify the degree of clientele change by collecting and analyzing data to determine whether the program achieved the intended clientele change outlined in its educational goals and objectives.

AgriLife Extension educators collect data by using surveys, existing records or data (census data, production records, health department data), questionnaires, pre- and post-tests, direct observations, interviews, focus groups, or individual measurements.

8. **Interpret evaluation results.** Interpreting program evaluation results is a high priority because it organizes data into a concise narrative. AgriLife Extension educators can effectively report evaluation results by clearly communicating the change that stemmed from the series of educational interventions conducted.
9. **Tell story to stakeholders.** Interpreting evaluation results, creating an effective report, and communicating those results to stakeholders is essential to AgriLife Extension. A report tells the story of how a program brought about change in the target audience.

Effective interpretation:

- Is integrally linked to program evaluation
- Helps our funding partners critically assess our programming efforts
- Is a continuous process, not just an event conducted prior to the legislative session or

county budget hearings

Additionally, when interpreting results and telling our story, AgriLife educators address the "3Rs":

- **Relevance** – What was the relevance related to the program?
- **Response** – How did AgriLife Extension respond in terms of educational interventions?
- **Results** – What are the results in terms of change that can be attributed to the educational response by AgriLife Extension?

Advisory groups and planning groups will use the evaluation results to **refocus future programming** efforts. AgriLife Extension educators should share the interpreted data with program area committees, leadership advisory boards, 4-H and youth boards, coalitions, and task forces. Doing so gives these groups information to help AgriLife Extension map out future programming efforts that are relevant.

Volunteer Involvement

AgriLife Extension educators should purposefully include clientele (volunteers) in the program development process of planning, implementing, and evaluating AgriLife Extension educational programs. Some specific functions of volunteers who serve in advisory groups are:

- Recognizing and defining the need for clientele change
- Establishing goals and objectives for change
- Diagnosing relevant factors such as the target audience, current practices, and current conditions
- Planning and selecting appropriate change techniques and methods
- Deploying program marketing strategies
- Implementing educational events and activities that focus on change
- Interpreting evaluation results
- Communicating evaluation results in an organized, concise manner to tell our story
- Using evaluation data to refocus future programming efforts

The **PIE Program Change Model** provides AgriLife Extension educators a navigation tool to quickly and

effectively plan, implement, and evaluate programs. Following this process will consistently produce a positive, measurable change in the clientele and yield excellent outcomes.

Implementing the Change Model through Transformative Extension Education

Implementing the new AgriLife Extension Program Change Model requires a new mindset that moves clientele from obtaining knowledge to taking action in order to change behavior, adopt new practices, or adopt new technology that results in economic, social, or environmental impacts. Transformative education theory provides the theoretical framework to design programs that result in clientele change at a higher level.

Transformative learning theory has played a prominent role in the literature of adult education for several years (Hoggan, 2015) and has been a topic of interest in many disciplines including religious studies, adult education, agriculture, health care, and Extension education. In describing transformative outcomes, O'Sullivan, Morrell and O'Conner (2002) reported that transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. The basic premise regarding transformative Extension education is that learning, or knowledge is a precursor to action or change. Figure 3 illustrates an Extension educational model for transformational education.

Transformational education builds upon Extension's long history of providing quality educational experiences for clientele. Teaching specific disciplines and transferring research-based information or content has been and remains the hallmark of Extension since its inception. AgriLife Extension historically emphasized a variety of approaches to traditional information transfer. However, since the 1980s, AgriLife Extension programs have not focused just on discipline or information-oriented needs but shifted its focus to issue-based needs that require a more multidisciplinary approach.

Extension has a competitive advantage in deploying transformational Extension education because there are many options for clientele to access educational information from competing educational enterprises, agriculture manufacturing companies, private consultants, the internet, health care providers, or other outreach educational sources. Extension is operating in a very competitive environment (Blewett, Keim, Leser, & Jones, 2008). However, AgriLife Extension is uniquely positioned with an extensive educational network of county Extension agents and specialists. If transformational education is an approach that can deliver the most value to communities, it is essential to design educational programs more consistently to lay the foundation for transformational learning and action in communities.

AgriLife Extension faculty may not currently recognize transformational Extension education as something different from what they are presently doing. Many evidence-based AgriLife Extension programs and some research-based programs have significant levels of content transfer and process that result in clientele changing a

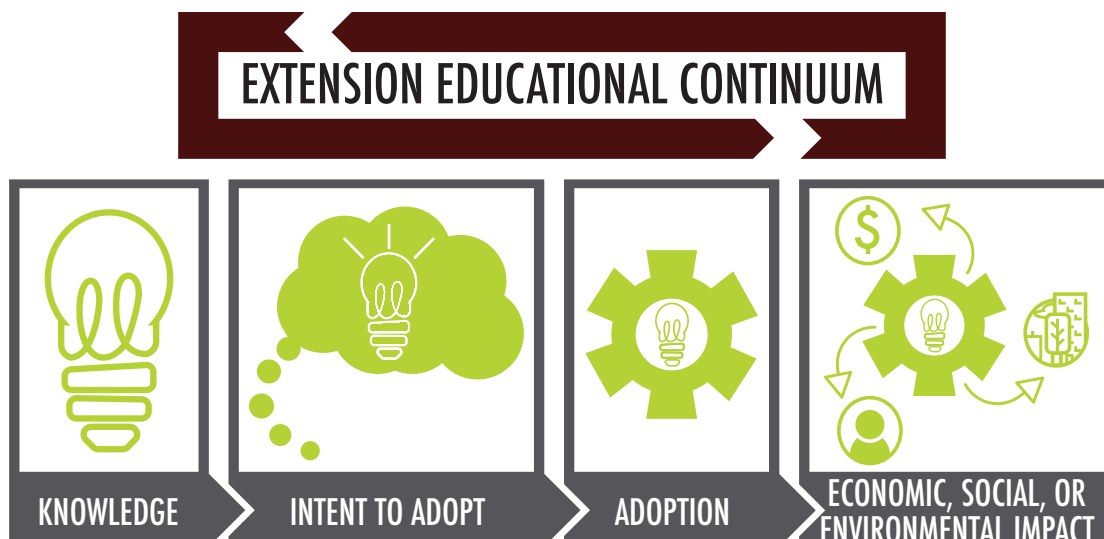



Figure 3. AgriLife Extension Transformational Education.



behavior, adopting a practice, or adopting new technology. However, many outstanding programs with high levels of content transfer do not result in transformational decisions where clientele take action in the form of behavior change, adoption of practices, or implementation of technology. Transformational Extension education should connect the knowledge the clientele gains to their intent to adopt a physical or mental application of what they learned and, ultimately, adopt a practice or technology or change a behavior. These programs should move clientele in a continuum from knowledge gained to intent-to-adopt to actual adoption. Transformational Extension educational programs should include the following attributes:

1. **Complex concern or issues.** Transformational educational programs are appropriate for large-scale, complex issues or concerns that require the delivery of focused, sequential educational events or activities designed to move clientele from knowledge or content mastery to intent to taking deliberate action in the form of a change of behavior, adoption of practices, or adoption of technology.
2. **Extensive needs assessment.** Needs assessments enable AgriLife Extension educators to accurately identify issues such as current production practices, technologies used, dietary habits, and exercise regimes. These assessments also provide benchmark data to compare against for later outcome measures and to also serve as the basis for a comprehensive situational analysis.
3. **Evidence-based programs or programs designed in concert with specialists and regional program leaders to yield more clientele change.** These programs will be delineated from other programs by the following:
 - **Rigor of educational events.** A series of sequential learning activities, where each of the educational events has specific teaching points built on the previous event and sequenced in a logical manner, allows clientele to move on an educational continuum from knowledge to intent-to-adopt to adoption (change in behavior, adoption of a practice, or adoption of technology).
 - **Targeted program objectives.** Objectives should achieve programmatic change in the form of adopting practices or technology.
4. **Research that validates educational protocol.** Research will be conducted to develop educational protocols that elevate transformative programs to

become evidence-based programs. (Evidence-based programs are transformative programs, but not all transformative programs are currently evidence-based.)

5. **Rigorous evaluation.** A more thorough evaluation of clientele will help determine a change in behavior or adoption of practices or technology that results in economic, social, or environmental impacts.

In today's educational landscape, knowledge or intent-to-adopt practices may be less meaningful. With information inundating our clientele, their knowledge related to subject matter is at an all-time high.

Intent to adopt a practice or technology or a goal or plan to change behavior may not accurately represent the actual adoption of best practices or technology. According to Herath (2013), many researchers have found that there is a significant difference between intention and actual behavior change. What clientele intend to do may not lead to what they will actually do (Hearth, 2013).

The theory of planned behavior developed by Ajzen (1985) explains that behavior is a function of intentions. Ajzen (1985) reported that an individual's behavior is determined by their intention towards behavior. Intention is built upon three components: attitude, subjective norm, and perceived behavioral control (Ajzen, 1985).

Intention is also determined by the relevant principal beliefs about the behavior (Herath, 2013). Consequently, the theory predicts that the stronger an individual's intention, the more likely they will perform the behavior (Pawlak, Brown, Meyer, Connell, Yadrick, Johnson, & Blackwell, 2008). Attitudes toward behavior refer to the individual's positive or negative evaluation of behavior.

Subjective norms are an individual's perception of the social pressures to perform or not to perform a behavior (Herath, 2013), a belief of how significantly others would like him or her to act on a particular behavior. Subjective norms are thought to be driven by normative beliefs and the motivation to comply (Herath, 2013).

Perceived behavioral control is the individual opinion of the ease or difficulty of performing a behavior (Herath, 2013). Figure 4 depicts the theory of planned behavior (Ajzen & Fishbein, 2005).

When planning how to implement transformative Extension educational programs, recognize that not all individuals in a target audience adopt an innovation or idea at the same time (Seevers & Graham, 2012). Clientele can

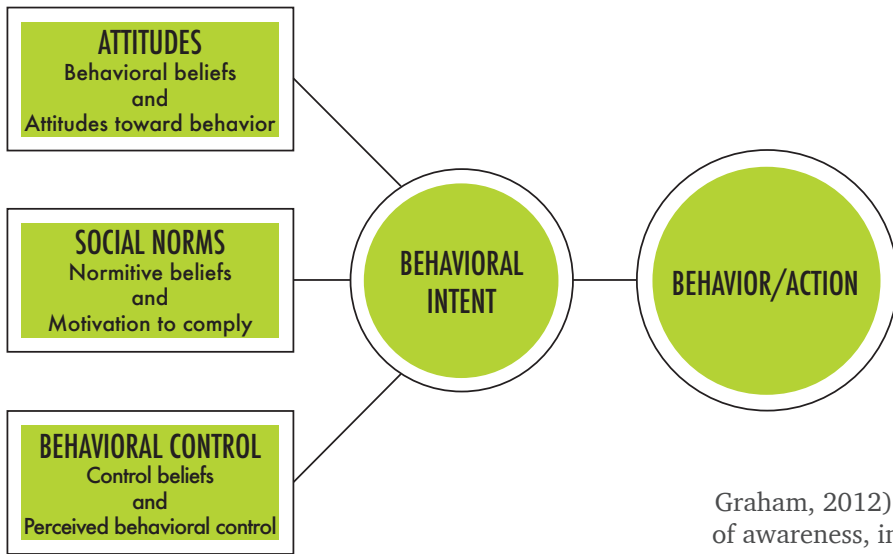


Figure 4. Theory of Planned Behavior (Ajzen, & Fishbein, 2005).

generally be divided into “adopter categories” based on how quickly they adopt innovations or ideas (Fig. 5). Initially, only a small percentage of clientele will adopt an innovation or idea. Then, a larger percentage will adopt and, finally, the remainder may accept the innovation (Seevers & Graham, 2012).

The diffusion-of-innovation model provides a framework for Extension educators to understand how new ideas and technologies are proliferated and adopted in a community (Rogers, 2003). Used for program planning, the framework has been empirically tested and subjected to careful review from various perspectives since its inception in the 1950s (Yates, 2001). It has remained instrumental to Extension educators and continues to be useful in countless other fields, including medicine, telecommunications, information technology, and social marketing (Rogers, 2003).

The adoption-diffusion model was originally developed to explain the educational processes that led agriculture

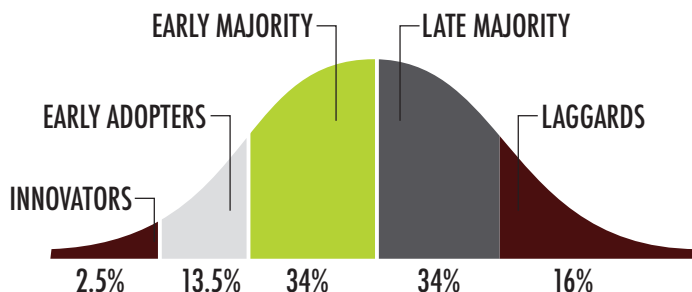


Figure 5. Innovativeness and adopter categories (Rogers, 2003).

producers to accept new ideas. Rogers (1995) defines diffusion as “the processes by which an innovation is communicated through certain channels over time among members of a social system. Diffusion is a special type of communication concerned with the spread of messages that are new ideas.”

Seevers and Graham (2012) define an innovation as an idea or practice that is perceived to be new to the clientele group. Adoption is a decision by clientele to accept or use the innovations as the best course of action (Seevers &

Graham, 2012). The adoption process (Fig. 6) consists of awareness, interest, evaluation, trial, and adoption (Seevers & Graham, 2012).

Awareness of a new idea occurs when clientele first acquire and process the communication (Seevers & Graham, 2012). Trial and adoption are steps that may occur later as understanding and commitment increases (Seevers & Graham, 2012). For example, an Extension educator may use several educational delivery methods (workshops, news releases, e-newsletters, and short courses) to create awareness of an innovation such as a new corn variety that requires less water and is more pest resistant (Seevers & Graham, 2012). A corn producer who is aware of the new corn variety, may be sufficiently interested to acquire additional information and knowledge (Seevers & Graham, 2012). Supplied with this new information, the producer begins to evaluate the risks and benefits of appraising the new corn variety (Seevers & Graham, 2012) and, ultimately, decides to try it or not (Seevers & Graham, 2012). If the trial is considered successful, the chance that the idea will be adopted increases (Seevers & Graham, 2012). Over time, using the new corn variety brings change in the form of increased profitability (Seevers & Graham, 2012). During each step of the process, the Extension educator’s role is to



Figure 6. Steps of the adoption process (Rogers, 2003).

provide knowledge and resources to encourage the adoption of the new corn variety (Seevers & Graham, 2012).

One of the elements of the adoption process is that it occurs over time (Rogers, 2003). Often, there will be a lengthy lapse between the introduction of a new idea and its adoption on a widespread basis (Seevers & Graham, 2012). Extension's function or success is often measured by the extent to which this time lapse is reduced or the

rate of adoption is increased (Seevers & Graham, 2012). Many factors influence the rate of adoption, including the characteristics of the innovation and the traits of the target audience (Seevers & Graham, 2012). Five characteristics of an innovation, as perceived by the target audience, greatly influence the rate of adoption. The five characteristics are relative advantage, compatibility, complexity, trialability, and observability. Rogers (1995, p. 15-16) defines these characteristics as follows (Fig. 7):



Figure 7. Everett Rogers adoption-diffusion principles (Rogers, 2003).

Adoption of new technologies, best practices, and individual behavior changes can usually be traced to one or more of these five factors. Think through these factors when trying to convince clients to consider a behavior, best practice, or new technology. Remember that these factors are not absolutes; rather, clients will develop perceptions of the innovation or idea. So, if the educator can successfully increase or improve their clients' perceptions of an

innovation's relative advantage, compatibility, observability, and trialability, and decrease their perceptions of its complexity, the target audience's rate of adoption of that innovation increases.

The distribution of adopter categories can influence the rate of adoption of an innovation (SeEVERS & GRAHAM, 2012). The five adopter categories below (Fig. 8) are

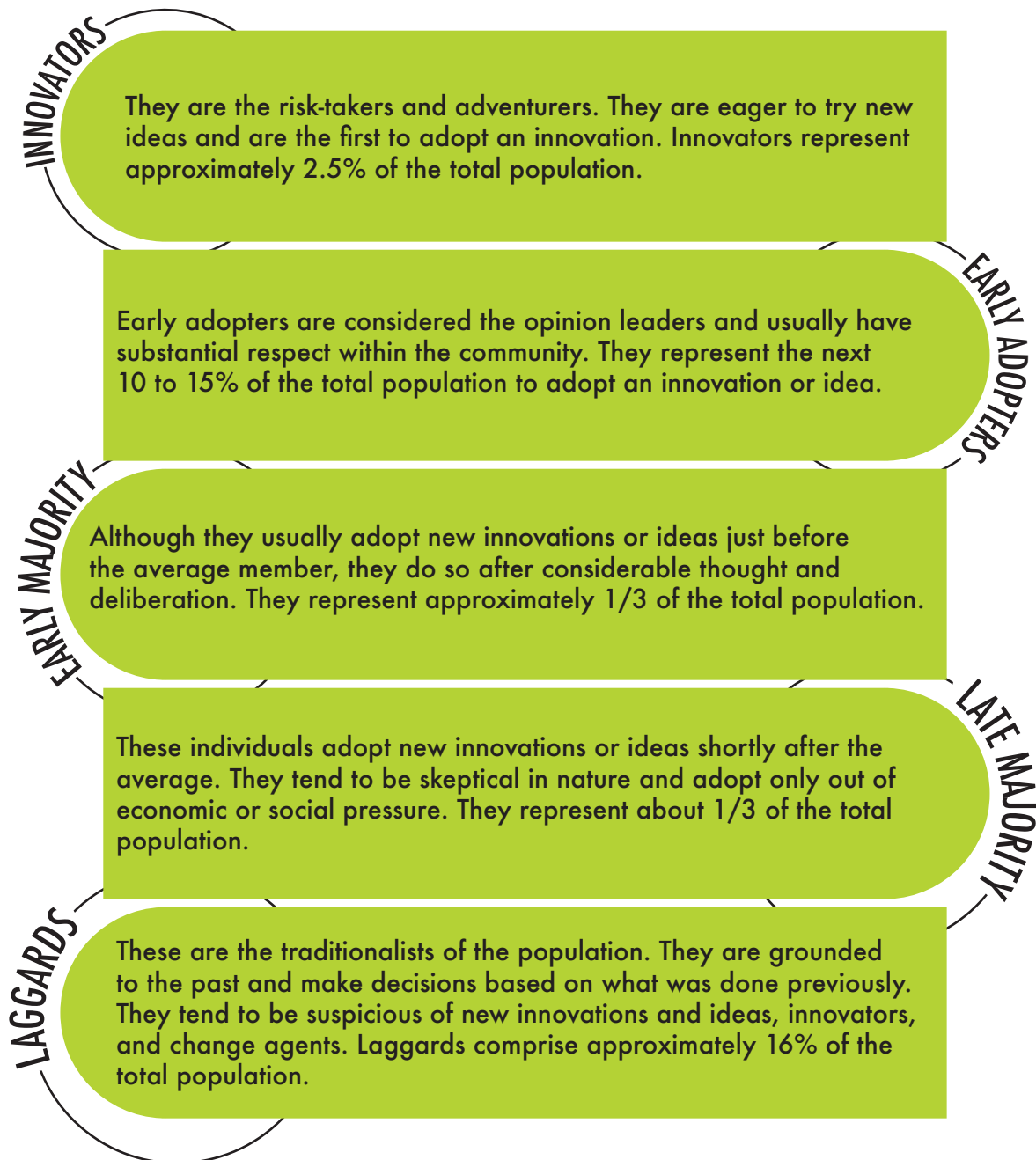


Figure 8. Description of the five innovator categories (Rogers, 2003).



classified by the degree of innovativeness, or how quickly an individual will adopt new innovations or ideas (Seevers & Graham, 2012).

Each adopter category possesses unique characteristics and requires different strategies to influence desired adoption innovations or ideas. It is critical that the Extension educator recognizes individuals in each of these adopter categories to achieve successful adoption of innovations or ideas (Seevers & Graham, 2012).

The diffusion process, built on the concept of change, embraces the Extension philosophy of helping improve quality of life by extending knowledge. Extension educators assume the responsibility for diffusing an innovation or idea and influencing its adoption (Seevers & Graham, 2012). Havelock (1973) suggests that there are four roles an Extension educator can assume to influence adoption decisions (Havelock, 1973):

1. **Catalyst**—Pressures the system to begin working on problems and issues
2. **Solution giver**—Provides specific ideas for change
3. **Process helper**—Assists in the processes of problem solving and decision making
4. **Resource linker**—Brings together human, economic, and intellectual resources

Transformative Educational Program Evaluation

Transformative programs require different approaches to evaluation (Franz & Archibald, 2018) and need to be evaluated to measure higher levels of outcomes within this educational framework. Transformative education focuses on providing educational interventions that ultimately result in economic, environmental, or social changes at the individual, group, business, or community level (Franz & Archibald, 2018). Evaluation that measures change through transformative educational program interventions has the following characteristics (Franz & Archibald, 2018):

- Effective **needs assessment** that determines the current situation, the desired condition, and methods Extension education can use to bridge the gap
- **Gathering of impact data** at multiple times to show when and how long change takes place. This analysis may require longitudinal evaluation

several months or even a year after the program ends to determine the degree of change in terms of adoption of practices, adoption of technology, or sustained behavior change and the resulting economic, social, or environmental impact of the change.

Rockwell, Jha, and Krumbach (2003) reported that clientele behavior change is a central concept for evaluating a transformational Extension educational program. In addressing complex issues Texans face, AgriLife Extension must develop educational programs that result in a higher level of change.

Gathering impact data at several points to establish when and how long change takes place is a new concept for many AgriLife Extension educators. Although data collection can include longitudinal evaluation as long as a year after the program, this thorough analysis yields a more accurate determination of long-term change clientele experience in terms of the adoption of a practice or technology or a sustained behavior change and the resulting economic, social or environmental impact.

Measuring short-term, or immediate, change is relatively easy, using a variety of evaluation tools (Larese-Casanova, 2017). In some instances, AgriLife Extension educators focus only on evaluation to assess the change in knowledge or to verify the intent to adopt or change. In general, determining longer-term change because of the adoption of a practice or technology, or a change in behavior is evaluated less frequently except for evidence-based programs conducted by Family and Community Health county Extension agents.

This type of program change model relies on an extremely focused evaluation strategy that includes meaningful needs assessment as well as short-term or intermediate evaluation (where knowledge and intent to adopt is measured). This is consistent with Kirkpatrick's (1959 & 1996) findings related to his model with four levels of change where he indicated that attempting to determine the adoption of practices, adoption of technology, or sustained change in behavior can be more difficult and complicated, the evaluation becomes much more meaningful.



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