

Extension Education Theoretical Framework

With Criterion-Referenced Assessment Tools

Extension Manual EM-02-2013

Introduction

A guiding principle of Extension is that our educational programming is based on the use on knowledge generated through research-based, scientific inquiry. To produce individual, family, business or community change, use of the science of change educators need to use the science of change and of h and adult and organizational development and empowerment. Additional bodies of knowledge are needed so that science is infused in content and process.

While adult and youth education program planning frameworks exist, Extension does not have a unified theory that incorporates multiple disciplines and provides assessments tools to study the effectiveness of materials and educational delivery.

This manual was created specifically to enable Extension educators to incorporate a theoretical framework in program design. The manual can:

1. Stimulate thought and dialogue that will further enrich the use of the framework;
2. Guide educators and specialists who will design, test and evaluate Extension educational programming; and

3. Provide common ground for both individuals and teams from multiple disciplines in varying positions who will design, test and evaluate educational programs and materials.

Use of Theory

Theory is important. It provides uniformity and “becomes a predictor of facts” and “stimulates and guides scientific inquiry and analyzes and explains its findings” (Boone, Safrit, & Jones, 2002, p. 65). Application of theories has many benefits:

1. Increases the likelihood that intended outcomes will be achieved;
2. Provides the rationale for how the program is strategically structured and delivered;
3. Offers the basis for assessment of the program’s degree of success in achieving intended outcomes.
4. Enables program planners to combine their experience and insight with evidence-based explanations of behavior change;
5. Contains key concepts and variables that define how the concepts will be measured for evaluation of a theory-driven program;

6. Provides a rationale for what educational program designers do or did, and with what result.

Finally, while theories inform practice, practice can also inform theory. When defensible assessments are done, Extension's programs can inform and build new theory.

Theories for Extension Education

As educational program planners, we need theory to understand how to increase the likelihood that desired outcomes will be achieved. Often, no one theory is adequate to guide the creation, delivery and measurement of educational programs.

Selection of theories depends on an assessment of the situation, identification of the targeted population, an understanding of the behavior to be addressed or change to be made and determination of outcomes that are strategic, measurable, achievable, relevant and timely. Finally, the level of program—individual, family or other group, community or policy—will guide the appropriate programming theories.

For this guide, we are focused on theories that involve people and behavior (rather than communities or policies) and have chosen the following individually-focused theories:

- *social cognitive theory,*
- *stages of change or readiness,*
- *theory of planned behavior,*
- *communications,*
- *adult or youth development,*
- *empowerment, and*
- *evaluation and action research.*

Each is briefly presented in Table 1. Other theories could be analyzed and presented using the model as an example.

Testing Theories for “Goodness of Fit”

“A useful theory makes assumptions about a behavior ... problem, target population or environment that are:

- Logical;
- Consistent with everyday observations;
- Similar to those used in previous successful programs; and
- Supported by past research in the same or related area” (1, p. 5)

Applying Theories to Educational Programs

After analyzing theories for goodness of fit, Extension educational program planners can use guidelines for designing information dissemination and educational programming focused on change-making. These guidelines can be used for multiple media in both group and individual learning. A set of guidelines is shown in Table 2.

Assessing New and Existing Programs, Curricula and Materials

Criterion-referenced assessment tools can be used for assessing both existing educational programs, curricula and materials and for developing new ones.

In this guide, we provide three individual but complementary tools for assessing existing educational programs, curriculum and educational materials and those under development. Criterion-referenced assessment tools permit multiple individuals to make judgments using common criteria with common definitions. All three tools are located in the Appendices.

Other Theories in Program Development, Delivery and Evaluation

This guide is intended to stimulate thought and dialogue and to help youth and adult education program developers. It can be used in program development, at the end of pilot testing a program, and during a full-scale program implementation stage. We understand that continuous improvement may require that this guide be modified as others test our ideas and theories.

Theoretical Frameworks

Table 1 consists of a set of eight theories chosen by the authors based on their research and practice at the local, state, and national levels with educational programs designed to produce behavioral change. These eight theories are a base from which to start: Other theories could be added and used.

Each theory is presented with a list of authors, a description, suggestions for application, comments by the developers, and questions for users. Complete citations are found in the references section.

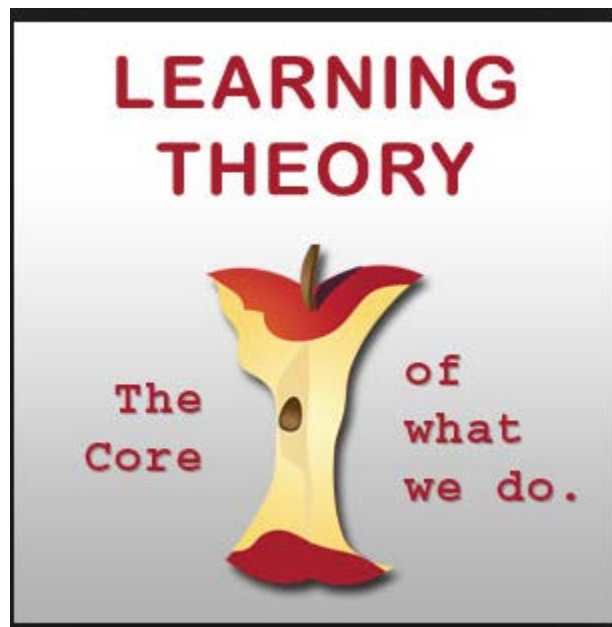


Table 1: Individual Level Theories Overview and Use

Theory Name	Description	Application	Comments	Questions
<p>Social Cognitive Theory Bandura (5)</p>	<p>Self-efficacy is the “do-ability” factor—the measure of the ability to take the desired action.</p> <p><i>Do-ability</i> is affected by perception of control.</p> <p>Control includes sufficient competence and confidence to act.</p> <p>Self-confidence is key to taking action.</p>	<p>Build confidence and sense of control based on where the consumer is at the start of program</p> <p>If a behavior is complex, smaller, easier tasks should be used to create small successes.</p> <p>Progress should be recognized, rewarded and reinforced as tasks or subtasks are completed.</p>	<p>Ties to theory of planned behavior and stages of change or readiness.</p>	<p>How do we determine the self-efficacy of our targeted learners?</p> <p>How can we build confidence, competence and control into our educational design?</p> <p>Are there complex tasks that must be done to act on the tasks?</p> <p>How can we divide complex tasks into subtasks?</p> <p>What kinds of recognition, rewards and reinforcement can we build into the design?</p> <p>Should we include measures of self-efficacy in our baseline and outcomes assessment?</p> <p>How can we tie our self-efficacy components to stages of readiness?</p>

Theory Name	Description	Application	Comments	Questions
<p>Stages of Change or Readiness for Change</p> <p>Prochaska, DiClemente, & Norcross (6)</p>	<p>Demonstrates that people go through five stages as they adopt a new behavior or belief:</p> <ol style="list-style-type: none"> 1. Pre-contemplation 2. Contemplation 3. Action 4. Maintenance 5. Termination 	<p>To help an adult learn, begin where they are.</p> <p>Use this theory to establish stage status in relation to the desired behavior.</p> <p>The education and materials should be designed for each stage to accommodate learners in each.</p>	<p>Ties to social cognitive and theory of planned behavior.</p>	<p>How can we determine stages of change of our targeted learners?</p> <p>How can we build stages of change into our educational design?</p> <p>Should we include measures of stages of readiness in our baseline and/or outcomes assessment?</p>
Theory Name	Description	Application	Comments	Questions
<p>Planned Health Behavior</p> <p>Azjen (7)</p>	<p>A causal explanation of how behavioral intention determines behavior; how attitude, and perceived control influence intent.</p> <p>Behavioral intention is the most important determinant of behavior.</p>	<p>Help individuals believe they can do the behavior.</p> <p>Have attitudes shaped by what's required of the behavior and the likely outcome(s).</p> <p>Recognize the importance of the support of key people in their lives that can help with behavior change.</p> <p>Help individuals believe they have control over the behavior.</p>	<p>Ties to social cognitive theory.</p>	<p>What attitudes do consumers hold about a topic?</p> <p>To what extent do consumers perceive they can make good decisions?</p> <p>Who influences their thinking?</p> <p>Should behavioral intent be measured as a baseline before and after the program?</p>

Theory Name	Description	Application	Comments	Questions
Communication Bettman (8) McGuire (9) Rogers (10)	<p>Draws on multiple behavioral and social theories including consumer behavior and social marketing.</p> <p>Can use an ecological perspective with multilevel communication.</p> <p>The focus is on the elements of: 1) who 2) says what 3) in which channels, 4) to whom and 5) with what effect.</p> <p>Examines the interaction of audience and media for influence on knowledge, opinions, attitudes and behaviors of audiences.</p> <p>Communication processes are central to encouraging or discouraging behavior.</p> <p>Through framing, audiences are influenced in both what and how to think.</p> <p>Diffusion of information and adoption of innovation occurs through a social process in categories of: early adopters, early majority, late majority, and laggards.</p>	<p>Use to design targeted audience campaigns and messages.</p> <p>Consider multi-level strategies while selecting media as channels of delivery.</p> <p>Explore how the method of delivery, the content and its presentation and the educator affect effectiveness.</p> <p>Identify the stage of adoption to determine the categories of adoption behavior among the targeted audiences and incorporate those in the early stages as peer leaders.</p> <p>Frame messages to guide learners in what to think about and how to think.</p>	<p>Ties to social cognitive theory, theories of change and youth & adult education, empowerment and transformative theory.</p> <p>The stages of social cognitive theory and of diffusion and adoption of innovation can be complimentary. The first focuses on the individual; the second on groups of individuals who influence one another.</p>	<p>What components of social cognitive theory, theories of change and adoption of innovation and youth and adult education are relevant to the intended content and delivery of the educational materials?</p> <p>How will we know the extent to which our content channels of delivery and the educator affected learning outcomes?</p> <p>Is there a rank order of messages that need to be sent, received and understood?</p> <p>Under what conditions could the way we frame the messages affect the critical thinking of targeted audiences?</p> <p>Do we have sufficient experience to design a communications plan for informing targeted audiences of our educational programming and its content?</p> <p>Within the targeted audience, who are the early adopters or who influence others?</p> <p>Who is the best person to bring the message?</p>

Theory Name	Description	Application	Comments	Questions
Adult Education Boyle (11), Bruner (12), Franz (13), Kirsch, Jungeblut Jenkins, & Kolstad (14), Knowles (15), Merriam, Caffarella, & Baumgartner (16), Mezirow (17), Norris (18)	<p>Adults are focused on solving and managing their problems. They want to be actively involved in problem solving.</p> <p>Adults learn well through dialogue and other learning other learning styles.</p> <p>Transformative adult education empowers individuals by altering points of view as a result of critical thinking and reflection.</p> <p>Adults vary in their abilities to think about the concrete world-- what they perceive to be real and the abstract world -- what they conclude and how to test consequences of decisions and actions—if A then B.</p> <p>Adults vary in their general literacy-- knowledge and skills needed to locate, understand and use Information--oral, written and numerical.</p> <p>Adults vary in their specific literacy levels—financial, health, technology, etc.</p>	<p>Educators need to know how adults define their problems, what adults want to know and why they want to know to design effective education.</p> <p>Educators need to know both the general and specific literacy levels of their targeted audience of learners in designing and delivering adult education.</p> <p>Principle: Start with the targeted population.</p> <p>Ground learning experiences in critical and reflective thinking.</p>	<p>Useful for establishing needs and the situation.</p> <p>Can be used to design learning after identifying self-efficacy of targeted adults and their stage of readiness.</p> <p>When the science and art of adult education is applied to educational programming, the likelihood that learning and application of learning will occur increases.</p> <p>Programs, curricula and educational materials should be created and critiqued using assessment tools that address literacy levels of the targeted audience(s).</p>	<p>How can we determine the problems associated with our Extension programs that our targeted learners want solved?</p> <p>How can we design educational programs to address those problems?</p> <p>To what extent can we and should we engage our targeted learners in designing our educational materials and programming?</p> <p>What is the desired balance between facts and how-to application components of the program?</p> <p>Is dialogue integral to the learning environment?</p> <p>To what extent do we incorporate critical and reflective thinking?</p> <p>Is our programming sensitive to varying levels of literacy among adults? Does it use principles of plain language and clear communication?</p> <p>What are the different learning styles of the learners?</p>

Theory Name	Description	Application	Comments	Questions
<p>Youth Development</p> <p>Benson, Scales, Hamilton, & Sesma (19), Bronfenbrenner (20), Damon (21), Erikson (22), Jones & Bouffard (23), Lerner & Benson (24), Pittman (25), Pittman & Irby (26)</p>	<p>Children find their psychosocial identity through a series of developmental stages that continue across the life cycle.</p> <p>Success in each stage is dependent upon the successful completion of the previous stage.</p> <p>Children internally structure their identity through the experiences they have with others.</p> <p>Children's growth and development occurs within systems that help or hinder their development.</p> <p>Children with strong social and emotional learning skills will:</p> <ul style="list-style-type: none"> a) have better relationships with other children and adults; b) do better in school; and c) exhibit better mental health. <p>Positive youth development focuses on asset development and draws on existing assets of families and communities.</p>	<p>Educational programming should be constructed for the age and stage of the children.</p> <p>Incorporating experiential learning will help children develop their own identity.</p> <p>Efforts should be undertaken to address the systems in which a child lives and learns.</p> <p>Educational programming that focuses on the whole child will likely result in better</p> <p>Understanding the internal and external assets of each child, their family and the environments in which they exist and focusing on those as a strength base should result in positive youth development outcomes.</p>	<p>4-H youth programming focuses on positive youth development.</p> <p>Critical elements essential to the healthy development of young people include:</p> <ol style="list-style-type: none"> 1. Youth feel physically and emotionally safe 2. Youth experience belonging and ownership 3. Youth develop self-worth 4. Youth discover self 5. Youth develop quality relationships with peers and adults 6. Youth discuss conflicting values and form their own 7. Youth feel the pride and accountability that comes with mastery 8. Youth expand their capacity to enjoy life and know that success is possible. 	<p>Have we considered a youth audience for our programming?</p> <p>Is our youth programming information-focused or developmentally-focused?</p> <p>Is our youth development programming incorporating these theories?</p> <p>Are there other appropriate theories to be included?</p> <p>How do we best design our programs to meet the needs of youth who are at different developmental stages (and in different environments)?</p>

Theory Name	Description	Application	Comments	Questions
Empowerment Fetterman (27) Freire (28), Kar, Pascual, & Chickering (29), Varkey, Kureshi, & Lesnick (30), Zimmerman (31), Zimmerman & Warschausky (32)	<p>A process by which individuals gain perceived autonomy and confidence to achieve control over problems and issues of concern to them through appropriate solutions.</p> <p>Includes actions, activities, and structures that may be empowering and outcomes that represent a level of empowerment.</p> <p>Varies across contexts and by individuals.</p> <p>Can exist on individual, community and organizational levels.</p>	<p>Use to develop programs that leave individuals, groups, communities and/or organizations with sufficient ability and confidence that they can address issues and/or solve problems themselves.</p>	<p>Ties to other theories.</p> <p>Can be used to decrease dependence on the provider of information and increase ability to learn and act with confidence.</p> <p>Is tied to learner-centered program planning, design, implementation and evaluation.</p> <p>Moves beyond measuring knowledge and skills to measuring sense of control and confidence.</p>	<p>Which learning methods will enable learners to identify issues and problems and find solutions?</p> <p>What is the desired balance between providing information and increasing confidence and a sense of control?</p> <p>What's the rationale for moving beyond information dissemination to empowerment programming?</p>

Theory Name	Description	Application	Comments	Questions
<p>Evaluation</p> <p>Patton (33), Lewin (34)</p>	<p>Program developers use theories and methodologies to determine:</p> <p>1) The need for a program (assessment); 2) How well the process for planning, implementing, judging results and communications is working (formative); and 3) How to assess results (summative).</p> <p>Fundamental is the <i>Theory of Action</i>, the explanation of how to produce desired results, which asks: <i>Did the implemented program lead to the desired outcomes?</i></p> <p>User-focused theory engages the educators in conceptualization through findings.</p>	<p>Educators need to know how theory of evaluation fits into their programming.</p> <p>Applying evaluation theory will strengthen program planning, implementation and outcomes.</p> <p>To apply user-focused theory requires that:</p> <p>--The statement of theory is understood; --Participants are comfortable with the process; --Participants understand how the theory supports their actions; --Goodness of fit is tested --Application of theory remains a strong focus.</p>	<p>At least one member of an educational programming team should have evaluation expertise or access to evaluation expertise.</p> <p>Costs associated with evaluation include personnel time and money and should be considered as program planning begins.</p> <p>Funding may be needed to adequately plan for and execute the evaluation plan.</p> <p>A plan for internal and external communication of findings is needed.</p> <p>Materials evaluation is a component of formative evaluation, known as needs assessment or situation analysis and outcome evaluation.</p>	<p>Who are the intended users of the evaluation information?</p> <p>What questions do we need to ask before, during and after our programs?</p> <p>How will we collect and analyze the data?</p> <p>Who will be involved in the evaluation plan and process?</p> <p>When should we create the plan of evaluation and when should it be implemented?</p> <p>Are there key dates requiring key evaluation actions?</p> <p>What is the desired balance between formative and summative evaluation elements of the plan?</p>

Key constructs (concepts) of theories can be combined into a model that frames the design and measurement of educational programming impact. Key guidelines from these theories are:

- 1) Involve the targeted population to understand their readiness to learn and what they want to learn under what circumstances.
- 2) Identify the level of confidence, competence and sense of control before and after programs to determine the extent to which the program resulted in change.
- 3) Create messages and deliver via channels that fit the needs and situations of the targeted population.
- 4) Design learning experiences so participants increase their ability to think critically and to reflect on what they learned.
- 5) Assure that evaluation of need, process and outcome is effectively conducted and reported.

After establishing the theoretical framework for the Extension education programming another step is needed—designing for the literacy and numeracy of a range of adults. Following literacy-focused design guidelines will strengthen the likelihood that the intended outcome(s) will be achieved. For learners with a wide range of literacy levels, program planners need to address methods and materials. Table 2 lists four major guidelines with sub-guidelines for low-literacy adults.

Table 2.
Guidelines for methods and materials for low literacy adults.
 (Based on Doak, Doak, & Root, 2007, p.22).

1. SET SMART* Goals & OBJECTIVE(S)
1.1 Limit the goal (s) and objective(s) to what the current needs of the majority of the target population. 1.2 Use a planning sheet to write down the goals, objective(s) and key points.
2. TO ENCOURAGE CHANGE, FOCUS ON BEHAVIORS AND SKILLS
2.1 Emphasize behaviors and skills rather than facts. 2.2 Sequence concepts to build breadth and depth of understanding and skills.
3. PRESENT CONTEXT FIRST (BEFORE GIVING NEW INFORMATION)
3.1 State the purpose or use for new content information before presenting it. 3.2 Relate new information to the context of adult lives.
4. PARTITION COMPLEX INSTRUCTIONS
4.1 Break instructions into easy-to-understand parts. 4.2 Provide opportunities for small successes.
5. MAKE IT INTERACTIVE
5.1 Consider including an interaction after each key topic. The learner must write, tell, show, demonstrate, select or solve a problem.

***Specific, Measurable, Attainable, Realistic, Time-bound**

Assessment Tools for Judging Programs, Curriculum & Educational Materials

After applying Table 2 guidelines to program design, Extension program planners can also use an assessment to judge existing educational programs. Three tools are included in this guide. They provide criteria for judging programs, curricula and educational materials.

Extension Program Assessment Tool (PAT). This tool was created by McCoy and Braun (35) for the University of Maryland Extension (UME) for judging the stage of program development along a continuum from informational, to developmental, to signature, to evidence-based. We distinguish program as a comprehensive set of learning experiences that could include multiple curricula and materials. The tool can be used for both existing and new programs. PAT uses checklists to assess the program instructions are included with the instrument. Appendix A.

Extension Curriculum Assessment Tool (CAT). This assessment tool was created to provide a standardized set of criteria to evaluate existing educational curricula and to use in creating new educational curricula. CAT was originally created for the new Maryland *Health Smart Health Insurance Literacy Initiative* educational curriculum. This guide has been modified as a generic multi-disciplinary curriculum assessment. CAT evaluates curricula on a four-point scale (Effective, Good, Fair, and Ineffective). CAT is located in Appendix B.

CAT is based on a *Journal of Extension* article (36) which provided a rationale for curricula review. Finkbeiner and Braun (37) added additional items and converted the new items and those from the article into an assessment tool.

Extension Materials Assessment Tool (MAT). The purpose of the materials assessment tool (38) is to provide a standardized set of criteria to judge educational materials used in programs and in curricula. Our tool is a modification of SAM — the *Suitability Assessment of Materials* (2). It can be used both for critiquing existing educational materials and creating new materials. This tool was originally created for assessing materials used with low-literacy audiences. It can be used to judge the extent to which the materials can be understood and used by audiences with varying levels of prose, document and quantitative literacy (14).



References Used for Extension Education Theoretical Framework Guide

1. National Cancer Institute (2005). *Theory at a glance: A guide for health promotion practice (2nd ed.)*. NIH Publication No. 05-3986: U.S. Department of Health and Human Services. Available at: <http://www.cancer.gov/cancertopics/cancerlibrary/theory.pdf>.
2. Doak, C.C., Doak, L.G., & Root, J.H. (2007). *Teaching patients with low literacy skills. (2nd ed.)*. Philadelphia: J.B. Lippincott Company.
3. Glanz, K., Lewis, F. M., & Rimer, B. K. (Eds.) (1997). *Health behavior and health education. (2nd ed.)*. San Francisco, CA: Jossey-Bass Publishers.
4. Doran, G. T. (1981). There's a S.M.A.R.T. way to write management's goals and objectives. *Management Review*, 70, 35-36.
5. Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
6. Prochaska, J.O., DiClemente, C.C., & Norcross, J.C. (1992). In search of how people change: Applications to the addictive behaviors. *American Psychologist*, 47, 1102-1114.
7. Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action-control: From cognition to behavior* (pp. 11-39). Heidelberg: Springer.
8. Bettman, J. R. (1979). *An information processing theory of consumer choice*. Reading, MA: Addison-Wesley.
9. McGuire, W. J. (1984). Public communication as a strategy for inducing health-promoting behavioral change. *Preventive Medicine*, 13, 299-313.
10. Rogers, E. M. (1983). *Diffusion of innovations*. New York: Free Press.
11. Boyle, P.G. (1981). *Planning better programs*. New York: McGraw-Hill.
12. Bruner, J.S. (1966). *Toward a theory of instruction*. Cambridge, MA: The Belknap Press of Harvard University.
13. Franz, N. (February, 2007). Adult education theories: Informing Cooperative Extension's transformation. *Journal of Extension*, 45. Available at: <http://www.joe.org/joe/2007february/a1.php>
14. Kirsch, I.S., Jungeblut, A., Jenkins, L., & Kolstad, A. (2002). *Adult literacy in America: A first look at the findings of the national adult literacy survey. (NCES1993-275)*. U.S. Department of Education Office of Educational Research and Improvement. Washington, DC: National Center for Education Statistics.

15. Knowles, M.S. (1973). *The adult learner: A neglected species* (2nd ed.). Houston: Gulf Publishing Company.
16. Merriam, S.B., Caffarella, R.S., & Baumgartner, L.M. (2007). *Learning in adulthood: A comprehensive guide* (3rd ed.). San Francisco: Jossey-Bass.
17. Mezirow, J. (Ed.) (2000). *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco, CA: The Jossey-Bass Higher and Adult Education Series.
18. Norris, J.A. (2003). *From telling to teaching: A dialogue approach to adult learning*. Myrtle Beach, NC: Learning by Dialogue.
19. Benson, P. L., Scales, P. C., Hamilton, S. F., & Sesma, A. (2006). Positive youth development: Theory, research, and applications. In W. Damon & R. Lerner (Eds.), *Handbook of child psychology* (vol. 1, pp. 894–941). Hoboken, NJ: Wiley.
20. Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
21. Damon, W. (2004). What is positive youth development? *Annals of the American Academy of Political and Social Science*, 591, 13–24.
22. Erikson, E.H. (1959). *Identity and the life cycle*. New York: International Universities Press.
23. Jones, S.M., & Bouffard, S.M. (2012). Social and emotional learning in schools: From programs to strategies. *Social Policy Report*, 26(4).
24. Lerner, R.M., & Benson, P.L. (Eds.). (2003). *Developmental assets and asset-building communities: Implications for research, policy, and practice*. New York: Kluwer Academic.
25. Pittman, K. (1991, June). Promoting youth development: Strengthening the role of youth serving and community organizations. Washington D.C.: Academy for Educational Development.
26. Pittman, K., & Irby, M. (1995). *An advocate's guide to youth development*. Boston: Academy for Educational Development.
27. Fetterman, D. (2001). *Foundations of empowerment evaluation*. Thousand Oaks, CA: Sage Publications.
28. Freire, P. (1972). *Pedagogy of the oppressed*. New York: Herder and Herder.

29. Kar, S. B., Pascual, C. A., & Chickering, K. L. (1999). Empowerment of women for health promotion: A meta-analysis. *Social Science & Medicine*, 49, 1431-1460.
30. Varkey, P., Kureshi, S., & Lesnick, T. (2010). Empowerment of women and its association with the health of the community. *Journal of Women's Health*, 19, 71-76.
31. Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. *American Journal of Community Psychology*, 23, 581-599.
32. Zimmerman, M. A., & Warschausky, S. (1998). Empowerment theory for rehabilitation research: Conceptual and methodological issues. *Rehabilitation Psychology*, 43, 3-16
33. Patton, M.Q. (1997). *Utilization-focused evaluation: The new century text*. Thousand Oaks, CA: Sage.
34. Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2(4), 34-46.
35. McCoy, T. & Braun, B. (February, 2013). *University of Maryland Extension program assessment tool*. College Park, MD: University of Maryland Extension.
36. Coleman, G., Byrd-Bredbenner, C., Baker, S., & Bowen, E. (2011). Best practices for extension curricula review. *Journal of Extension*, 49, Article 2T0T1. Available at: <http://www.joe.org/joe/2011april/tt1.php>
37. Finkbeiner, N. & Braun, B. (October, 2012). *University of Maryland Extension curriculum assessment tool*. College Park, MD: University of Maryland Extension.
38. Finkbeiner, N. & Braun, B. (November, 2012). *University of Maryland Extension materials assessment tool*. College Park, MD: University of Maryland Extension.
39. Center for Medicare and Medicaid Services (2010). *Toolkit for making written material clear and effective: Part 7- Using readability formulas: A cautionary note*. Available at: <http://www.cms.gov/Outreach-and-Education/Outreach/WrittenMaterialsToolkit/ToolkitPart07.html>
40. Centers for Disease Control and Prevention (2009). *Simply put: A guide for creating easy-to-understand materials*. Available at: www.cdc.gov/healthliteracy/pdf/simply_put.pdf

Appendix A
Extension Program Assessment Tool (PAT)©

University of Maryland Extension Program Assessment Tool				
CATEGORY	Informational	Developing	Signature	Evidence-Based
	Needs Assessment:			
Fit with UME Mission (Program Design)	<ul style="list-style-type: none"> <input type="checkbox"/> Represents an <i>emerging</i> public issue or need that could be addressed by a UME program. <input type="checkbox"/> Based on some evidence of the issue and/or need <input type="checkbox"/> Included in at least one Individual Educational Plan. <input type="checkbox"/> Not yet included in TEP. <input type="checkbox"/> Minimal or no specific UME funding or other resources dedicated to addressing the emerging issue or need through a formal UME program. 	<ul style="list-style-type: none"> <input type="checkbox"/> Represents a developing public issue or need that can be addressed by UME. <input type="checkbox"/> Based on substantive evidence of the public issue or need AND the capacity of UME to make an impact. <input type="checkbox"/> Included in multiple IEPs. <input type="checkbox"/> Included in at least one TEP for development. <input type="checkbox"/> Start-up UME funding or other resources committed to addressing the issue or need through a formal program. 	<ul style="list-style-type: none"> <input type="checkbox"/> Represents a <i>priority</i> of UME based on identified public issues and/or needs of the people of the state. <input type="checkbox"/> Provides sufficient evidence of impact to justify commitment of resources to conduct program. <input type="checkbox"/> Defines the distinctiveness of UME from other organizations in addressing the public issue and/or particular need of the people of the state. <input type="checkbox"/> Included in multiple IEPs across multiple disciplines. <input type="checkbox"/> Identified as a signature program in at least one TEP. <input type="checkbox"/> Sufficient internal and/or external resources to make an impact <input type="checkbox"/> Program is recognized outside of UME among public decision-makers and the people of the 	<p>Includes all of the signature program characteristics plus:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Rigorous scientific evidence of impact <input type="checkbox"/> Adequate and sustained funding and other resources from UME and others. <input type="checkbox"/> On occasion, replication by other state Extension systems or by external groups.

Appendix A
Extension Program Assessment Tool (PAT)©

			state and the national Extension System.	
CATEGORY	Informational	Developing	Signature	Evidence-Based
	Educational Program:			

Appendix A
Extension Program Assessment Tool (PAT)©

<p>Meets Critical Clientele Needs (Program Development)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Exchange of information to answer questions and address concerns. <input type="checkbox"/> Information is transferred to client for immediate use. <input type="checkbox"/> Information is research-based. 	<ul style="list-style-type: none"> <input type="checkbox"/> Exchange of information is for immediate use and could lead to change over time in an individual's knowledge, attitude, skills, and aspirations (KASA). <input type="checkbox"/> Information and methods of teaching/learning are research and theory-based. <input type="checkbox"/> Contact time with client is usually one hour or less and one time and may be face-to-face and/or through different types of media. <input type="checkbox"/> May involve key partners or stakeholders. 	<ul style="list-style-type: none"> <input type="checkbox"/> Exchange of information leads to documented change in an individual's knowledge, attitude, skills, and aspirations (KASA). <input type="checkbox"/> Exchange of information is used to aid in the solution of a public issue or need of individuals, families, and communities. <input type="checkbox"/> Information and methods of teaching/learning are research and theory-based. <input type="checkbox"/> Contact time with client is more than two hours, for youth 6 or more hours, extended over a period of time medium-to-long duration and uses multiple methods of contact, including face-to-face and different types of media. <input type="checkbox"/> Involves key partners and stakeholders. 	<ul style="list-style-type: none"> <input type="checkbox"/> Exchange of information leads to scientifically-rigorous, documented change in an individual's knowledge, attitude, skills, and aspirations (KASA) over time. <input type="checkbox"/> Exchange of information is used to aid in the solution of a public issue or need of individuals, families, and communities. <input type="checkbox"/> Information and methods of teaching/learning are research and theory-based. <input type="checkbox"/> Contact time with client is of a medium-to-long duration and uses multiple methods of contact, including face-to-face and different types of media. <input type="checkbox"/> Involves key partners and stakeholders. <input type="checkbox"/> Uses program strategies that have been scientifically tested and proven successful for public issues and needs of people.
<p>CATEGORY</p>	<p>Informational</p>	<p>Developing</p>	<p>Signature</p>	<p>Evidence-Based</p>
	<p>Curriculum:</p>			

Appendix A
Extension Program Assessment Tool (PAT)©

	<ul style="list-style-type: none"> <input type="checkbox"/> Knowledge-based educational materials are used but no curriculum for change over time. 	<ul style="list-style-type: none"> <input type="checkbox"/> Program curriculum under development is tested based on the UME Extension Curriculum Assessment Tool (CAT) and, when appropriate, the Materials Assessment Tool (MAT). <input type="checkbox"/> Program curriculum changes have been made based on the UME Extension CAT and, when appropriate, the MAT. <input type="checkbox"/> Curriculum has been pilot-tested using appropriate testing methods. <input type="checkbox"/> If curriculum is adapted from another source, is subjected to the CAT and, if appropriate, to MAT, and pilot tested for appropriateness in state and modified as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Program curriculum developed using the UME Curricula Assessment Tool (CAT) review guidelines. <input type="checkbox"/> Program curriculum adapted from another state has been peer reviewed using the UME Extension CAT and, when appropriate, MAT, and modified to meet Maryland needs. <input type="checkbox"/> Curriculum has been both internally and externally peer-reviewed. <input type="checkbox"/> Curriculum has been published with a UME signature-program endorsement. <input type="checkbox"/> Curriculum is available to other states to use and adapt. 	<ul style="list-style-type: none"> <input type="checkbox"/> Program curriculum developed using the UME Curricula Assessment Tool (CAT) review guidelines. <input type="checkbox"/> Program curriculum adapted from another state has been peer reviewed using UME CAT and, when appropriate, the MAT. <input type="checkbox"/> Curriculum produces evidence-based results.
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Appendix A
Extension Program Assessment Tool (PAT)©

CATEGORY	Informational	Developing	Signature	Evidence-Based
Research & Scholarship (Program Development & Delivery)	Research Base:			
	<input type="checkbox"/> Uses research-based information.	<input type="checkbox"/> Theory and research-based information is explicitly explained and incorporated into the development of program.	<input type="checkbox"/> Theory and research-based information are used to explain impact measures and outcomes. <input type="checkbox"/> Provides information that can be used to build additional program strategies and research questions.	<input type="checkbox"/> Theory, research-based information, and empirical evidence are explicitly integrated in explanation of program impacts on intended outcomes. <input type="checkbox"/> Program research results provide evidence to build additional theoretical models. <input type="checkbox"/> Program research results provide evidence that allows for further research study funds to be generated.

Appendix A
Extension Program Assessment Tool (PAT)©

CATEGORY	Informational	Developing	Signature	Evidence-Based
	Program Scholarly Outputs:			
	<ul style="list-style-type: none"> <input type="checkbox"/> Program activities cited in CVs and annual faculty reports for merit review. 	<ul style="list-style-type: none"> <input type="checkbox"/> Program activities cited in CVs and annual faculty reports for merit review. <input type="checkbox"/> Conference and professional association posters. <input type="checkbox"/> Conference and professional association workshops and presentations based on preliminary data. <input type="checkbox"/> Contributions to eXtension Communities of Practice (COP). <input type="checkbox"/> UME peer-reviewed Extension Briefs and/or Factsheets. 	<ul style="list-style-type: none"> <input type="checkbox"/> Program impacts cited in CV and annual faculty reports for merit reviews. <input type="checkbox"/> Program scholarship findings used in promotion and tenure packages for decisions about Senior or Principal Agent advancement and for merit reviews. <input type="checkbox"/> Program results presentations at professional association meetings, workshops, panels, and other types of delivery methods-- both refereed and non-refereed. <input type="checkbox"/> Invited presentations and articles about program results. <input type="checkbox"/> Contributions to eXtension Communities of Practice (COP). <input type="checkbox"/> Refereed articles in subject-based journals. <input type="checkbox"/> UME peer-reviewed Extension Briefs, Factsheets, Bulletins, Manuals, and Curricula. 	<ul style="list-style-type: none"> <input type="checkbox"/> Program scholarship findings cited in CV and annual faculty reports for merit reviews. <input type="checkbox"/> Program scholarship findings used in promotion and tenure packages for decisions about Senior or Principal Agent advancement and for merit reviews. <input type="checkbox"/> Evaluation results add to a national evidence-based database. <input type="checkbox"/> Invited presentations and articles about program results are issued from other states, regions, and countries. <input type="checkbox"/> Primary authorships in eXtension Communities of Practice (COP). <input type="checkbox"/> Journal editorial board memberships. <input type="checkbox"/> Refereed articles in highly-acclaimed journals. <input type="checkbox"/> UME peer-reviewed Extension Briefs, Factsheets, Bulletins, Manuals, and Curricula. Books or book chapters.

Appendix A
Extension Program Assessment Tool (PAT)©

CATEGORY	Informational	Developing	Signature	Evidence-Based
Program Evaluation	Evaluation Use:			
	<ul style="list-style-type: none"> <input type="checkbox"/> Data collected and evaluated to determine participant knowledge gain and satisfaction level with the interaction experience. <input type="checkbox"/> Evaluation results are used to communicate reach of Educator’s work. 	<ul style="list-style-type: none"> <input type="checkbox"/> Data collected and evaluated to determine participants’ short-term KASA outcomes and clientele satisfaction level with the interaction experience. <input type="checkbox"/> Evaluation results used to determine program effectiveness and to communicate effectiveness of Educator’s work to meet clientele needs. 	<ul style="list-style-type: none"> <input type="checkbox"/> Data collected and evaluated to determine medium-term outcomes achieved that benefit clientele and/or the community. <input type="checkbox"/> Evaluation results used to communicate UME’s value in addressing societal, economic, and environmental needs. <input type="checkbox"/> Evaluation results used to communicate the effectiveness of Educator’s work to meet clientele needs in Maryland. 	<ul style="list-style-type: none"> <input type="checkbox"/> Data is collected and evaluated to determine long-term outcomes achieved that benefit clientele. <input type="checkbox"/> Evaluation results are used to communicate UME’s impact on compelling societal, economic, and environmental issues in Maryland. <input type="checkbox"/> Evaluation results are used to communicate state and national impacts on compelling societal, economic, and environmental issues.

Appendix A
Extension Program Assessment Tool (PAT)©

CATEGORY	Informational	Developing	Signature	Evidence-Based
	Evaluation Methods:			
	<ul style="list-style-type: none"> <input type="checkbox"/> End-of-session instruments used to determine client satisfaction. <input type="checkbox"/> No IRB approval required if client satisfaction will not be published. 	<ul style="list-style-type: none"> <input type="checkbox"/> Basic logic model developed. <input type="checkbox"/> End-of-session instruments used for program improvement. <input type="checkbox"/> Paired or unmatched pretests and posttests or other quantitative assessments for KASA changes. <input type="checkbox"/> Qualitative methods incorporated where appropriate (structured observations, interviews). <input type="checkbox"/> IRB approved. 	<ul style="list-style-type: none"> <input type="checkbox"/> Logic model is fully developed. <input type="checkbox"/> End-of-session instruments used for program improvement. <input type="checkbox"/> Paired or unmatched pretests and posttests for assessment of KASA changes. <input type="checkbox"/> Qualitative methods incorporated where appropriate (structured observations, interviews). <input type="checkbox"/> Follow-up survey research used to assess medium- term outcomes. <input type="checkbox"/> Control and comparison groups used where appropriate. <input type="checkbox"/> Findings are used to improve programs. <input type="checkbox"/> Findings are peer reviewed and published when appropriate. <input type="checkbox"/> IRB approved. 	<ul style="list-style-type: none"> <input type="checkbox"/> Logic model is fully developed and tested for utility over time. <input type="checkbox"/> Results of evaluations have been subject to critical peer review. <input type="checkbox"/> Empirical evidence exists about program effectiveness. <input type="checkbox"/> Program results grounded in rigorous evaluations using experimental or quasi-experimental studies with randomized control groups. <input type="checkbox"/> Program can be replicated by other states with confidence in program effectiveness. <input type="checkbox"/> Findings are published in peer-reviewed journals and other publications. <input type="checkbox"/> IRB approved.

Appendix A
Extension Program Assessment Tool (PAT)©

CATEGORY	Informational	Developing	Signature	Evidence-Based
Adoption & Replication (Program Dissemination)	<input type="checkbox"/> Potential for adoption and replication unknown.	<input type="checkbox"/> Has potential to become a program that can be replicated by Extension or others in state.	<input type="checkbox"/> Recognized by respected agencies and organizations as an effective program. <input type="checkbox"/> Adopted by other organizations or Extension services.	<input type="checkbox"/> Program is promoted and adopted nationally as an empirically-tested program with identified short-, medium-, and long-term outcomes. <input type="checkbox"/> Program materials (curriculum, protocols, evaluation instruments) exist that make adoption and replication possible.
Marketing & Communication (Program Dissemination)	<input type="checkbox"/> No formal marketing plan, but program is advertised at the local level through flyers, newspaper articles, newsletters, or word-of-mouth.	<input type="checkbox"/> No formal marketing plan, but advertising has extended beyond the local community.	<input type="checkbox"/> Formal marketing plan in place and evaluated for effectiveness.	<input type="checkbox"/> Effective components of a formal marketing plan are used.
Public Value (Program Dissemination)	<input type="checkbox"/> Program value is evident to the individual participants using information.	<input type="checkbox"/> Program value is evident to the individual participants using information and participating in the program.	<input type="checkbox"/> Program's value is evident to individuals, families, and the community-at-large.	<input type="checkbox"/> Program's value is evident to individuals, families, and the community-at-large. <input type="checkbox"/> Program's public value is determined by people or agencies outside of UME using this assessment tool or one used by an agency with a standardized tool and or a process for judging value.

Appendix A
Extension Program Assessment Tool (PAT)©

CATEGORY	Informational	Developing	Signature	Evidence-Based
Sustainability (Organizational Commitment)	<ul style="list-style-type: none"> <input type="checkbox"/> Minimum resources are required to initiate elements of a program. <input type="checkbox"/> Internal resources used to launch the program. 	<ul style="list-style-type: none"> <input type="checkbox"/> Short-term resources committed from Impact Teams to assist developing program into signature program. <input type="checkbox"/> Short term external funding secured to assist in developing program. <input type="checkbox"/> Potential partners identified. 	<ul style="list-style-type: none"> <input type="checkbox"/> Medium-term resources committed to supporting the program from the UME budget pending evidence of potential for impact. <input type="checkbox"/> External funders may be involved in on-going support of the program. <input type="checkbox"/> Partners involved in program when appropriate. 	<ul style="list-style-type: none"> <input type="checkbox"/> Long-term funding in UME budget due to evidence of impact. <input type="checkbox"/> External, long-term funding or partners secured to maintain programming. <input type="checkbox"/> National partners involved in program when appropriate.

Permission to use this Program Assessment Tool for non-profit educational purposes is granted with use of the following citation:

McCoy, T., Braun, B., & Finkbeiner, N. (March, 2013). *University of Maryland Extension program assessment tool*. College Park, MD: University of Maryland Extension.

Appendix B

Extension Curriculum Assessment Tool (CAT)©

For each rating category, information is presented which clearly identifies how to assess the curricula according to the four-point scale. Instructions for utilizing the assessment tool are as follows:

1. Read the description in each cell.
2. Determine how the curricula or material you are assessing rates on the particular category.
3. Insert your own comments as appropriate in order to clarify how or why you arrived at the particular rating.

Extension Curriculum Assessment Tool©				
Reviewed By:	Date:			
	Effective 4 points	Good 3 points	Fair 2 points	Ineffective 1 point
Content & Comments				
Theoretical foundation	Effective The curriculum is based on current education and behavioral change theory and research. The theoretical underpinnings of the curriculum are described.	Good All content except one or two pieces is based on current education and behavioral change theory and research. The theoretical underpinnings of the curriculum are mostly described.	Fair More than one or two pieces of the curriculum are not based on current education and behavioral change theory and research. The theoretical underpinnings of the curriculum are not described in detail.	Ineffective The curriculum is not based on current education and behavioral change theory and research. The theoretical underpinnings of the curriculum are not described.
Research-based Content	Effective The content of the curriculum is research-based, accurate, and current.	Good The content of the curriculum is mainly effective - all but one of the key components of effective curriculum (research-based, accurate, and current) are addressed.	Fair The content of the curriculum is missing more than one of the key components of effective curriculum - research-based, accurate, and current.	Ineffective The content is not research-based, accurate, or current.
Balanced Viewpoint	Effective The curriculum presents a balanced view of the topic, recognizing any aspects that are not yet clearly understood or open to debate.	Good All content except one or two pieces presents a balanced view of the topic, recognizing any aspects that are not yet clearly understood or open to debate.	Fair More than one or two pieces of the do not present a balanced view of the topic, failing to recognize any aspects that are not yet clearly understood or open to debate.	Ineffective The curriculum presents a one-sided view of the topic, failing to recognize any aspects that are not yet clearly understood or open to debate.

Appendix B

Extension Curriculum Assessment Tool (CAT)©

Learning Objectives	Effective Includes clear, measurable learning and behavioral objectives. Objectives are clearly linked to theoretical underpinnings.	Good All content except one or two pieces is tied to clear, measurable learning and behavioral objectives. Objectives are mostly linked to theoretical underpinnings.	Fair More than one or two pieces of the curriculum are not tied to clear, measurable learning and behavioral objectives. Objectives are poorly linked to theoretical underpinnings.	Ineffective Does not include clear, measurable learning and behavioral objectives.
Audience				
Target Audience	Effective Identifies the intended audience and is tailored to this audience.	Good All but one or two components of the curriculum are tailored to the intended audience.	Fair More than one or two components of the curriculum are not tailored to the intended audience.	Ineffective Does not clearly identify the intended audience.
Audience Input/Outcomes	Effective Builds on the strengths/assets, needs, and interests of learners. Audience input was used to guide development of materials.	Good All content except one or two pieces of the curriculum build on the strengths/assets, needs and interests of learners OR were guided by audience input.	Fair More than one or two components of the curriculum do not build on the strengths/assets, needs and interests of learners OR were not guided by audience input.	Ineffective Does not build on the strengths/assets, needs, and interests of learners. Audience input was not used to guide development of materials.
Audience Involvement	Effective Actively engages the audience in the learning process and promotes behavior change.	Good All content except one or two pieces actively engages the audience in the learning process and promotes behavior change.	Fair More than one or two pieces of the curriculum do not actively engage the audience or do not promote behavior change.	Ineffective Does not actively engage the audience in the learning process and does not promote behavior change.
Reflection of Diversity	Effective Reflects the diversity, including literacy, of the intended audience. Includes multilingual handouts and educational reinforcements when appropriate.	Good All content except for one or two pieces reflects the diversity, including literacy, of the intended audience. Includes multilingual handouts and educational reinforcements when appropriate.	Fair More than one or two pieces do not reflect the diversity, including literacy, of the intended audience OR the curriculum does not include multilingual handouts and educational	Ineffective Does not reflect the diversity, including literacy, of the intended audience. Does not include multilingual handouts and educational reinforcements when appropriate.

Appendix B

Extension Curriculum Assessment Tool (CAT)©

Respect for Diversity	Effective Ideas and principles included in the curriculum respect all aspects of diversity including literacy.	Good All content, except for one or two ideas and principles included in the curriculum, respect all aspects of diversity including literacy.	Fair More than one or two ideas and principles included in the curriculum do not respect all aspects of diversity including literacy.	Ineffective Ideas and principles included in the curriculum do NOT respect all aspects of diversity including literacy.
Readability				
Grammar	Effective Reflects standards of written English and correct grammar, spelling, punctuation, and mechanics.	Good One to two grammatical, spelling, punctuation, or mechanical errors.	Fair More than two grammatical, spelling, punctuation, or mechanical errors.	Ineffective Not comprehensible.
Tone and Reading Level	Effective All y is clear, correctly used and spelled throughout content. Correct abbreviations are used throughout. The curriculum is written at grade 6 or lower if intended for the general public.	Good Terminology is somewhat clear and correctly used and spelled throughout most of content. Spelling mistakes are minor. Correct abbreviations are mostly used throughout content. The curriculum is written at grade 6 or lower if intended for the general public.	Fair Terminology is frequently incorrectly used or is not clear and has misspellings. Abbreviations are incorrect. The curriculum if for the general public is written at a higher level than grade 6.	Ineffective Not comprehensible and the curriculum is written at not written at the grade 6 level if for the general public.
Organization	Effective Is logically and sequentially organized.	Good All content except one or two pieces displays logical and sequential organization.	Fair More than one or two pieces of the content are not logically and sequentially organized.	Ineffective Is not clearly organized.
Style of material	Effective Content displays evidence of understanding of principles of literacy and plain language (format, font, visuals, color, text construction, depth, detail, complexity).	Good All content except one or two pieces displays evidence of understanding of principles of literacy and plain language (format, font, visuals, color, text construction, depth, detail, complexity).	Fair More than one or two pieces of the content do not display evidence of understanding of principles of literacy and plain language (format, font, visuals, color, text construction, depth, detail, complexity).	Ineffective Content does not display evidence of understanding of principles of literacy and plain language (format, font, visuals, color, text construction, depth, detail, complexity).

Permission to use this Curriculum Assessment Tool for non-profit educational purposes is granted with use of the following citation:
 Finkbeiner, N., & Braun, B. (February, 2013). *University of Maryland Extension curriculum assessment tool*. College Park, MD: University of Maryland Extension.

Appendix B
Extension Curriculum Assessment Tool (CAT)©
Extension Curriculum Assessment Tool - SCORING SHEET

4 points for effective rating
 3 points for good rating
 2 points for fair rating
 1 point for ineffective rating
 N/A if the factor does not apply to this material

FACTOR TO BE RATED	SCORE	COMMENTS
1. CONTENT		
(a) Program grounded in theory		
(b) Content grounded in research		
(c) Viewpoint is balanced		
(d) Learning objectives included		
2. AUDIENCE		
(a) Identifies target audience		
(b) Audience input utilized		
(c) Audience involved, engaged		
(d) Diversity is reflected.		
(e) Diversity is respected		
3. READABILITY		
(a) Accurate spelling/grammar		
(b) Appropriate vocabulary and reading level		
(c) Logical organization		
(d) Material reflects principles of plain language and literacy		
4. UTILITY		
(a) Lesson Implementation and Preparation		
(b) Appropriate references		
(c) Easy to understand instructions		
(d) Strong validity and reliability established		

Appendix B
Extension Curriculum Assessment Tool (CAT)©

(e) Practical activities		
(f) Relevant resources included		
(g) Strong citation for program being reviewed		
(h) Logic model included		
(i) Describes process for implementing curriculum		
5. EVALUATION		
(a) Audience-tested instruments		
(b) Psychometrically-sound instruments		
(c) Evaluation methods linked to learning objectives		
(d) Pre-test, post-test methods		
Total score:		

Permission to use this curriculum assessment tool scoring sheet is granted with the following citation:
 Finkbeiner, N. & Braun, B. (March, 2013). University of Maryland Extension curriculum assessment scoring tool. College Park, MD: University of Maryland Extension

Appendix C

Extension Materials Assessment Tool (MAT)©

Suitability Assessment of Materials Evaluation Criteria¹

SAM, the Suitability Assessment of Materials instrument, offers a systematic method to objectively assess the suitability of health information materials for a particular audience in a short time. SAM permits rating of materials on factors that affect **readability** (the relative difficulty of decoding the words) and **comprehension** (the relative difficulty of understanding the meaning). Six areas are assessed by SAM: 1) Content, 2) Literacy Demand, 3) Graphics, 4) Layout and Type, 5) Learning Stimulation and Motivation, and 6) Cultural Appropriateness.² Materials are rated on a three-point scale: (Superior, Adequate, and Not Suitable) using the objective criteria detailed below:

Extension Materials Assessment Tool©			
Suitability Assessment of Materials Evaluation Criteria³			
	Superior 2 points	Adequate 1 point	Not suitable 0 points
Content			
Purpose: It is important that readers readily understand the intended purpose of the instruction for them. If they don't clearly perceive the purpose, they may not pay attention or may miss the main point.	Superior Purpose is explicitly stated in title, cover illustration, or introduction.	Adequate Purpose is not explicit. It is implied, or multiple purposes are stated.	Not suitable No purpose is stated in the title, cover illustration, or introduction.
Content Topics: Since adults usually want to solve their immediate problem rather than learn a series of facts (that may only imply a solution), the content of greatest interest and use is likely to be behavior information (explicit instructions, specific actions and recommendations) to help solve their problem.	Superior Thrust of the material is application of knowledge/skills aimed at desirable reader behavior rather than non-behavior facts. Instructions are explicit and require specific actions from readers.	Adequate At least 40% of content topics focus on desirable behaviors or actions. Some explicit directions or instructions are presented.	Not suitable Nearly all topics are focused on non-behavior facts. No explicit instructions for behavior change are offered.

¹ Adopted from: Doak, C.C., Doak, L.G., & Root, J.H. (1996). Assessing suitability of materials. In *Teaching patients with low literacy skills* (2nd Ed.) (pp. 41-60). Philadelphia: J.B. Lippincott Company.

² Smith, S. (2008). SAM: Suitability Assessment of Materials for evaluation of health-related information for adults. Available at: <http://aspiruslibrary.org/literacy/SAM.pdf>

³ Adopted from: Doak, C.C., Doak, L.G., & Root, J.H. (1996). Assessing suitability of materials. In *Teaching patients with low literacy skills* (2nd Ed.) (pp. 41-60). Philadelphia: J.B. Lippincott Company.

Appendix C

Extension Materials Assessment Tool (MAT)©

<p>Scope:</p> <p>Scope is limited to purpose or objective(s). Depending on the type of material, a limited number of “main points” are presented (for example, a flyer should address one to two main points, while a lengthier form/brochure should address no more than four main points.) Scope is also limited to what the reader can reasonably learn in the time allowed.</p>	<p>Superior (2)</p> <p>Scope is limited to essential information directly related to the purpose. The appropriate number of main points are presented. Experience shows it can be learned in time allowed.</p>	<p>Adequate (1)</p> <p>Scope is expanded beyond the purpose; no more than 40% is nonessential information. The number of main points slightly exceeds the recommended amount. Key points can be learned in time allowed.</p>	<p>Not suitable (0)</p> <p>Scope is far out of proportion to the purpose and time allowed. Too many main points are presented.</p>
<p>Summary and Review:</p> <p>A review offers the readers a chance to see or hear the key points of the instruction in other words, examples, or visuals. Reviews are important; readers often miss the key points upon first exposure.</p>	<p>Superior</p> <p>A summary is included and retells the key messages in different words and examples.</p>	<p>Adequate</p> <p>Some key ideas are reviewed.</p>	<p>Not suitable</p> <p>No summary or review is included.</p>
<p>Literacy Demand</p>			
<p>Reading Grade Level</p>	<p>An explanation is included in an appendix to this document. A calculated grade level will not be done for this project.</p>		
<p>Writing Style:</p> <p>Conversational style and active voice lead to easy-to-understand text. Example: “Consider the needs of your family when choosing a health insurance plan.” Passive voice is less effective. Example: “Consumers should be advised to select a plan that best meets the needs of their families.” Embedded information, the long or multiple phrases included in a sentence, slows down the reading process and generally makes comprehension more difficult as shown in this sentence.</p>	<p>Superior</p> <p>Both factors: (1) Mostly conversational style and active voice. (2) Simple sentences are used extensively; few sentences contain embedded information.</p>	<p>Adequate</p> <p>(1) About 50% of the text uses conversational style and active voice. (2) Less than half the sentences have embedded information.</p>	<p>Not suitable</p> <p>(1) Passive voice throughout. (2) Over half the sentences have extensive embedded information.</p>

Appendix C
Extension Materials Assessment Tool (MAT)©

<p>Vocabulary:</p> <p>Common, explicit words are used (for example, doctor vs. physician). The instruction uses few or no words that express general terms such as categories (for example, legumes vs. beans), concepts (for example, normal range vs. 15 to 70), and value judgments (for example, excessive pain vs. pain that lasts more than 5 minutes). Imagery words are used because these are words people can “see” (for example, whole wheat bread vs. dietary fiber; a runny nose vs. excess mucus).</p>	<p style="text-align: center;">Superior (2)</p> <p>All three factors: (1) Common words are used nearly all of the time. (2) Technical, concept, category, value judgment (CCVJ) words are explained by examples. (3) Imagery words are used as appropriate for content.</p>	<p style="text-align: center;">Adequate (1)</p> <p>(1) Common words are frequently used. (2) Technical and CCVJ words are sometimes explained by examples. (3) Some jargon or math symbols are included.</p>	<p style="text-align: center;">Not suitable (0)</p> <p>Two or more factors: (1) Uncommon words are frequently used in lieu of common words. (2) No examples are given for technical and CCVJ words. (3) Extensive jargon.</p>
<p>In sentence construction, context is given before new information:</p> <p>We learn new facts/behaviors more quickly when told the context first. Good examples: “In order to get the most health care coverage for your insurance dollar (the context first), you should compare policies and premiums” (new information).</p>	<p style="text-align: center;">Superior</p> <p>Consistently provides context before presenting new information.</p>	<p style="text-align: center;">Adequate</p> <p>Provides context before new information about 50% of the time.</p>	<p style="text-align: center;">Not suitable</p> <p>Context is provided last or no context is provided.</p>
<p>Learning enhancement by advance organizers (road signs):</p> <p>Headers or topic captions should be used to tell very briefly what’s coming up next. These “road signs” make the text look less formidable, and also prepare the reader’s thought process to expect the announced topic.</p>	<p style="text-align: center;">Superior</p> <p>Nearly all topics are preceded by an advance organizer (a statement that tells what is coming next).</p>	<p style="text-align: center;">Adequate</p> <p>About 50% of the topics are preceded by advance organizers.</p>	<p style="text-align: center;">Not suitable</p> <p>Few or no advance organizers are used.</p>
<p>Graphics</p>			
<p>Cover graphic:</p> <p>People do judge a booklet by its cover. The cover image often is the deciding factor in a reader’s attitude toward, and interest in, the instruction.</p>	<p style="text-align: center;">Superior</p> <p>The cover graphic is (1) friendly; (2) attracts attention; (3) clearly portrays the purpose of the material for he intended audience.</p>	<p style="text-align: center;">Adequate</p> <p>The cover graphic has one or two of the superior criteria.</p>	<p style="text-align: center;">Not suitable</p> <p>The cover graphic has none of the superior criteria.</p>

Appendix C
Extension Materials Assessment Tool (MAT)©

<p>Type of illustrations:</p> <p>Simple line drawings can promote realism without including distracting details. (Photographs often include unwanted details). Visuals are accepted and remembered better when they portray what is familiar and easily recognized. Viewers may not recognize the meaning of scientific textbook drawings or abstract art/symbols.</p>	<p style="text-align: center;">Superior (2)</p> <p>Both factors: (1) Simple, adult-appropriate line drawings/sketches are used. (2) Illustrations are likely to be familiar to the viewers.</p>	<p style="text-align: center;">Adequate (1)</p> <p>One of the superior factors is missing.</p>	<p style="text-align: center;">Not suitable (2)</p> <p>None of the factors are present.</p>
<p>Relevance of illustrations:</p> <p>Nonessential details such as room background, elaborate borders, unneeded color can distract the viewer. The viewer's eyes may be "captured" by these details. The illustrations should tell the key points visually.</p>	<p style="text-align: center;">Superior</p> <p>Illustrations present key messages visually so the reader/viewer can grasp the key ideas from the illustrations alone. No distractions.</p>	<p style="text-align: center;">Adequate</p> <p>(1) Illustrations include some distractions. (2) Insufficient use of illustrations.</p>	<p style="text-align: center;">Not suitable</p> <p>One factor: (1) Confusing or technical illustrations (non-behavior related). (2) No illustrations, or an overload of illustrations.</p>
<p>Graphics: Lists, tables, graphs, charts, geometric forms:</p> <p>Many readers do not understand the author's purpose for lists, charts, and graphs. Explanations and directions are essential.</p>	<p style="text-align: center;">Superior</p> <p>Step-by-step directions, with an example, are provided that will build comprehension and self-efficacy.</p>	<p style="text-align: center;">Adequate</p> <p>"How-to" directions are too brief for reader to understand and use the graphic without additional counseling.</p>	<p style="text-align: center;">Not suitable</p> <p>Graphics are presented without explanation.</p>
<p>Captions are used to "announce"/explain graphics:</p> <p>Captions can quickly tell the reader what the graphic is all about, where to focus within the graphic. A graphic without a caption is usually an inferior instruction and represents a missed learning opportunity.</p>	<p style="text-align: center;">Superior</p> <p>Explanatory captions will all or nearly all illustrations and graphics.</p>	<p style="text-align: center;">Adequate</p> <p>Brief captions are used for some illustrations and graphics.</p>	<p style="text-align: center;">Not suitable</p> <p>Captions are not used.</p>

Appendix C
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Layout and Typography			
<p>Layout:</p> <p>Layout has a substantial influence on the suitability of materials.</p> <p>Superior factors include:</p> <p>(1) Illustrations are on the same page adjacent to the related text. (2) Layout and sequence of information are consistent, making it easy for the reader to predict the flow of information (3) Visual cuing devices (shading, boxes, arrows) are used to direct attention to specific points or key content). (4) Adequate white space is used to reduce appearance of clutter. (5) Use of color supports and is not distracting to the message. Viewers need not learn color codes to understand and use the message. (6) Line length is 30-50 characters and spaces. (7) There is high contrast between type and paper. (8) Paper has non-gloss or low-gloss surface.</p>	<p>Superior</p> <p>At least five of the eight factors (listed to the left) are present.</p>	<p>Adequate</p> <p>At least three of the superior factors are present.</p>	<p>Not suitable</p> <p>(1) Two or less of the superior factors are present. (2) Looks uninviting or discouragingly hard to read.</p>
<p>Typography:</p> <p>Type size and fonts can make text easy or difficult for readers at all skill levels. For example, type in ALL CAPS slows everybody's reading comprehension. Also, when too many (six or more) type fonts and sizes are used on a page, the appearance becomes confusing and the focus uncertain.</p> <p>Superior factors include:</p> <p>(1) Text type is in uppercase and lowercase serif (best) or sans serif. (2) Type size is at least 12 point. (3) Typographic cues (bold, size, color) emphasize key points. (4) No ALL CAPS for long headers or running text.</p>	<p>Superior</p> <p>The four factors (listed to the left) are present</p>	<p>Adequate</p> <p>Two of the superior factors are present.</p>	<p>Not suitable</p> <p>One or none of the superior factors are present. Or, six or more styles and sizes are used on a page.</p>

Appendix C

Extension Materials Assessment Tool (MAT)©

<p>Subheadings or “Chunking”:</p> <p>Few people can remember more than seven independent items. For adults with low literacy skills, the limit may be three- to five-item lists. Longer lists need to be partitioned into smaller “chunks.”</p>	<p style="text-align: center;">Superior</p> <p>(1) Lists are grouped under descriptive subheadings or “chunks.” (2) No more than five items are presented without a subheading.</p>	<p style="text-align: center;">Adequate</p> <p>No more than seven items are presented without a subheading.</p>	<p style="text-align: center;">Not suitable</p> <p>More than seven items are presented without a subheading.</p>
Learning Stimulation and Motivation			
<p>Interaction included in text and/or graphic:</p> <p>When the reader responds to the instruction – that is, does something to reply to a problem or question – chemical changes take place in the brain that enhance retention in long-term memory. Readers/viewers should be asked to solve problems, to make choices, to demonstrate, etc.</p>	<p style="text-align: center;">Superior</p> <p>Problems or questions presented for reader responses.</p>	<p style="text-align: center;">Adequate</p> <p>Question-and-answer format used to discuss problems and solutions (passive interaction).</p>	<p style="text-align: center;">Not suitable</p> <p>No interactive learning stimulation provided.</p>
<p>Desired behavior patterns are modeled, shown in specific terms:</p> <p>People often learn more readily by observation and by doing it themselves rather than by reading or being told. They also learn more readily when specific, familiar instances are used rather than the abstract or general.</p>	<p style="text-align: center;">Superior</p> <p>Instruction models specific behaviors or skills (ex: compare costs of crop insurance plans; identify restrictions for who is insured for what period of time).</p>	<p style="text-align: center;">Adequate</p> <p>Information is a mix of technical and common language that the reader may not easily interpret in terms of daily living (ex: “deductible”, which has different meanings for health insurance and other insurance policies).</p>	<p style="text-align: center;">Not suitable</p> <p>Information is presented in nonspecific or category terms such as the food groups.</p>
<p>Motivation:</p> <p>People are more motivated to learn when they believe the tasks/behaviors are doable by them.</p>	<p style="text-align: center;">Superior</p> <p>Complex topics are subdivided into small parts so that readers may experience small successes in understanding or problem solving, leading to self-efficacy.</p>	<p style="text-align: center;">Adequate</p> <p>Some topics are subdivided to improve the readers’ self-efficacy.</p>	<p style="text-align: center;">Not suitable</p> <p>No partitioning is provided to create opportunities for small successes.</p>

Appendix C

Extension Materials Assessment Tool (MAT)©

Cultural Appropriateness			
<p>Cultural Match: Logic, Language, Experience (LLE):</p> <p>A valid measure of cultural appropriateness of an instruction is how well its logic, language, and experience (LLE) (inherent in the instruction) match the LLE of the intended audience. For example, a pamphlet regarding health insurance options is a poor cultural match if it fails to provide information about both public and private insurance plans to an economically diverse audience.</p>	Superior	Adequate	Not suitable
	<p>Central concepts/ideas of the material appear to be culturally similar to the LLE of the target culture.</p>	<p>Significant match in LLE for 50% of the central concepts.</p>	<p>Clearly a cultural mismatch in LLE.</p>
<p>Cultural image and examples:</p> <p>To be accepted, an instruction must present cultural images and examples in realistic and positive ways.</p>	Superior	Adequate	Not suitable
	<p>Images and examples present the culture in positive ways.</p>	<p>Neutral presentation of cultural images or foods.</p>	<p>Negative image, such as exaggerated or caricatured cultural characteristics, actions, or examples.</p>

Initially prepared by Nicole Finkbeiner, GRA, under the direction of Dr. Bonnie Braun, University of Maryland School of Public Health-07/09. Customized by Nicole Finkbeiner for use with University of Maryland Extension –12/12.

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Appendix C
Extension Materials Assessment Tool (MAT)©

Extension Materials Assessment Tool - SAM SCORING SHEET

2 points for superior rating

1 point for adequate rating

0 points for not suitable rating

N/A if the factor does not apply to this material

FACTOR TO BE RATED	SCORE	COMMENTS
1. CONTENT		
(a) Purpose is evident		
(b) Content about behaviors		
(c) Scope is limited		
(d) Summary or review included		
2. LITERACY DEMAND		
(a) Reading grade level		
(b) Writing style, active voice		
(c) Vocabulary uses common words		
(d) Context is given first		
(e) Learning aids via “road signs”		
3. GRAPHICS		
(a) Cover graphics shows purpose		
(b) Type of graphics or illustrations		
(c) Relevance of illustrations		
(d) List, tables, etc. explained		
(e) Captions used for graphics		
4. LAYOUT & TYPOGRAPHY		
(a) Layout factors		
- Illustrations are on the same page adjacent to the related text.	Y / N	
- Layout & sequence of information are consistent, making it easy for the patient to predict the flow of information.	Y / N	

Appendix C
Extension Materials Assessment Tool (MAT)©

- Visual cuing devices (shading, boxes, or arrows) are used to direct attention to specific points or key content.	Y / N	
- Adequate white space is used to reduce appearance of clutter	Y / N	
- Use of color supports & is not distracting to the message. Viewers need not learn color codes to understand & use the message.	Y / N	
- Line length is 30-50 characters & spaces.	Y / N	
- There is a high contrast between type & paper.	Y / N	
- Paper has non-gloss or low-gloss surface.	Y / N	
(b) Typography		
- Text type is in uppercase & lowercase serif (best) or sans-serif.	Y / N	
- Type size is at least 12 point.	Y / N	
- Typographic cues (bold, size, color) emphasize key points.	Y / N	
- No ALL CAPS for headers or running text.	Y / N	
(c) Subheads ("chunking") used		
5. LEARNING STIMULATION, MOTIVATION		
(a) Interaction used		
(b) Behaviors are modeled & specific		
(c) Motivation – self-efficacy		
6. CULTURAL APPROPRIATENESS		
(a) Match in logic, language, experience		
(b) Cultural image and examples		
Total SAM score:		
Total possible score:		
Percent score:	%	

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Readability levels

To assure that educational materials are written at a reading level suitable for the targeted audience requires an assessment of reading levels. Many reading level assessments require you to manually calculate the reading level (39). For example, the Fry formula, which can be used with short documents, requires that you:

- Randomly choose three samples from your document with 100 words a piece
- Count the number of sentences in each of the three passages, estimating length of the fraction of the last sentence to the nearest 1/10th
- Count the number of syllables in the 100-word passages
- Find the average number of sentences and average number of syllables for the three samples, by dividing the total of all three samples by three
- Compare to Fry chart to assess grade level

Computer formulas are much easier to use than hand calculated formulas, but they pose problems of their own (40):

- The material often needs to be “prepared” before using a computer-based formula
 - If not already in computer format, you would have to “key it into” the computer-based method
 - Punctuation marks that occur in the middle of sentences need to be removed (for example, periods that denote a percentage (84.5%) imply to the computer that the sentence is ending)
- Problems with measurement and unreliability in computer programs

Prepared by Nicole Finkbeiner, MS, for Dr. Bonnie Braun
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12/12.

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