Meeting Extension Programming Needs with Technology: A Case Study of Agritourism Webinars

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Abstract: As clientele needs diversify, Extension educators are examining new technologies, including online tools, to deliver educational programming and resources. Using agritourism as the educational topic, the study reported here sought to evaluate participants' acceptance of online educational programming (webinars) and the effectiveness of the technology in meeting the needs of participants and Extension educators. Overall, results provided favorable support of webinars for online educational programming and illustrated the effectiveness of this technology in reaching diverse audiences. Findings suggest webinars can enhance the value, availability, and sustainability of Cooperative Extension programming.

Introduction and Purpose

Extension educators seek to provide their clientele with access to resources and expertise to enhance their overall quality of life, environment, and economy. However, recent challenges such as reduced budgets and staffing, increased geographic boundaries (e.g., multi-county or regional agents and offices), increased demand for educational programming and resources, and new client demographics and needs are forcing Extension educators to find new and efficient means to continue providing quality programs (Agnew, 1991; Barbercheck et al., 2009; Ewert & Rice, 1994; Meier, 1989).

From the authors' experiences, agritourism is one example of an area where Extension educators are continuing to see an increase in inquiries from farmers and land owners. While a variety of definitions for agritourism exist within the literature (Phillip, Hunter, & Blackstock, 2010), with respect to this research, agritourism is defined as the business of establishing farms as travel destinations for educational and recreational purposes (Rich et al., 2010; Schilling, Marxen, Heinrich, & Brooks, 2007; Schilling, Sullivan, & Marxen, 2006). Agritourism is a growing trend among U.S. farmers due to its potential to enhance farm income, sustain farming operations, and add economic activity to rural areas (McGehee, 2007; Schilling, Sullivan, Komar, & Marxen, 2011; USDA-NASS, 2007; Wilson, Thilmany, & Sullins, 2006). This growing interest in agritourism represents a new opportunity for Extension to provide educational programming and resources for farmers and land owners (Tweeten, Leistritz, & Hodur, 2008).

However, in order for these resources to be effective, they must not only address the interests of this diverse audience but also be shared in a format that is readily available. As challenges continue to affect Extension and clientele needs continue to diversify, Extension educators are examining new technologies to deliver programming and resources (Allred & Smallidge, 2010; Drumgoole & Boleman, 2006; Tennessen, PonTell, Romine, & Motheral, 1997). Online educational programming (e.g., online seminars, webinars, workshops, and conferencing) is one technology being incorporated by Extension educators to reach and educate their growing clientele. Having the ability to create, host, and facilitate access to educational materials and information over the Internet creates many new opportunities for Extension educators. Research supports the use of online education citing its flexibility, decreased cost, increased exposure, and real-time communication (Dromgoole & Boleman, 2006; Futris, Adler-Baeder, & Dean, 2004; Parker, 2009). Moreover, research examining and comparing traditional (face-to-face) education with online education suggests online instruction not only provides comparable test scores and evaluation scores but also often yields higher scores (McCollum, 1997; Schulman & Sims, 1999; Vasarhelyi & Graham, 1997).

One type of online education rapidly gaining popularity is the use of webinars. A webinar is an interactive seminar or presentation that is delivered over the Internet using asynchronous communication (delayed-time) or synchronous communication (real-time). Major advantages of using webinars for online educational programming include affordability, limited technological requirements, ease of access, synchronous communication, interaction, real-time dissemination of information, immediate feedback, ability to reach a geographically dispersed audience, and no required travel by participants or presenters.

The challenges discussed above of providing educational programming to a diverse audience, coupled with the support for online educational technology, provide the framework for the study reported here. The research objectives for the study were to evaluate participants' acceptance of online educational programming (webinars) and the effectiveness of this technology in meeting the needs of participants and Extension educators.

Materials and Methods

A series of educational webinars was conducted by a team of Extension professionals including specialists and agents from Rutgers University and North Carolina State University. The program, The East Coast Agritourism Webinar Series, consisted of five educational sessions related to agritourism and small farm business management:

1. Introduction to Agritourism

2. Agritourismâ¦is it Right for Me?

3. Marketing your Agritourism Business

4. Creating the Customer Experience: Tips for Agritourism Businesses

5. Agritourism and the Internet: Social Media 101

The webinars were conducted using Elluminate Live software <www.elluminate.com>, which was chosen due to its ability to duplicate many of the facets of traditional face-to-face educational programs or workshops (Figure 1). For example, this software provides a real-time online learning environment in which users can communicate synchronously using live, two-way audio, video, chat, whiteboard, polling, and application file sharing (e.g., PowerPoint presentations).

Figure 1.
Elluminate Webinar Image

Webinar participants were solicited via electronic invitations primarily distributed to Extension specialists, Extension agents, and targeted interest groups (farmers, small business owners, tourism practitioners, etc.) throughout North Carolina and New Jersey. Invitations included a brief description of the webinar series, session topics, and a hyperlink directing participants to a website with additional information <http://www.ncsu.edu/tourismextension/WebinarSeries.html>. Additionally, invitations included a link to the Elluminate Live website <www.elluminate.com> so participants could check their computer system configurations and acquaint themselves with the software. Participants were prompted to contact selected technical support providers if they experienced any technical issues during the system configuration process. A reminder email was distributed 1 week before each program and on the day of each program.

Each of the five webinars consisted of approximately 45 minutes of lecture using PowerPoint presentations and 15 minutes dedicated to addressing participants' questions. Each webinar consisted of a featured instructor(s) who was selected based on her or his expertise or interest in a given subject area. In addition to the instructor, a team of moderators with similar expertise were available to assist by answering participants questions in the chat window during the presentation and at the end of each session during the question-and-answer portion.

Although the Elluminate Live software allows for direct voice communication between participants, only the instructor and the moderators were granted speaking privileges. A recording of each webinar program was placed on a webpage devoted to The East Coast Webinar Series <http://www.ncsu.edu/tourismextension/WebinarSeries.html> for future viewing.

At the conclusion of each webinar, participants were asked to evaluate the webinar program by completing an online survey using SurveyMonkey software <www.surveymonkey.com>. Participants were asked a series of multiple choice and open-ended questions designed to assess the educational value of the webinar session and to determine their acceptance of the webinar as a method of Extension program delivery.

Responses to the online survey were analyzed using Microsoft Excel and SPSS to obtain general information about the dataset such as means, standard deviations, and frequencies, as well as to examine if significant differences existed between farmers and non-farmers responses. More specifically, Chi-square tests for independence were performed to examine whether any associations existed between occupation (e.g.,

farmers versus non-farmer) and participant perceptions of the usefulness of programmatic content, webinar format, and ease using online technology. Interestingly, no statistically significant differences were found to exist between the views of farmers and non-farmers at the level of p=.05. Therefore, due to space constrictions, and no significant differences, results from the statistical analyses are not included in the Results section below.

Results

A total of 214 individuals participated in the webinar series. Out of the 214 participants, the survey was completed 135 times over the course of the five-part webinar series by 101 unique survey participants (Table 1).

Of the total participants, a majority (50.7%) were between 50-64 years of age, were between 25-49 years of age (32.8%), and female (67.9%). Fifteen states were represented by participants, including Maine, Connecticut, New Hampshire, New Jersey, New York, North Carolina, South Carolina, Georgia, Indiana, Nebraska, Massachusetts, Delaware, Virginia, Vermont, and North Dakota.

Table 1.
Survey Responses per Webinar Hosted

Webinar Title	Number of Participants	Number of Completed Surveys
Introduction to Agritourism	73	44
Agritourismâ¦Is It Right For Me?	37	23
Marketing Your Agritourism Business	35	33
Creating the Customer Experience	49	22
Agritourism and the Internet	20	13
Total	**214**	**135***
*Analysis of the survey responses indicated 101 unique respondents.		

Respondents were asked to identify themselves by career type as (1) farmer, (2) landowner, (3) business owner, (4) Extension agent, (5) tourism researcher/academic, (6) tourism practitioner, (7) other, or any combination of the above. As illustrated in Table 2, a majority of the unique respondents were farmers (55.1%), while 23.5% were Extension agents, 12.2% were tourism professionals, and another 9% classified themselves as "other." Given that the primary audience for the webinars was farmers, the respondent groups were divided into two broad categories, farmer and non-farmer, in order to compare responses to certain questions and ascertain how well the webinars met the needs of each client group.

Table 2.
Composition of Unique and Repeat Survey Respondents

Occupation	Total Viewers		Unique Viewers		Repeat Viewers	
	N	%	n	%	n	%
Farmer	77	58.3	54	55.1	23	67.6
Extension agent	26	19.7	23	23.5	3	8.8
Tourism professional	19	14.4	12	12.2	7	20.6
Other	10	7.6	9	9.2	1	2.9
Total	**132**	**100.0**	**98**	**100.0**	**34**	**100.0**

Nearly all survey respondents (92.4%) indicated they were satisfied or very satisfied with the webinar program, and 100% stated they would recommend the webinars to others. Additionally, as illustrated in Table 3, 80.3% of respondents agreed that the webinar provided them with strategies and ideas they could implement in their farm business, and 70.6% indicated the webinars expanded their understanding of the opportunities agritourism presents for their business. Further, as a result of their participation in the webinar, a majority of farmer respondents (59.7%) indicated they intend to incorporate at least one strategy discussed during the program, and 44.6% intend to increase the types of recreational opportunities offered to visitors coming to their farms (Table 4).

Table 3.
Usefulness of the Webinars as Rated by Survey Respondents

Question: *To what extent do you agree with the following statements?*						
		Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Statement:	N	%	%	%	%	%
This webinar provided me with strategies and ideas that I can implement within my farm business.	132	3.8	2.3	13.6	56.1	24.2
This webinar expanded my understanding of the opportunities agritourism presents for my business.	133	3.8	2.3	23.3	46.6	24.1

Table 4.
Survey Respondents' Intention to Incorporate Strategies Learned During Webinars

Question:	As a result of your participation in this webinar, do you intend to incorporate at least one strategy learned/discussed?					
	All Respondents		**Farmers**		**Non-Farmers**	
	N	**%**	**n**	**%**	**n**	**%**
No	2	1.5	2	2.6	0	0.0
Maybe	15	11.1	9	11.7	6	11.1
Yes	74	54.8	46	59.7	26	48.1
Already doing this	21	15.6	18	23.4	2	3.7
N/A	23	17.0	2	2.6	20	37.0
Total*	135	100.0	77	100.0	54	100.0
Question:	As a result of your participation in this webinar, do you intend to increase the types of recreational opportunities offered to visitors coming to your farm?					
	All Respondents		**Farmers**		**Non-Farmers**	
	N	**%**	**n**	**%**	**n**	**%**
No	6	4.5	5	6.8	1	1.9
Maybe	34	25.8	26	35.1	6	11.3
Yes	45	34.1	33	44.6	11	20.8
Already doing this	8	6.1	7	9.5	1	1.9
N/A	39	29.5	3	4.1	34	64.2
Total*	132	100.0	74	100.0	53	100.0
*Note - Discrepancy in numbers is a result of non-response to the "occupation" question by some respondents.						

As illustrated in Table 5, over 75% of all participants stated they had no difficulty with the Elluminate technology, supporting its professed ease of use. However, 27.8% of farmers reported having some difficulty, while only 15.9% of non-farmers reported problems. This is likely attributed to farmers' reported proficiency with computers, as 37.1% of farmers indicated that they were only somewhat proficient or not very proficient with computers (Table 5).

Table 5.
Survey Respondents' Ease of Use with Technology

Question:	

	Overall, please rate the level of difficulty you had following the Elluminate directions and participating in the webinar.					
	All Respondents		**Farmers**		**Non-Farmers**	
	N	**%**	**n**	**%**	**n**	**%**
I had lots of difficulty	1	1.0	1	1.9	0	0.0
I had some difficulty	22	22.4	15	27.8	7	15.9
I had no problem	75	76.5	38	70.4	37	84.1
Total	98	100.0	54	100.0	44	100.0
Question:	*Please select the answer that best describes your level of proficiency using a computer.*					
	All Respondents		**Farmers**		**Non-Farmers**	
	N	**%**	**n**	**%**	**n**	**%**
Not very proficient	1	1.0	1	1.9	0	0.0
Somewhat proficient	33	33.7	19	35.2	14	31.8
Moderately proficient	54	55.1	29	53.7	25	56.8
Extremely proficient	10	10.2	5	9.3	5	11.4
Total	98	100.0	54	100.0	44	100.0

The majority of respondents (73.5%) reported previous experience with traditional Extension programs (for example, in-person workshops or seminars). Among these individuals, 37.5% rated the webinars as "better" or "much better" than traditional Extension programs. Additionally, 58.3% of participants reported that the webinars were equivalent to traditional Extension programs (Table 6). Despite any initial technical difficulties experienced, it should be noted that 100% of farmers rated the webinars as equal to or better than traditional Extension programming. Thus, while farmers reported having some difficulty with the technology, they still felt the webinars were an effective educational resource.

Table 6.
Survey Respondents' Comparison of Traditional Programs and Webinar

Question:	*Have you previously participated in traditional extension programs (i.e., face-to-face workshops/seminars)?*					
	All Respondents		**Farmers**		**Non-Farmers**	
	N	**%**	**n**	**%**	**n**	**%**

Yes	72	73.5	39	72.2	33	75.0
No	26	26.5	15	27.8	11	25.0
Total	98	100.0	54	100.0	44	100.0
Question:	*In comparison to the traditional extension programs you have participated in, how would you rate this webinar?*					
	All Respondents		**Farmers**		**Non-Farmers**	
	N	**%**	**n**	**%**	**n**	**%**
Not as good	3	4.2	0	0.0	3	9.1
Equal to	42	58.3	24	61.5	18	54.5
Better than	25	34.7	13	33.3	12	36.4
Much better than	2	2.8	2	5.1	0	0.0
Total	72	100.0	39	100.0	33	100.0

When asked to elaborate on the comparison between traditional and online programming, written comments provided useful insight such as the following.

- This is so convenient. Especially with children and trying to run the farm. NO travel time and leaving the farm. This was wonderful.

- Nothing compares to face-to-face, but we can learn so much by a webinar. Keep them coming!

- Elluminate allows for questions, and networking on the chat board.

- I think webinars allow people to interact more effectively without fear of embarrassment.

As noted in Table 7, a majority of participants (81.6%) rated the webinars as extremely convenient. Most respondents (89.8%) identified the optimal length of a webinar as lasting between 45 and 60 minutes. Overall, respondents reported a high level of satisfaction with the webinar series. As illustrated in Table 8, 100% of survey respondents indicated they were likely to participate in future webinars; 93% reported they were "very likely" to again participate in a webinar.

Table 7.
Webinar Convenience and Logistics as Rated by Survey Respondents

Question:	*Please select the answer that best describes how convenient this session was for you to participate in.*

	All Respondents		Farmers		Non-Farmers	
	N	%	n	%	n	%
Not convenient	4	4.1	2	3.7	2	4.5
Somewhat convenient	14	14.3	8	14.8	6	13.6
Extremely convenient	80	81.6	344	81.5	36	81.8
Total	98	100.0	54	100.0	44	100.0
Question:	*Please select the answer that best describes your opinion concerning the length of webinars.*					

	All Respondents		Farmers		Non-Farmers	
	N	%	n	%	n	%
30 minutes is ideal length	5	5.1	2	3.7	3	6.8
45 minutes is ideal length	25	25.5	9	16.7	16	36.4
1 hour is ideal length	63	64.3	39	72.2	24	54.5
Longer than 1 hour is ideal length	5	5.1	4	7.4	1	2.3
Total	98	100.0	54	100.0	44	100.0

Table 8.
Survey Respondents Future Participation in Webinars

How likely are you to participate in future webinars?						
	All Respondents		Farmers		Non-Farmers	
	N	%	n	%	n	%
Not likely	0	0.0	0	0.0	0	0.0
Somewhat likely	7	7.1	3	5.6	4	9.1
Very likely	91	92.9	51	94.4	40	90.9
Total	98	100.0	54	100.0	44	100.0

When asked to describe what they liked most about the webinar/topic, several participants reported the following.

- I appreciated having my specific questions answered in relation to the topic, as well as seeing examples of agritourism in practice

- Convenience

- Meeting new people

- Covered a variety of topics with interaction from participants

When asked to describe what they liked least or areas of improvement, several participants highlighted the following.

- Would be good to see the speaker.

- I had trouble keeping up with the participant interaction and listening to the speaker simultaneously.

- Like to print off slides to keep.

- Perhaps a bit more interactivity during the presentation.

- More training on using Elluminate.

- More time choices.

Discussion and Conclusion

Results of the study reported here provided favorable support of online educational programming technologies in the form of webinars and illustrated the effectiveness of this technology in reaching diverse audiences. Overall, participants reported a high degree of satisfaction with the webinars and 100% indicated they would recommend the webinars to others.

Dromgoole and Boleman (2006) cautioned that the technology used for Extension programming be appropriate for the audience and subject matter. Results from our study indicated the technology was well aligned with the audience and appropriate for the subject matter. For example, it was determined that the webinars provided effective educational programming for traditional Extension clientele with moderate technology skills. Similarly, a large majority of participants indicated the Elluminate technology was easy to use (Table 5).

As indicated by open-ended comments, several participants highlighted the webinars as convenient and cost effective alternatives, thus mirroring findings put forth by Futris, Adler-Baeder, and Dean (2004) and Parker (2009). Moreover, nearly 24% of participants were new to Extension programming, indicating a new client base was reached. Similarly, over 40% were non-farmers and 68% were female, highlighting the

effectiveness of using webinars to reach new and diverse audiences. The high percentage of females participating in the webinar also supports past research highlighting the active and growing role of women in farm diversification or agritourism (e.g., Barbieri, 2008; O'Connor, 1995).

The use of webinars to provide Extension programming provided a variety of advantages for the authors of the study, for example, easier collaborations between faculty from different institutions and the ability to conduct regional programs in a timely and cost-effective manner. Webinars as online educational programming tools also offered a potential solution for reaching and communicating with the growing Extension and agritourism audience. The webinar technology provided several advantages to traditional (face-to-face) programming: the opportunity to mitigate distance-related barriers to program participation, time efficiency, and cost effectiveness. These are particularly important advantages of webinar-based programming in the face of declining university and Extension budgets.

From the study reported here, specific recommendations for Extension professionals developing webinars for outreach educational programs include the following.

- Provide opportunities for interaction, for example the use of polling and a discussion box.

- To lessen anxiety and confusion, offer a tutorial (live or recorded) on how to access and participate in the webinar (e.g., logging into the webinar, adjusting audio controls, using key features, etc.).

- Provide access to the slides/information before the webinar.

- Be sure to communicate in your promotional materials the level of information that will be shared in the webinar so attendees can adequately determine whether or not the webinar will be helpful.

- Identify an "assistant" to help the presenter. This person will be in charge of keeping an accurate count of participants, keeping track of questions in the discussion box, starting/ending the recording, and helping with polling and other interactive features.

While it is of the authors' opinion that face-to-face and one-on-one consultations will continue to be an effective delivery method for Extension education, incorporating new technologies, such as webinars, can enhance the value, availability, and sustainability of Extension programming.

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