

**A Case Study Assessment of the Feasibility of Blended Training
for Agricultural Lenders**

By

Alicia Moyer Morris

Case Study presented to the faculty of Virginia Polytechnic Institute and State
University in partial fulfillment of the requirements of the degree of

Master of Science

In

Agricultural and Applied Economics

David Kohl, Chair

Dixie Watts Reaves

Michael McGilliard

Alex White

March 26, 2004

Blacksburg, VA

Keywords: online training; agricultural lenders; blended training

A Case Study Assessment of the Feasibility of Blended Training for Agricultural Lenders

Alicia Moyer Morris

Abstract

In a globally competitive economic environment, the paradigms of traditional training will be challenged as organizations and academic institutions find cost-efficient systems to educate their clientele groups. Farm Credit of the Virginias (FCV), a one billion dollar agricultural lending institution, commissioned the study team to enhance a traditional training program in marketing and credit to be an Internet-based online educational experience. More specifically, they wanted to know if trainees, staff and interns could accelerate their learning experience in a cost-efficient manner.

The study was field tested on agricultural finance and marketing classes at Virginia Tech, as well as a group of trainees, interns and existing staff at FCV. Results indicate a breakeven number of 31 trainees for the FCV online program to be cost effective versus traditional face-to-face methods. Adult trainees reduced the amount of time to become productive employees from one year to six months. Participants spent less than ten percent of their time on the job in online training. Technology, flexibility of time and location, and accelerated learning through mentorship and on-job applications were definite benefits that led to an improved educational experience. It is recommended that a concept of blended education utilizing a combination of online and traditional face-to-face components delivers the superior training experience from an economic productivity and comprehension standpoint, both in adult and academic education.

Acknowledgements

I would like to express my sincere gratitude to those who have supported me in the completion of this project. First, I would like to thank Dr. David Kohl who worked side-by-side with me for the duration of the project developing content, contributing many creative ideas, and offering feedback throughout the process. I would like to thank Farm Credit of the Virginias for graciously sponsoring the project and seeing it through to completion. I am grateful specifically to the FCV employees who offered their time and expertise in developing the online program: Bette Brand, who devoted numerous hours to coordinating the project, serving as a liaison between the association and myself and ensuring the success of the online training; members of the Farm Credit Training Task Force, Marilyn Jarvis, Mike Jonas, Carroll Laycock, Scot Lilly, and Mac Swortzel, who helped develop of the program from its inception, offering great ideas and spending time reviewing the content and testing modules; the first group of trainees and interns, Joey Cornwell, Paul Eberly, Alyssa Ennis, Bobbi Loudermilk, Kathy McClellan, Paul McDaniel, and Kate Repair, who were instrumental in getting the “bugs” out of the online modules, and providing valuable feedback throughout their training; and the first group of mentors, Scot Davis, Rick King, Mike Jonas and Mac Swortzel, who supported the first class of trainees and enriched the training with their words of wisdom. It has been a pleasure working with such a fine organization.

Dave McEvoy at ECI has been great to work with in hosting, designing and maintaining the training website. Thank you to my faculty committee, Dr. Michael McGilliard, Dr. Dixie Reaves, and Dr. Alex White, for offering suggestions, helping with trials and assisting with technical portions of the project. I am grateful to Heidi Baitis, who reviewed all the modules and provided suggestions for improvement. I would like to thank all of the students who participated in trials for their feedback. Last, but not least, I would like to thank my parents their constant encouragement, and my wonderful husband, Bruce, for his faithful support.

Table of Contents

1	Introduction to the Case	1
	1.1 Overview of Ag Lending Industry History	1
	1.2 Overview of Farm Credit of the Virginias	3
2	Overview of Existing Research	3
	2.1 “Comparison of E-learning Versus Traditional Learning” by Connie Carlton	4
	2.2 “Calculating Return on Investment of E-learning Programs” by the Institute of Management and Administration	8
	2.3 Blended Training	11
3	Problem	13
	3.1 Objectives of the Case Study	14
4	Methodology	14
	4.1 Development	15
	4.2 Trials	17
	4.2.1 Ag Finance & Marketing Class Trial	17
	4.2.2 Farm Credit Trainees Trial	18
5	Results	19
	5.1 Ag Finance & Marketing Trial Results	19
	5.2 Farm Credit Trainee Trial Results	30
6	Cost Analysis	40
7	Conclusions and Implications	46
8	Recommendations	49
9	Areas for Further Research and Expansion	51
10	References	53
11	Appendix	54
	11.1 Training Program Subject Matter	54
	11.2 Table of Contents for Online Training Program.....	55
	11.3 Online Training Schedule for Farm Credit Trainee Trial	60
	11.4 Ag Finance Trial Survey.....	61
	11.5 Marketing Trial Survey	64
	11.6 Ag Finance Survey Summary Tables	67
	11.7 Marketing Survey Summary Tables.....	69
	11.8 Survey Question Correlation Tables	71
	11.9 Summary of Trainee Responses	72
	11.10 Characteristics of the Ideal Mentor	73
12	Vita	74

Index of Tables and Figures

Table 2.1 Multimedia/CBT Program Costs	5
Table 2.2 Instructor-led Program Costs	5
Table 2.3 Ongoing Instructor-led Program Costs	5
Table 2.4 ROI for Online Learning Project	10
Table 6.1 Instructor-based Training Costs.....	41
Table 6.2 Computer-based Training Costs.....	42
Figure 6.1 Projected Costs for Online vs. On-Site Training Using Predicted Development Cost.....	44
Figure 6.2 Projected Costs for Online vs. On-Site Training Using FCV Actual Development Cost.....	45

1 Introduction to the Case

In a globally competitive environment, business, industry, and academic institutions are challenged to find cost efficient educational delivery systems that are outside the traditional paradigms, but still meet or exceed expectations of the customer. Training and development of new or existing employees is one of the largest costs of an organization. Training costs are often reduced in stressful economic times.

The study team was approached by Farm Credit of the Virginias (FCV) to develop a computer-based training program for their new agricultural lenders. Due to the consolidation of the industry, regional Farm Credit district banks no longer provide sufficient training opportunities for new hires or existing employees, so their current training program was deemed to be insufficient. With an expected loan officer turnover of fifty percent at FCV in the coming years, training new employees has become a top priority for the association. FCV solicited the assistance of Virginia Tech's Agricultural and Applied Economics department to develop a state-of-the-art agricultural loan officer training program.

1.1 Overview of Ag Lending Industry History

The agricultural lending industry, mirroring the agricultural industry, is continuing to consolidate. For example, in 1978, there were over 5,400 banks making agricultural loans, while there are now only 2,800. This number is expected to decline to about 1,500 by the year 2010 according to a panel of industry experts at the 50th Annual American Bankers Association National Agricultural Bankers Conference.

A similar trend can be observed within the Farm Credit System. In 1984, there were over 800 associations. There were twelve Farm Credit district banks that provided a funding source and a host of services, including training, for the associations throughout the United States. Currently, there are approximately 97 associations with 6 district banks. This number is expected to decline to about

20 associations by 2010 (Ely, 2002). However, most district banks are only wholesale lenders focused primarily on lending funds, dismantling the training and services component of their business models, and offering limited training opportunities.

The result has been the decline of training opportunities for new employees and experienced lenders. The number of lending schools for bankers nationwide has decreased from 22 to 8 for inexperienced lenders and from 7 to 2 for advanced training. Currently, the 8 beginning schools train an average of 250 students per year, with approximately 32 contact hours per school, over a one-week period. The advanced schools enroll approximately 60 students per year with 20 contact hours over a 3-day session (Kohl).

Training, which historically has been a strong point of Farm Credit because of its centralized district bank training, has become a problem. Most associations do not have the necessary resources to conduct in-house training because of the relatively small size of each association. There are only 14 associations with assets over \$1 billion, which extend over 50 percent of the Farm Credit loans nationwide (Ely, 2002). Only these large associations have the amount of trainees and resources to conduct their own programs. The remaining associations, which are geographically dispersed, are left with few alternatives. They can either use one-on-one mentor training or sporadic training opportunities either through banker's schools or conferences. Anecdotal evidence drawn from Farm Credit's CEO leadership group at the Farm Credit System Strategic Planning Conference in Sun Valley, Idaho in July 2002, finds there is a need for training, but economies of scale and irregular training needs of various associations make training difficult to accomplish. Turnover, retirements, promotions and variation in employee backgrounds and experience create an erratic training needs environment.

1.2 Overview of Farm Credit of the Virginias

FCV is a member-owned cooperative lending institution that is part of the Farm Credit System. They provide credit and financial services to farmers, rural homeowners, agricultural cooperatives, rural utility systems and agribusinesses. They make agricultural and rural housing loans to people in their territory, which includes parts of Virginia, West Virginia, and Maryland. The association has approximately \$1.1 billion in loan volume and employs 121 people, serving 96 counties with 23 branch offices (FCV website).

FCV did not use a structured training program before the advent of the online training. Previous training involved the trainee being placed in a branch office and assigned to shadow a senior loan officer. This system was inefficient, usually taking several years for a trainee to become productive. There was also no benchmark for evaluating progress or performance of the trainee, as each trainee had a different mentor, and there were no training guidelines used throughout the association.

A large turnover in loan officers is expected in the next five to ten years in the association, with about half of the senior loan officers becoming eligible for retirement. This need expedited the training program development process. FCV saw the need for a structured training program with distinct benchmarks, accountability, consistency, and measured results. They also desired to use talented loan officers as mentors for the new trainees to convey some of the institutional knowledge of the association. Coordinating employee training amongst the branch offices may pose a challenge; thus, online lender training could be an alternative to train new or existing employees within the context of an office or home environment.

2 Overview of Existing Research

Companies in many industries are looking to technology to solve or enhance training. With the current accessibility of the Internet in most offices, it is a logical

choice by which to deliver training material at a lower cost than traditional methods. In many instances, using exclusively online training is not ideal because trainees need personal interaction as well.

Research on this topic is very readily available with so many companies trying to develop online training programs to cut costs. Many studies focus on learning styles, content retention rates, and trainee preferences. It is more difficult to find information on the specific subtopic of cost effectiveness. The following articles, “Comparison of E-Learning Versus Traditional Learning,” by Connie Carlton, and “Calculating Return on Investment of E-Learning Programs” by the Institute of Management and Administration, describe costs associated with development of online training programs. In this discussion, the terms online training, e-learning, multimedia training, and computer-based training are used interchangeably. Blended training can incorporate online training with other training systems, and is discussed below as well.

2.1 “Comparison of E-learning Versus Traditional Learning”

There are many factors that must be considered when determining whether e-learning will be effective for a certain organization, according to Connie Carlton, of Dataschmartz, Inc. The factors that should be considered are costs of development and delivery, effectiveness and retention, product stability, training on-demand, and course length.

The development costs of multimedia training can be very high, but if long-term costs of delivery are taken into consideration, a multimedia training program may prove to be less expensive in the long run as high initial fixed costs are spread over more trainees in conjunction with lower variable costs than instructor-based training. Upfront development costs are high because of the amount of time it takes to put a multimedia training program together. According to Carlton, a general rule is to allow 300 hours of development time per hour of training material, and the average cost per hour is \$100. Reproduction of materials will

cost about \$15 per trainee (Table 2.1). For an instructor-led program, costs include development, reproduction of materials, training the trainer, renting a training room, and paying the trainer, which costs about \$50,000 less than the scenario used for multimedia training. However, this is just for one day of training. If this is an ongoing program, then each time the instructor-led program is taught, all costs will be incurred, as well as travel, meals, and lodging expenses (Table 2.2 and 2.3). For the multimedia training program, there will be no room rental, travel, meals, or lodging expenses, which implies that total multimedia training costs will actually decrease as more trainees use the program, spreading the development costs over a broader base.

Table 2.1: Multimedia/CBT Program Costs

Development costs for a 3-hour program (multimedia software, workbooks, job aids, etc.)	\$95,000
Reproduction expenses (per 20 trainees)	\$300
TOTAL:	\$95,300

Table 2.2: Instructor-led Program Costs

Development costs (multimedia software, workbooks, job aids, etc.)	\$35,000
Reproduction expenses (per 20 trainees)	\$200
Training the trainer	\$2,500
Training room - per day	\$1,200
Trainer - per day	\$800
TOTAL:	\$39,700

Table 2.3: Ongoing Instructor-led Program Costs

Development costs (multimedia software, workbooks, job aids, etc.)	\$35,000
Reproduction expenses (per 100 trainees)	\$1,000
Train the trainer	\$2,500
Training room - per day*10	\$12,000
Trainer - per day*10	\$8,000
Travel, meals, lodging expenses per day assuming 50% must travel to training site (\$1400*50*1day)	\$70,000
TOTAL:	\$128,500

The effectiveness of a training program is measured by percentage retention of material after completion of the course. On average, trainees retain 5 to 15 percent of the material covered in an instructor- led course. With online training,

it has been shown that trainees can retain between 50 and 70 percent of the content covered in the course. This is due to the ability of online material to be adapted to the learning style of the trainee, i.e. allowing the student to move through at his or her own pace and being able to repeat sections as needed, as well as being in a familiar atmosphere while training.

Product stability deals with updating and changing multimedia training programs. In many cases, training programs are constantly being updated with new developments and procedures, which may result in the company incurring added re-development costs in maintaining the online program. If a “generic” program can be developed that will require relatively few updates, and integrated with classroom instruction of new material, maintenance costs can be kept to a minimum and the product can remain relatively stable.

With conventional instructor-led courses, a new trainee may have to wait until training is offered. With online training, there can be training-on-demand. A trainee can start training at any time when using computer-based training, increasing efficiency of delivery.

According to Carlton, on average, a one-day training can be condensed to a 2- or 3-hour multimedia program. Multimedia training can offer time advantages, decreasing time spent on training, and allowing flexibility of program style and speed, resulting in employees being trained quicker, sooner, and more effectively with multimedia training. It is important to consider all factors discussed, including cost and quality, when deciding on an effective training program medium. Cost is not the only consideration.

Article Analysis:

Connie Carlton’s article makes a good case for computer-based training; however, the cost analysis seems somewhat skewed because of the estimated travel, meals, and lodging expenses used in the model. It is assumed that half of

the trainees will need to travel to the training site, and each will require \$1400 per day for travel, meals and lodging. This number seems very excessive. According to an analysis from state banker association administrators, the average travel, meals, and lodging cost per day is about \$200, which includes time away from work. If this new, lower figure is used in the model, even with 100 trainees going through the program, computer-based training (CBT) is still about \$18,000 more expensive than instructor-based training (IBT). The article also compares the cost of training 100 employees by instructor with the cost of training 20 employees using multimedia training, which is not consistent. The costs of training the trainer are also included in ongoing instructor-led training costs. If the same trainer is used, this cost should not need to be incurred each time the training is held.

The article fails to describe what exactly “multimedia training” means. Depending on the types of multimedia used (videos, interactive activities, etc.) the costs of CBT could vary immensely, mainly due to time required to develop such programs involving videos and other multimedia. The article also fails to document the sources of some of the cost estimations. It is unclear what factors are considered when it is reported that \$100 per hour is a reasonable cost for developing CBT programs.

One point that is omitted is the advantage of instructor-led training. It is assumed that all instructor-led courses are lecture based, which would not be interactive. Many training programs led by enthusiastic instructors are interactive in which the instructor is a facilitator, and may even be more interactive than CBT because of the chance to interact with people instead of machines. The fact that there is no face-to-face communication is definitely a disadvantage of CBT. Many people like to interact in a face-to-face environment versus reading from a screen. Group projects could be done online with other trainees, which would make the program more interactive. People have different styles of learning, and depending on the content to be covered, different training methods may be

preferable to reach the largest percentage of trainees effectively (Buch, 2002). The content or subject matter to be covered should also be evaluated before implementing a CBT program. Some subject areas could be covered more effectively by using hands-on learning techniques instead of CBT.

Technology considerations should be made. If the multimedia training program is state-of-the-art, the company will probably need to have access to state-of-the-art computers and technology to support such a program. A program that takes excessive time to load and transition from module to module could be frustrating, to say the least, which will reduce effectiveness of the overall training. If the company does not have up-to-date technology, costs of obtaining newer computers may make multimedia training too expensive to implement.

The company should also consider the computer literacy level of trainees. If an employee is not familiar with computers, it may take much longer for the person to complete the training, and retention may be poor because of the added frustration of navigating through the computer program. Technical support would have to be available in this case especially. If the company is hiring college graduates, more than likely these trainees will be computer literate and will not have a problem navigating through the software.

2.2 “Calculating Return on Investment of E-learning Programs”

It is important to go through the process of calculating return on investment (ROI) of implementing an e-learning program, because returns usually have a major impact on feasibility of various solutions to a problem in the business, according to the Institute of Management and Administration (IOMA).

Scott Larson, a Web-based training consultant at OneAnthem.com, offers several recommendations for using ROI calculations for e-learning in this article. ROI analysis allows the person to organize the e-learning project and actually determine the feasibility of the project, listing the elements, budgeting, and

proving the person's worth to the business by "building the bottom line." When analyzing ROI, many factors need to be included, such as the tangible costs of training (i.e. hardware and software to develop and run the program, computer programmers, and content development). There are also intangible costs that are incurred, such as marketing the program to trainees and management, as well as administration time. The article suggests that tangible savings of online training will be in the form of lowered distribution costs, classroom and equipment overhead, and travel and trainer fees. Intangible savings will be employee travel and reduced learning time. Common training knowledge assumes that it takes half the time in an online course to cover a certain amount of content as a traditionally taught course.

A spreadsheet is included to help calculate the ROI of a certain e-learning project and assumptions are given to help interpret the results (Table 2.4). It is suggested that sensitivity analysis be performed to determine a reasonable number of trainees to use the program per year. Re-use of the program, materials fees, classroom space (if needed), and time lost on the job is mentioned.

Determining dollars saved by using e-learning instead of traditional training methods is shown in the spreadsheet. Results show that since development costs are high for e-learning, using the e-learning program only one time is not cost effective. If the program can be used multiple times, costs are lower because development costs can be spread over more trainees. According to Scott Larson, by using the program three times with 24 trainees each time, the ROI for online learning is 170%. The real cost savings are achieved by using e-learning programs subsequently and maintaining fixed costs substantially below traditional methods.

Table 2.4: ROI for Online Learning Project

Online Learning	
Costs	
Develop Courses	\$35,000
Classroom Space	\$0
Average Travel	\$0
Time Lost on Job	\$15,909
Instructor Salary	\$0
Materials	\$960
Total	\$51,869
Total for All Participants	
First Time	\$51,869
Second Time	\$16,869
Third Time	\$16,869
Total Costs	\$85,607

Stand-Up (Traditional) Training	
Costs	
Develop Courses	\$0
Classroom Space	\$375
Average Travel	\$24,000
Time Lost on Job	\$22,273
Instructor Salary	\$1,000
Materials	\$960
Total	\$48,608
Total for All Participants	
First Time	\$48,608
Second Time	\$48,608
Third Time	\$48,608
Total Costs	\$145,824

Assumptions	
Average Salary	\$35,000
Average Daily Salary	\$133
Length of Class in Days	5
Number of Participants	24
Material Fee	\$40

Assumptions	
Classroom Space/Day	\$75
Travel Fee	\$1,000
Time Lost to Travel (hrs)	2
Class is taught 3 times a year	

Return on Investment (TC Stand-Up/TC Online)	170%
--	-------------

Nominal Yearly Savings	
First Year	(\$3,261)
Second Year	\$31,739
Third Year	\$31,739
Total	\$60,217

Source: Scott L. Larson, OneAnthem.com

Article Analysis:

This article does a nice job of making return on investment calculation practical. It fails to include many of the details and planning assumptions, but there is a link to spreadsheets and further information at the end of the article. It includes several factors, such as time missed from work and sensitivity analysis. Since no specifics are given, the cost assumptions cannot be fully analyzed.

Of course, there are many other factors besides cost that must be evaluated before adopting an online training program, but this article focuses mainly on cost, and only mentions some of the benefits in time savings. Even if the online training costs less over time, it must also be proven that the benefits of online training make it worth the cost.

The article does not address the lifespan of the multimedia training. If major modifications have to be made often, the cost of these updates should be factored into the analysis, and will increase overall cost. The content developers should try not to make content time-sensitive so the program can be used for many years without major changes.

Guidelines for approximate development costs, or how to approximate these costs are not mentioned. Since this is a major expense of e-learning, it should be broken down in to sub-categories for reference. It also fails to interpret the 170% ROI and provide a benchmark figure that is reasonable. Obviously, a company should only pursue e-learning if the ROI is greater than 100% (traditional training costs/ online training costs), otherwise it would make no sense. Also, usually return on investment is reported as the percentage return received over and above the investment. In this case the ROI should probably be reported as 70% instead of 170%.

The ROI may not be a good measure to use for this analysis, especially because there is no actual return received. Basically, this is just comparing overall costs. The only way to determine return on investment is to analyze the benefits to e-learning for employees such as increased productivity and satisfaction, and quantify these factors. Assuming that gains from online training and traditional training are equal, then it can be shown that ROI will be higher with the least cost method.

2.3 Blended Training

Blended training can be “any possible combination of a wide range of learning delivery – media, e-learning, classrooms, job aids, and labs – designed to solve specific business problems” (VNU Business Media). Blended training mixes e-learning with classroom instruction, field trips, videos and other learning opportunities. In the past, e-learning took center stage; however, according to

Allen, “e-learning is not working as well as hoped.” He states that a “well-nurtured learner” will comprehend better in an e-learning or other training situation than an “isolated, ignored learner” (Allen, 29). E-learning as part of a blended training program can offer much better results, especially if the welfare of the trainees is put as a first priority and the program is designed with their best interests in mind.

Blended training can benefit any industry that “relies on technical information. “ Some factors to be considered before determining the ideal delivery method are “the content, the audience, how fast the training needs to get to the audience, length of shelf life [of the training], budget constraints, and available experts” (VNU Business Media).

Industries with dynamic business environments benefit the most from blended training, because of the ability to use different delivery methods to keep information current (VNU Business Media). For example, online training could be used for learning background information that is slow to change, while classroom instruction could be used to build upon the online foundation and bring employees up to date on current issues that change frequently. By using a combination of delivery methods, companies can appeal to a wide variety their employees’ learning styles, and reach a broader spectrum of employees. Different people prefer different methods, and a combination of several different delivery methods may elicit a more positive response from a broad spectrum of employees.

There are several reasons that companies are not implementing blended training. Technology is a big hurdle for some organizations. To offer training in several different delivery methods, the proper technology must be available and accessible to employees. For example, for online education, all trainees must have access to the Internet via a computer. Also, if web conferencing is used, the software must be available and the computers must be able to support it.

The challenge to implementing this technology is that many training professionals are experts in instructional design; however, they do not know available technology as well. This technology can also be expensive, so training professionals may think that the money should go toward more traditional methods that have been proven to work (VNU Business Media).

There are other considerations that should be addressed before implementing a blended training program as well. The nature of the information to be learned should be considered because sometimes this dictates the delivery medium. If it is highly technical information, maybe a classroom or lab setting is best, where trainees can ask questions and do hands-on work. Also, the trainees' preferences and learning styles must be examined as well. A group of salespersons may not enjoy sitting alone in front of a computer to learn material. The training material may be better received in a group setting just due to their personalities.

There is no one perfect way to design a blended training program. It depends on many factors, and each training program must be geared toward the specific company, type of information to be learned, and trainees. By evaluating each of these components, training professionals can get the most positive results from a blended training program. (VNU Business Media)

3 The Problem

There are a number of challenges facing the future of agricultural lending and Farm Credit training. First, as outlined in the overview, are the fewer opportunities for training. Second is the time away from the institution to receive training, which is more pertinent in a time-compressed society. Human resource managers are trying to find programs that use reinforcement and on-job applications in training to increase productivity more expediently than in the past. Third, is the overall cost of direct training, housing, and travel, and indirectly, time

away from the job. Also, there is a small number of new staff hired in the association at one time, causing sporadic training needs. Finally, with the advent of technology and online training opportunities, both costs and efficiencies of training need to be addressed. FCV has brought this problem to light and would like to explore an online training solution for their trainees.

3.1 Objectives of the Case Study

The overall objective of this case study was to develop an online training program that would effectively train new FCV loan officers in a six-month period by using the Internet. Traditional agricultural finance, sales and marketing course materials were enhanced to construct a technology-based delivery system.

Specific objectives for the analysis of the online training program are to:

- Analyze various educational delivery systems to determine the factors important in administering an effective learning experience with varying levels of technology.
- Study rates of comprehension, speed of completion, content retention, and most appropriate methods of delivery.
- Complete an economic analysis of the online training, comparing it to traditional training methods, and determining the costs, benefits, and breakeven number of students necessary to make this program economically feasible.
- Present conclusions, recommendations, and suggestions concerning the development and administration of the program.

4 Methodology

Needs and expectations for the online training program were assessed by a committee of experienced FCV loan officers and administrative staff. Optimal training methods obviously vary with industry, since the content included will be very different. The committee found online training to be a viable alternative to traditional methods for agricultural banks because of the nature of the material to

be taught, as well as the structure of the lending institution. The ability to retrain experienced loan officers by reviewing a relevant online module is another advantage of online training.

The training needs assessment was followed by a curriculum development phase in which ten training modules were developed and placed online. Testing and application exercises were developed to improve and accelerate the learning experience. The modules were then tested in two trials. One trial used university undergraduate students in junior- and senior-level agricultural finance and agricultural marketing classes. The agricultural finance phase of this trial was designed to compare different methods of content delivery by adding a face-to-face component to the training. The second trial used newly hired staff, employees seeking advancement, and interns at FCV.

4.1 Development

Over an eight-month period, from August 2002 until April 2003, ten modules relating to agricultural trends, credit, and sales and marketing were developed for the FCV training program. The content of these modules was suggested and directed by the FCV Training Task Force, a committee of experienced staff at FCV. The committee brainstormed many subjects that should be covered in the training program, which were divided into three categories: Credit, Marketing, and Organizational Knowledge (Appendix 11.1: Training Program Subject Matter). The committee desired that the modules focus heavily on sales and marketing topics, since the organization is moving toward a more sales-oriented approach to agricultural lending than in the past. However, they also desired a strong background in credit topics, as well as a good background on the agricultural lending industry and current trends. The training program was designed to train newly-hired loan officers and internal employees who were seeking advancement to loan officer status, as well as to be used as a refresher course for experienced staff.

Dr. David Kohl, a professor in the Agricultural and Applied Economics Department at Virginia Tech and an expert in the agricultural lending training field, was sought to develop the content of the modules. Ten modules were developed, focusing on the following topics: Mega Forces in Agriculture and Ag Lending in the New Century; Consultative Marketing, Strategic Prospecting, Call Preparation, the Sales Call Process; Sources of Agricultural Credit and Loan Pricing; Small Loan Analysis and Credit Evaluation; Agricultural Financial Statements and Conversion from Cash to Accrual Basis; Credit Analysis for Larger Farms; and Problem Loan Identification and Strategies for Workout (Appendix 11.2: Table of Contents for FCV's 10 Module Training Program).

Each module consisted of a reading followed by an objective test consisting of multiple choice and true-false questions, and several on-job application questions. By applying the knowledge that the trainee has learned through application exercises to his or her job, it is hypothesized that the trainee will have increased content retention, as well as accelerated productivity.

Modules were reviewed internally by a current graduate student with an agricultural economics background, and then e-mailed to the Farm Credit Training Task Force members for review and editing before being put online. ECI, the leading provider of financial analysis and decisioning software for agriculture, based in Glenwood, Iowa, developed, hosted and maintained the training website. The website allowed trainees to read the content of each module online, or print it for later review. Then, the trainee completed the test online and submitted his or her answers. The test scores were automatically e-mailed to the training administrator for grading. Feedback was provided to trainees by e-mail. On-job application questions were listed online, but completed offline and discussed with each trainee's individual mentor. Then the answers were e-mailed to the training administrator who kept a record of completion of each module.

The final phase of the online training program was analysis of a final case study with questions that encompassed the breadth of topics covered in the online training program. Trainees were given one month to complete the final case study, and then they submitted written copies of their analyses to their mentor and the training administrators. Trainees then presented their final case study analysis to the Agricultural Financial Management class at Virginia Tech in Spring 2004.

4.2 Trials

4.2.1 Ag Finance & Marketing Classes Trial

Two trials were conducted to test these modules. The first trial was administered with undergraduate students at Virginia Tech. Phase one of this trial involved the Agricultural Financial Management class (AAEC 3404) in the Spring of 2003. The class completed one module entitled "Credit Scoring and Small Loan Analysis." They accessed a website for the reading, test, and case vignettes. Test results were automatically e-mailed to the administrators. After the module was completed, a loan officer representative from Farm Credit guest lectured to the class, reinforcing the material in the module and reviewing the case vignette analysis students completed. Afterward, students were asked to complete a survey about their online module experience. There were 111 students who participated in this trial.

The second phase of the trial took place in the spring of 2003 as well. Students in the Food & Agribusiness Marketing Management class (AAEC 3424) completed four sales and marketing modules online. The four modules were entitled "Consultative Marketing," "Strategic Prospecting," "Call Preparation," and "The Sales Call Process." Students accessed the readings and application exercise online, while the tests for each module were completed on paper and submitted to administrators. After reading the modules and completing the tests, students developed a Field Call Plan based on a case vignette to be handed in for a grade. This trial was done primarily online with little interaction between

students and module administrators. Each of the 49 students was asked to complete a survey at the end of the process.

4.2.2 Farm Credit Trainees Trial

The second trial was more comprehensive. During the summer and fall of 2003, the entire online program was tested with Farm Credit employees. Three summer interns with Farm Credit completed the first five modules, and two new hires and two existing employees seeking advancement completed the whole 10-module program. All readings and tests were completed online. Each participant was assigned a mentor, who was a more experienced loan officer, to supervise the training process, answer questions and provide feedback to the trainee. Each trainee was assigned one or two discussion or on-job application questions to complete for each module by his or her mentor. These exercises give the trainee an opportunity to apply what he or she has learned by digging deeper into the subject matter, researching a related topic, or interviewing an expert on the subject. Discussion questions and on-job applications at the end of each module were reviewed with the mentor after completion. All test results were automatically e-mailed to the training administrator, who graded the tests and replied to the participant, mentor, and the training coordinator. Short evaluation surveys were completed at the end of each module test concerning timing and comprehension of that module. Trainees were given two weeks to complete each module, with a one-week break between every two modules (Appendix 11.3: Online Training Schedule for Farm Credit Trainee Trial).

A focus group meeting was held with all trainees, mentors, and administrators in September 2003, when participants had completed roughly half of the online program. A survey was given to trainees to determine time required, challenges, and successes from their view. The mentors' roles were discussed as well.

As a "capstone" to the online training program, trainees completed a comprehensive final case study to be evaluated by their mentors and the

program administrators. The case study included questions to complete that pertained to multiple online modules to test comprehension of subject matter. Each participant completed a comprehensive survey at the end of the online training program.

5 Results

5.1 Ag Finance & Marketing Trial Results

Students in the first trial completed a survey following their completion of the module material (Appendices 11.4: Ag Finance Trial Survey and 11.5: Marketing Trial Survey). The following are results from the survey (Appendices 11.6: Ag Finance Survey Summary Tables and 11.7: Marketing Survey Summary Tables).

Technical Background

Online Education and Computer Competency

Fifty-eight percent of the student participants in AAEC 3404 (finance) had taken an online course previously; 42 percent had not. Sixty-nine percent of the AAEC 3424 (marketing) students had experienced taking an online course.

Of the finance students who had taken at least one online course, 37 percent had completed one course. Fourteen percent had two courses, while three percent had finished three courses. Nearly one in 20 students had finished four or more classes. Both the finance and marketing classes had very similar demographics concerning online experience. Forty-seven percent of the marketing students had completed one online class, while 14 percent had two and eight percent had completed three classes.

Concerning overall self-evaluated computer competence of the finance class, 46 percent rated their competence as good, 23 percent excellent. The remaining students rated the competence average or poor. Fifty-nine percent of the marketing students rated their computer competence good, while 27 rated

themselves excellent. The remaining fourteen percent rated themselves average.

Accounting/Bookkeeping

To understand the course modules, a background in accounting and bookkeeping could be a baseline for the comprehension of subject matter. Sixty-two percent of finance students had not taken an accounting or bookkeeping course. Thirty-five percent had completed accounting and two percent both. Students in the marketing class had a much stronger technical accounting or bookkeeping background than those in the finance class. Sixty-one percent of the class had taken accounting or both accounting and bookkeeping. One reason for this could be that the marketing class was comprised of about one-quarter non-agriculture majors who may be required to take these classes.

Bank Service Users

Students were surveyed on their use of financial institution services. Sixty-eight percent of finance students used credit cards; the result was 20 percent higher with the marketing students. This is compared to the national adult population, in which 80 percent have at least one credit card (www.cardweb.com). Forty-eight percent of the finance student group conducts on-line banking; again, this was considerably higher for the marketing class at 71 percent. As expected, nearly all students utilized checking and savings accounts with no major differences between classes. Twenty-five percent of finance students have an investment account at a bank or financial institution. The result is ten percent higher in the marketing compared to the finance class. Eighty-two percent of students surveyed utilized drive-thru bank services; again, this was higher in the marketing versus the finance class.

Loans and Credit Reports

A large part of the assignment for the finance class was completing a small loan analysis module. Familiarity with reading credit reports and experiencing the

loan process was hypothesized to provide background critical in comprehension and efficiency in completing the module. Only 12 percent had ever read a credit report prior to the course. Surprisingly, 14 percent had the experience of taking out a loan.

Subject Matter and Efficiencies

One of the major questions of educators and trainers concerns time required to complete readings, testing, and course applications, and methods to complete the task.

Finance Class

The agricultural finance class was asked to read a 14-page module and complete a 30-question objective test over a two-week period. A local Farm Credit loan officer representative lectured at the completion of the module to reinforce the subject matter. Approximately seven in ten students found that it took one to two hours to read the unit and complete the test. One in five finished the task in less than an hour, while nearly ten percent spent two or more hours.

Students were asked to evaluate three one-page case vignettes applying small loan analysis from the text. The assignment was to identify strengths and weaknesses of each case, rank them concerning risk and market potential, and then identify the financial profile that they represented. A one-page executive summary was submitted as part of the problem set. Nearly half of the students spent under one hour completing the task. Forty-six percent took one to two hours to finish the assignment while six percent expended two hours or more.

Surprisingly, over half of the class printed reading materials and case studies off the computer instead of reading them on the screen. About one-third read off the screen and printed the material out, while only one in six did the assignment totally on the screen. On average, 95 percent of the participants indicated that

the format was easy to use and navigate. The results were slightly higher when one module was completed versus four modules for the marketing class.

Marketing Class

The agricultural marketing class project was more rigorous in nature. The course was completely taught on-line with minimal administrator or instructor interaction. Four modules and one case vignette that provided applications to the four modules were assigned. Students were required to develop a field call plan based upon the case vignette. For this part of the research, no instructor-led reinforcement was presented. Finally, the modules were completed over a three-week period with the field call application exercise over the last two weeks. Three of the four modules were the standard seven to twelve pages reading. However, the final module on the call process was double the reading, at twenty-one pages.

Approximately seven of ten students were able to read the module and complete the test in less than one hour on the standard size unit. However, for the longer unit, the result dropped to 57 percent in the hour or less duration. Twenty-seven percent found that it took one to two hours, while two percent took two hours or more on the standard module. On the longer unit, four of ten completed the task in one to two hours and four percent in two to three hours.

It was interesting to note that the time to read and complete the module was significantly higher for the finance module compared to the marketing units. Even the longer unit in marketing was completed in a much more rapid rate than the finance module. Perhaps the technical and analysis nature of the financial module required more time for completion.

The time for completion of the case study vignette for the marketing class found that 72 percent required less than one hour. Approximately one-fourth of the class spent between one and two hours, while four percent took between two

and three hours to complete the task. Analysis finds that the marketing case vignettes were completed at a quicker pace than the financial case vignettes. Again, calculations and technical subject matter may have extended the time span.

Comprehension and Understanding

Ag Finance Class

Concerning the agricultural finance class, three-quarters of the class felt that they had a good or excellent understanding of the module subject matter after reading the module and listening to the experienced loan officer's lecture. Twenty-three percent were fair, while three percent indicated poor. Approximately 70 percent stated that they understood how lenders analyzed small loans. Thirty percent indicated understanding was fair or poor. Again, over three-quarters of the participants felt that the content was clear and easy to understand. Sixteen percent disagreed or strongly disagreed to the statement while one in ten had no opinion on the statement. Over 85 percent of participants indicated that the case vignettes were of assistance in learning the subject matter while less than five percent disagreed, and twelve percent had no opinion. Eight in ten students felt the test questions were adequately covered, while eleven percent had no opinion and ten percent disagreed with the statement.

A Farm Credit loan officer spent a 75-minute lecture leading discussion and providing insight on the three case vignettes after the students developed a one-page analysis of the vignettes. An astounding 94 percent were in agreement or strong agreement that the Farm Credit lender was instrumental in developing a better understanding of subject matter. Six percent had no opinion. The high-touch component of this aspect of the research proved to be popular with the students.

Students in the finance course were asked their preference of online versus instructor-led courses. Only one in ten preferred online; forty-five percent

recommended instructor-led while one in seven felt there was no difference. Forty-two percent stated the instructor quality would make a difference in their opinion.

Marketing Class

The marketing course trial was completely online with minimal human interaction. This trial contained more subject matter and was more time compressed than the ag finance trial.

Student self-assessments concerning comprehension rates varied little from the finance module, regardless of module length. Approximately 70 percent on average felt they had a good or excellent understanding of content and subject matter. Approximately one in four had a fair comprehension of content while fewer than five percent rated their understanding as poor. The longer unit on the sales call process showed no considerable differences concerning results. Eighty-two percent of students felt the content was clear and easy to understand, which is similar to results of the agricultural finance module. Only twelve percent disagreed and six percent had no opinion on the question.

A slightly lower percentage, 71 percent, compared to agricultural finance agreed or strongly agreed that the test questions adequately covered reading materials. Fourteen percent disagreed and fourteen percent registered no opinion. This may have been the result of poor questions or too many test questions over a short period of time. Opinions were surveyed concerning the understanding of content on the field call planning exercise utilizing a case vignette. Seventy-one percent of the respondents agreed or strongly agreed to the statement. Eighteen percent had no opinion while ten percent disagreed. There were slightly lower results when compared to the agricultural finance class results.

Instructor-led versus online education was assessed. Again, ten percent preferred online, and thirty percent instructor-led. Twelve percent registered no

opinion, while about half stated that it depends upon the instructor. The surveys could be biased toward instructor-led since the professors teaching the courses have been university and national award-winning teachers.

Timing and Operations Logistics

Since the online training can be completed anytime within the allotted timeframe, it is interesting to note students' timing in completing the module material. Concerning the agricultural finance class, 40 percent completed the reading and the test between five and ten days before the deadline. Only three percent were ten days prior to the deadline. Nearly 60 percent of the class waited until the last five days to complete the reading and testing phase. Concerning the case vignettes, 78 percent waited until five days or less of the deadline, while 22 percent completed the case five to ten days before deadline.

In the marketing class, where four modules of reading and testing were assigned, similar results were experienced. Forty-two percent waited and completed the assignment in five days or less before the deadline, while 35 percent completed it between five and eight days before deadline. Twenty-three percent completed readings and tests eight days or more before deadline. Concerning the field call application exercise, ten percent finished the assignment two weeks prior to the deadline; one-third between one and two weeks; and 57 percent waited until one week of deadline. As expected, the more lengthy assignment in marketing required earlier starting times for the reading, testing, and case applications. Administrative time, which involves answering questions and grading tests, appears to be much higher for both experiments within the week of completion.

Perception of Time

Students were asked to present their impressions concerning the amount of time spent in the module exercise, test, and case application. Analyzing the results from the finance class finds 86 percent felt it was "just right" and 13 percent "too long" while 1 percent indicated that it was "too short."

The more time-compressed multiple module assignment in the marketing class exhibited different results. Approximately 70 percent felt the first three units were “just right,” but the result declined to 47 percent for the lengthier unit. Approximately 30 percent indicated the first three units were “too long” but increased to over half of the class on the more lengthy call process module. Less than 2 percent indicated the unit was “too short.”

Background Information

Class demographics were enumerated and analyzed. Sixty percent of the agricultural finance students were female, while 40 percent were male. This was similar to the marketing and sales class in which 56 percent were female and 44 percent were male.

Students participating in the survey in agricultural finance were primarily agricultural and applied economics majors (28 percent), with 27 percent animal science, and 26 percent horticulture majors. Nearly two-thirds of the students in the agricultural finance class were production majors versus business and economics majors.

Forty-five percent of the students in the marketing class were agricultural and applied economics majors, followed by 14 percent horticulture and 14 percent animal science majors. Nearly a quarter of the class represented students outside of agriculture, ranging from finance and marketing to political science concentrations. Only about one-third of students in the marketing class were production-oriented majors.

Overall Strengths and Areas for Improvement

Students were asked to list the major strengths and areas for improvement of the modules. The major strengths listed by finance students were that the module was easy to understand and they liked the case study and real life examples.

They also indicated that the module was well organized, very concise, and well written. Marketing students indicated that the strengths of the modules were the ease of use and understanding, as well as good examples and organization of material.

The area of improvement most listed by finance students was that financial ratios explained in the Small Loan Analysis module needed to be explained more thoroughly, possibly by listing them in a table. The students were also concerned that some test questions were not fully explained in the module reading and there needed to be more explicit instructions for accessing the website and completing the reading, test, and applications. The most listed area for improvement from students in the marketing class was that the Call Process module was too long. Others listed were that some questions were not worded well, too much jargon was used, and some areas of the modules were repetitive. Most of these concerns listed were addressed promptly by editing the modules where necessary.

Test Results

Students in the Ag Finance class took an objective test online after reading the module content. The scores ranged from 97% to 57%, with 86% being the average score. The finance trial had 104 participants who completed the test. Relating test scores to the students' self-assessed comprehension of material finds that 62% of the students scored greater than or equal to 85% correct on the test, while 75% indicated that their comprehension of subject matter was good or excellent. This discrepancy could be caused by the students' perceptions of good or excellent understanding and how students linked comprehension to performance on tests.

Students in the marketing class took a test on each of the four modules. The test consisted of ten multiple choice and ten true-false questions for each module. The tests were graded as a whole. Scores ranged from 98% to 70% with an

average of 89%. Fifty-four students took part in this trial. Relating test scores to self-assessed module comprehension, 85% of the students scored greater than or equal to 85% correct on the tests, while 70% indicated that their comprehension was good or excellent. This discrepancy could be caused by the students' perception of good or excellent comprehension or their perceived performance on the test.

Students in the marketing class also took a retention test after completion of the module tests. The retention test contained 16 questions, including two multiple choice and two true-false questions from each of the four modules. One multiple choice and one true-false question for each module was repeated directly from the module test the students took earlier. The average on the retention test, just taking the repeated questions into account, was 73%, while the previous average on the module test of the repeated questions was 86%. Thirteen percent of students scored higher on the retention test than the module test, while 48% scored exactly the same, and 39% scored lower on the retention test than the module test. From these results, over 60% of the class scored the same or higher on the retention test, indicating that the majority of students did retain the information from the time of initial testing to the retention test one to two weeks later.

Survey Question Correlations

Several significant correlations between final survey questions were found by using a Chi-squared Test (Appendix 11.8: Survey Question Correlation Tables). The Chi-squared Test indicates there is a significant correlation ($p=0.0298$) between comprehension of the module and self-assessed computer competence of the finance class. Those students who indicated that they had good or excellent computer competence were more likely to have good or excellent comprehension of the modules. Also, a higher than expected proportion of those students who indicated fair or poor computer competence indicated fair or poor comprehension of module subject matter.

Another correlation was found between comprehension of module subject matter and understanding of how lenders analyze small loans ($p=0.0000$) with the finance class. A higher than expected proportion of finance students who indicated that they had excellent or good comprehension indicated that they also had excellent or good understanding of how lenders analyze small loans. Also, a higher than expected proportion of students who indicated that they had fair or poor comprehension also indicated that their understanding of how lenders analyze loans was fair or poor. This is a logical conclusion since the two survey questions are similar in nature.

This same significant correlation was found with the marketing class students ($p=0.0012$). A larger than expected proportion of students who indicated that their comprehension of the subject matter of the four modules was good or excellent also indicated that their understanding of the Consultative Marketing module was good or excellent. Also, a larger than expected proportion of marketing students who indicated that their comprehension of subject matter was fair or poor also indicated that their understanding of the Consultative Marketing module was fair or poor.

According to the finance class survey, another correlation was found between comprehension of subject matter and length of the module ($p=0.0046$). A larger proportion of students than expected who indicated that their comprehension of the module was excellent or good also indicated that the module was just the right length. Also, a larger proportion than expected who indicated that their comprehension was fair or poor also indicated that the module was too long. This shows the longer readings tended to lose the attention of the students, causing lower comprehension.

5.2 Farm Credit Trainee Trial Results

As mentioned earlier, four Farm Credit trainees and three summer interns participated in this trial. The interns completed five modules, and the trainees completed the whole ten-module program, including on-job application questions and the final case study.

Module Test Scores

Trainees and interns took a multiple choice and true-false test following each module. Each module test consisted of an approximately equal number of each type of question. Test lengths ranged from 24 to 69 questions each, depending on the subject matter covered. The overall average of test scores was 93 percent and individual module tests scores ranged from 82 to 100 percent.

Post-Module Survey Responses

The interns and trainees were asked to complete a five-question survey after completion of the reading and test for each module. Questions related to length of time required to complete the module, comprehension, and when and where the module was completed.

The participants were asked how long it took them to complete a module reading and test. Overall, 44 percent of the time, modules took 60 to 90 minutes to complete. The interns completed a module somewhat faster than the trainees, with 60 percent of the interns completing a module in 60 to 90 minutes, compared to 37 percent of the trainees. Thirty-two percent of the time it took the trainees over two hours to complete a module. On average, this result is similar to the trial involving students discussed previously. The modules that took the longest to complete were modules 2, 5, 6 and 9, Consultative Marketing, The Sales Call Process, Sources of Agricultural Credit, and Credit Analysis for Larger Farms, respectively. Module 9, took the longest overall with three of the four trainees taking over two hours to complete it. It is important to note that this

module also has the longest test, with 69 questions. None of the participants took less than 30 minutes to complete any module.

Participants were asked to indicate their comprehension of the subject matter in each module as either excellent, good, fair, or poor. Overall, 91 percent of the trainees rated their comprehension as excellent or good. No participant rated comprehension on any module as poor. The interns rated the module comprehension higher than the trainees, with 53 percent excellent and 47 percent good, while the trainees rated comprehension as 16 percent excellent and 74 percent good, which could be due to the interns feeling they were not rushed on the modules since they had less outside responsibilities.

The remaining survey questions relate to where and when the module was completed. The participants were given two weeks to complete each module, and they were asked whether they completed the module during the first, middle or last four days of the period. Overall, responses are almost equally divided between the three responses, with slightly more participants completing the modules during the first four days. When dividing results into just trainees and just interns, however, the results are opposite for the two groups. The trainees completed 45 percent of the modules during the first four days, 32 percent in the middle and 24 percent at the end of the period. For the interns, modules were completed 20 percent during the first 4 days, 33 percent in the middle and 47 percent at the end. This could have happened because the interns were involved with other projects over the summer and not as serious about training as other trainees. It is interesting to note that just looking at the trainees' results, the majority of trainees completed the modules during the first part of the period for modules one through five, and then the trend shifted toward completing the modules toward the end of the period for the remaining modules. This could be due to a busy loan renewal season during this time or more complex subject matter in the modules.

The fourth survey question addresses the location where modules were completed. Approximately 70 percent of the time, modules were completed while at the office, and about 20 percent of the time they were completed at the office and at home. When examining the interns, all modules were completed at the office. For trainees, 58 percent were completed at the office, 32 percent were completed at the office and at home, and 11 percent were completed just at home. This finding suggests that the trainees need to have time allocated to go through the modules while at work.

The final question relates to time of day. The participants were asked to indicate whether they completed the module in the early morning (12am-7am), morning (7am-12pm), afternoon (12pm-5pm) or evening (5pm-12am). Fifty percent of the participants worked on the modules in the morning and about 40 percent worked in the afternoon. The majority of the interns, 73 percent, worked on the modules in the morning, while an equal number of trainees worked on them in the morning and afternoon, at 42 percent for each time period.

Focus Group Results

A focus group meeting was held on September 22, 2003 when the trainees were about halfway through the online module program. The seven trainees, administrators of the training program, and mentors were in attendance. Before the meeting, each trainee was asked to fill out a survey about various topics relating to their opinion of the training program so far (Appendix 11.9: Summary of Trainee Responses). The results from these surveys were compiled before the meeting to determine the topics that should be focused on and discussed.

Regarding the time schedule of the module training, those trainees who had just been hired and were new to Farm Credit felt that two weeks was sufficient time to complete each module. However, those trainees that had other commitments at Farm Credit and had worked for Farm Credit for a longer period of time felt time-compressed when completing the modules. One reason for this could be

because the new hires had just come from an academic background and were accustomed to the training experience from their college education. The existing employees had been removed from the academic setting, and needed more time to get acclimated. They thought two weeks was not enough time to get a module completed with their pre-existing job responsibilities and other projects. When working with existing staff in training, care must be taken to provide sufficient time for study. It was also mentioned that trainees needed to be self-motivated to excel in this type of training program.

It was a consensus among the group that the online module training should remain fairly generic in subject matter, and the mentor interaction and on-job applications should be used to add Farm Credit-specific exposure. This will also reduce the amount of updating of material that will need to be done to the online program. Trainees were asked if future trainees should be allowed to “test out” of certain modules in which they had prior knowledge. The trainees agreed that “testing out” should not be allowed because going through the modules would be a great refresher for any employee. The focus group suggested that existing loan officers, customer service representatives and in some cases, board members could value in taking certain segments of the course. It would assist them in reminding, refreshing, and updating on various components of the lending field.

Trainees were asked if having a face-to-face meeting halfway through the online course with administrators and mentors would be helpful to reinforce topics covered so far and clarify any questions. Trainees agreed that this would be helpful. Trainees also expressed concern that some test questions were confusing or did not have explicit correct answers. The administrators agreed to continue editing these questions to avoid trainee frustration.

As a final requirement of the online training course, it was suggested that a final case study analysis be completed by each trainee, and then presented to

experienced loan officers and mentors. Each trainee should receive a certificate of completion as well.

The group indicated that the module training complemented additional training at association and district level, and felt in six months they could start making some small loan decisions.

One suggestion of an upgrade to the online training was to utilize other technology and software available from ECI to enhance the program. An example of this is an online discussion board where trainees can post messages and interact with each other. Trainees would like to be able to view past discussion as well. This concept was tested on the tenth module, Problem Loan Identification and Strategies for Workout.

Two interns from Virginia Tech who started the online training during the summer expressed interest in completing the program and receiving credit at the University in the fall.

Mentorship was a topic that was discussed in detail in the focus group, especially since trainees and their mentors were both in attendance. Mentorship was found to be critical in the course in increasing confidence in dealing with customers, professionals, and the Farm Credit working environment. Those who had mentorship in their same office felt it assisted them. The individuals, because of geography, that lacked mentorship in their own office felt this was a missing part of their training. Mentors felt the interaction was an educational experience through discussion and questions that came out of the module unit readings and exercises. Initially, both mentors and trainees, when quizzed on time requirements, felt 30 percent of a mentor's time could be associated with training the trainee. Later in the course, this declined to 5-10 percent. Mentors and trainees presented the fifteen characteristics of a successful mentor separately (Appendix 11.10: Characteristics of a Successful Mentor). Many of the

characteristics were very similar between the two groups. Mentors were also concerned about burnout and they indicated that the maximum number of trainees they would prefer in a row was two, but they would be willing to be a mentor again after a break for at least one training cycle. Another issue to consider is matching interns with mentors. This must be done carefully to ensure a good mentor-trainee relationship. It was expressed that the mentor and trainee should have complementary personalities, or at least similar profiles. A trainee should also be assigned to a mentor who is on the same career path as the trainee.

Those in attendance also were asked to offer suggestions of additions to the online training that would be beneficial. They mentioned that a glossary of common agricultural and finance terms be included in the program. Trainees liked case study situations and suggested that more should be included in the program. It was also suggested that trainees design new application and discussion questions to add to the question bank as well.

Final Evaluation Survey Summary Results

The four trainees who completed the ten-module training program in its entirety each provided feedback via a 25-question final evaluation survey to the administrators of the program.

Trainees were first asked about their background. They all had varying educational backgrounds, ranging from a high school diploma to a master's degree. Two of them had less than one year of experience in agricultural lending, while the other two trainees had over ten years of experience. Three of the trainees had never taken an online course or part of a course before. One trainee had taken one to two online courses before. Regarding computer competence, two trainees indicated their competence was good, while one was rated excellent and one was rated average.

All trainees have utilized services at a bank such as having a checking account, savings account, investments, and using drive through banking. Three of the trainees use a credit card, while two use online banking. When asked whether they had ever read their own or another person's credit report, 75 percent answered affirmative. Half of the trainees had a loan other than college, auto or credit card loans.

Regarding the module training, 75 percent of the trainees printed the module readings off the computer instead of reading them on the screen. One trainee indicated they both printed them off and read them on the screen. Overall, all trainees indicated that their comprehension of the subject matter of the ten modules was "good" and that the online format was easy to use and navigate. They all also agreed that the content covered was clearly explained and easy to understand, and the on-job applications helped them learn the course material. Three trainees agreed that the questions asked on module tests were adequately covered in the readings, while one trainee disagreed. All trainees indicated that the length of the modules overall was "just right." All trainees also agreed or strongly agreed that the final case study adequately covered material previously learned in the training program. The final case study took over ten hours to complete for three of the trainees, and the other trainee spent between six and ten hours.

This online program was designed to take the place of a traditional face-to-face training program that would take about seven to ten days to complete. Given this fact, one trainee would prefer to take this training totally online, while three trainees would prefer to have a combination of face-to-face and online training, or blended training.

An online discussion board was tested on the last module. Trainees were asked to post their answer to a question and then reply to other trainees' answers as well. The trainees were asked whether using a discussion board to interact with

other trainees would accelerate their learning curve. Two trainees had no opinion, while one agreed and one disagreed. Mentors were allowed access to the discussion board as well.

When asked whether interaction with their mentor enriched the training experience, 75 percent agreed, while one trainee had no opinion. The survey results indicated that time spent with the mentor during the later stages of the training remained the same for two trainees, while it increased for one and decreased for the other trainee.

The accepted norm is that it takes about one year for a new agricultural loan officer to become productive to the institution, according to testimonial from Farm Credit staff. Seventy-five percent of the trainees indicated that they had become a productive staff member to the association after just six months of online training, indicating this training accelerated their learning curve. They defined “productive” as being able to interview customers, analyze potential loans and make decisions, complete a loan from beginning to end, including the analysis with minimal assistance from senior loan officers, and seeking out new business. One trainee elaborated that many of the modules were useful and the marketing information was especially helpful in planning sales calls and analyzing financial and non-financial information.

All four of the trainees agreed that if this six-month online training with mentor interaction costs 40 percent less than a traditional training program, they would recommend it to the Board of Directors and management team as part of an overall training program for Farm Credit.

The trainees provided the following ten “Best Management Practices”, comprised of suggestions and advice for future trainees who participate in the online training program.

- Although working individually, meet as a group to discuss the training course as a “team” effort, discussing problems or using other trainees as a reference. It helps to keep in touch with other trainees; you can learn from them and their mentors.
- Use other people within the Farm Credit System for help; they all have stories to tell.
- Take your time; the information provided is useful. Definitely go through all the modules because you will learn something from each one. It is good to be thorough with your readings; they each build on the next and end with a bang!
- Do not get caught up in getting every test question correct; just try to learn the material in general.
- Be open-minded. This will open your eyes to not only to FCV, but lending as a whole. By utilizing the FCV Credit Manual along with the modules, you can apply the general information you’ve studied online to gain knowledge of the specifics of FCV.
- If at all possible, schedule uninterrupted time to work on the modules.
- Have a basic knowledge of Farm Credit to be able to apply training material to day-to-day work.
- Communicate with your mentor and make sure your mentor understands the best training is to apply learning objectives daily in your regular job.
- Work with your mentor during the loan application process, analyzing loans, and loan closings. Observe your mentor during several marketing and field call plans.
- Do not be afraid to make suggestions; they will help to make this training better.

When asked for strengths of the online training, responses were varied. The trainees indicated that the training provided a good background for people with limited knowledge of agricultural lending. They liked the tests, exercises, applications and case studies, and discussion questions. The tests provided

instant feedback, while discussion questions allowed the trainees to interact with their mentor and see how the information was applied on the job. Use of a chat room by which trainees could interact with each other was also mentioned. Trainees liked being able to complete the modules at their own pace in order to retain the information. They also liked being able to print out the material for reference. One of the biggest strengths listed was the final case study. They felt that it pulled the whole training program together and allowed them to apply what they had learned during the last six months.

Various areas of improvement were listed as well. Test questions could be improved to better fit the reading material. This will be improved throughout the training program as mistakes and inconsistencies are noticed, and as more trainees complete the program. Making the modules more specific to Farm Credit was mentioned as well. The modules were designed to contain somewhat general information, leaving the specific information for the mentor to fill in, and to reduce the amount of updates needed to the material. Having more group discussions, like the focus group meeting, was also suggested. A trainee also suggested getting the group of trainees together to complete short case studies to reinforce the information they are learning. This would help the trainees “think on their toes” and learn work as a team and trust each other’s opinions.

Some other comments about the modules were listed as well. The application exercises helped the trainees find valuable information sources and contacts, either from other Farm Credit employees or outside organizations that can be used later in their careers. One trainee indicated that adequate time should definitely be allocated to the online training during the workday, and the supervisor should be sure that the trainee does not have too many other responsibilities for the trainee to get the most out of the online training experience. Another suggestion is to have varied final case studies that involve different agricultural industries so trainees can be forced out of their “comfort

zone” which allows them to make good contacts and learn how to find information on their own, as well as learn something new about an industry.

Overall, the final survey responses were very positive, and all trainees seemed to enjoy the online training program and learn a lot of valuable information that they will be able to use and refer back to throughout their careers.

6 Cost Analysis

One of the main objectives of this study is to determine whether online training is a cost effective alternative to traditional training methods for FCV. A comparison of traditional versus online training costs is explained below.

Overview of Current Traditional Training Methods

A review of agricultural banking schools and Farm Credit training schools finds that an average of 32 contact hours of instruction per school are used. The average cost per person per content hour is \$40 including meals and housing or \$20 per hour including just instruction. Advanced schools cost approximately 25 percent more per hour (Kohl).

Instructors at these schools include bankers, university faculty, and consultants. Approximately 80 percent of schools have training modules as well as financial exams. A 60 percent score on an exam is considered acceptable for graduation. No mentorship or on-job applications are required in follow-up training.

Costs of Traditional Training Program

FCV has historically used traditional instructor-based training sporadically for employees. The online module program is developed to substitute for a 40-hour traditional training course. Cost of the traditional course for 40 hours of training include cost of training, housing, meals, facilities, travel, time away from the job, and an administrator’s time (Table 6.1). All costs are given per day per person. Training cost is estimated at \$150, which includes reproduction of materials and

an instructor. Housing, meals, and facilities cost \$150. Travel is estimated at \$50, and travel time cost is estimated at \$50 as well, which assumes 2.5 hours of travel at \$20 per hour for each trainee. The cost per day of the trainee missing work is estimated at \$160 (\$20 per hour for eight hours). An administrator's time is estimated at \$10, which includes scheduling the training, booking facilities and organizing materials. This totals \$570 per day per person, or \$71 per hour per person. The 40-hour training is assumed to be five eight-hour days, so the total cost per training school is estimated to be \$2,850 per person. All of these costs are assumed to be variable costs, incurred for each trainee at each training session. It is assumed that there is no development cost since the training materials are used over again for each training course.

Table 6.1: Instructor-based training (per person for 40 hrs. of training)	
Variable Cost	
Training cost (reproduction of materials, etc.)	\$150
Housing/meals/training room	\$150
Travel cost	\$50
Travel time cost (\$20/hr*2.5 hr)	\$50
Cost/day of missing work (\$20/hr*8hr)	\$160
Administrator's time (scheduling, etc.)	\$10
Total per day per person:	\$570
Total per hour per person:	\$71
Average days of program	5
Total cost per school per person: (40 hrs. of training)	\$2,850
Estimate there are 8 schools of banking/year for Farm Credit	

Costs of Online Training Program

The costs of the online training program include development, or fixed, costs and variable costs. Development is a large portion of the cost of an online training program (Table 6.2). Development costs include content development, performed by a professor, at \$20,000 and a graduate research assistant, at \$40,000. The website must be developed to host the training site, at a cost of \$10,000. The content of the modules must be reviewed. Six reviewers were used, at a rate of \$30 per hour for ten modules, each taking four hours to review. This amounts to a cost of \$7,200. A development meeting was held at the

beginning of the process to determine content to be included, at the middle to review progress, and at the end to view the final product. Each meeting is estimated to cost \$600, at a total cost of \$1,800. An administrator was used to organize and oversee the development process, costing \$40 per hour and spending about 2.5 hours per module for ten modules, which amounts to \$1,000. Employees of FCV currently use computer technology on a daily basis, so an online training program should fit into the day-to-day operation of the business well, and there should be no need for updating technology, which would incur more costs if needed. Considering all these fixed costs, the total development cost for the ten-module online program is \$80,000, which is reasonable according to other similar online training courses reviewed.

Development costs (Fixed Costs)	
Webmaster (ECI)	\$10,000
Research assistant - content development	\$40,000
Professor - content development	\$20,000
Reviewers (6*4hr/mod*\$30/hr*10 mod)	\$7,200
Meetings at start, middle, end (\$600/meeting)	\$1,800
Administrator (\$40/hr*2.5hr/mod*10mod)	\$1,000
Total Development Costs:	\$80,000
Variable costs (per trainee)	
Trainee's time to complete training (40hr of training *\$20/hr)	\$800
Mentor time (on-job applications, etc.) (2hr/mod*10mod*\$30/hr)	\$600
\$60,000 salary/2000 hr work=\$30/hr	
Administrator time (updates, etc.) (\$30/hr*.5hr/mod*10mod)	\$150
\$60,000 salary/2000 hr work=\$30/hr	
Total variable costs	\$1,550
Variable costs per hour of training (40 hrs)	\$39
*10 modules @ 4hr/module	

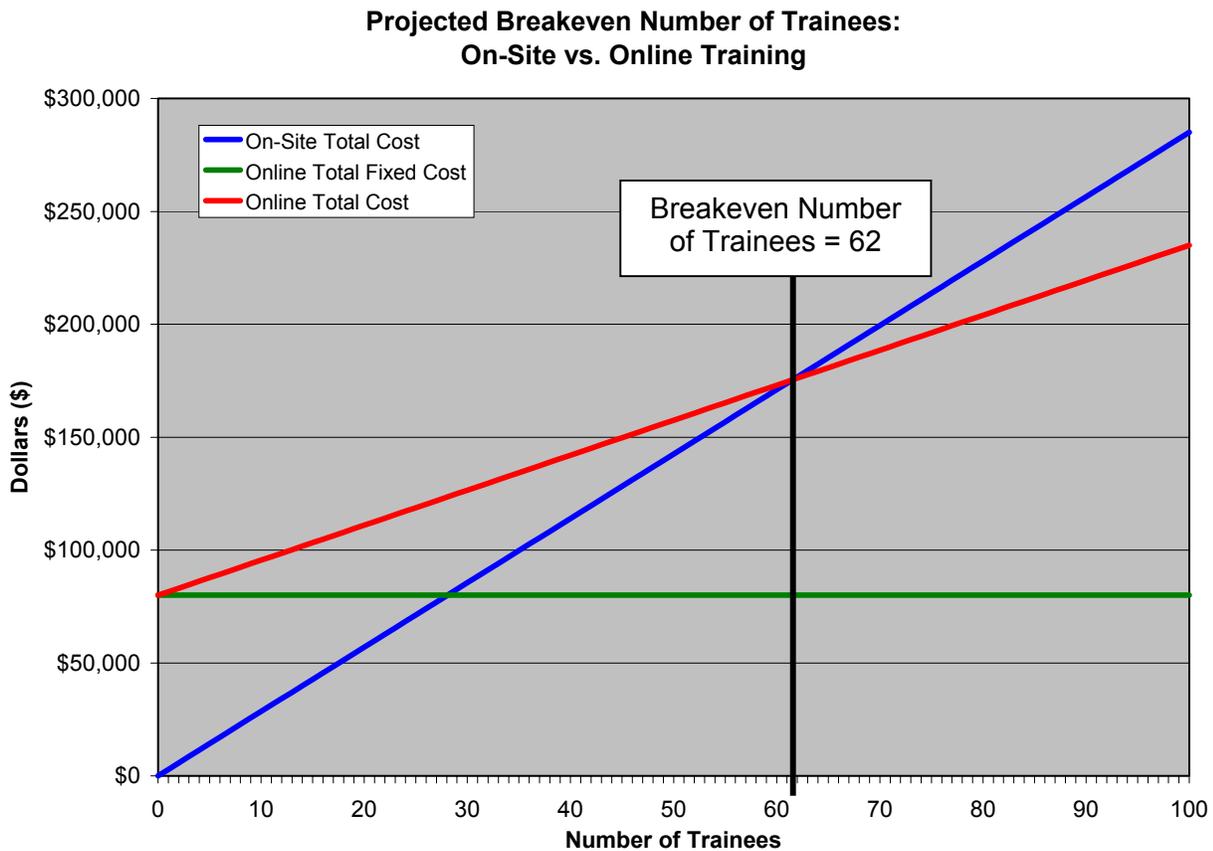
Variable costs are also incurred for each trainee who takes the course. Each module is designed to substitute for four hours of on-site training with an instructor: one hour of reading, one half to one hour of testing, and one to two hours of on-job applications to reinforce concepts in the online course are included. The trainee's time is valued at \$20 per hour, for 40 hours of training, which equates to \$800 per trainee. The mentor's time allocated to answering questions and reviewing on-job application questions is estimated at two hours

per module, for ten modules, at \$30 per hour (assume \$60,000 salary, working 2000 hours per year). The mentor's time is valued at \$600 per trainee. An administrator must also coordinate the program, grade tests, and update modules as needed. It is estimated that the administrator will spend about one-half hour per trainee on each of the ten modules, at a rate of \$30 per hour (assume \$60,000 salary, working 2000 hours per year). This equates to \$150 per trainee. Thus, the total variable costs per trainee are \$1,550, or \$39 per hour of training. It should be noted that many of these costs are not direct cash costs, and are in the form of opportunity costs. In this case study, the only direct out-of-pocket cost listed is \$40,000 devoted to a graduate research assistant's time taken to develop and test the program.

Breakeven Analysis

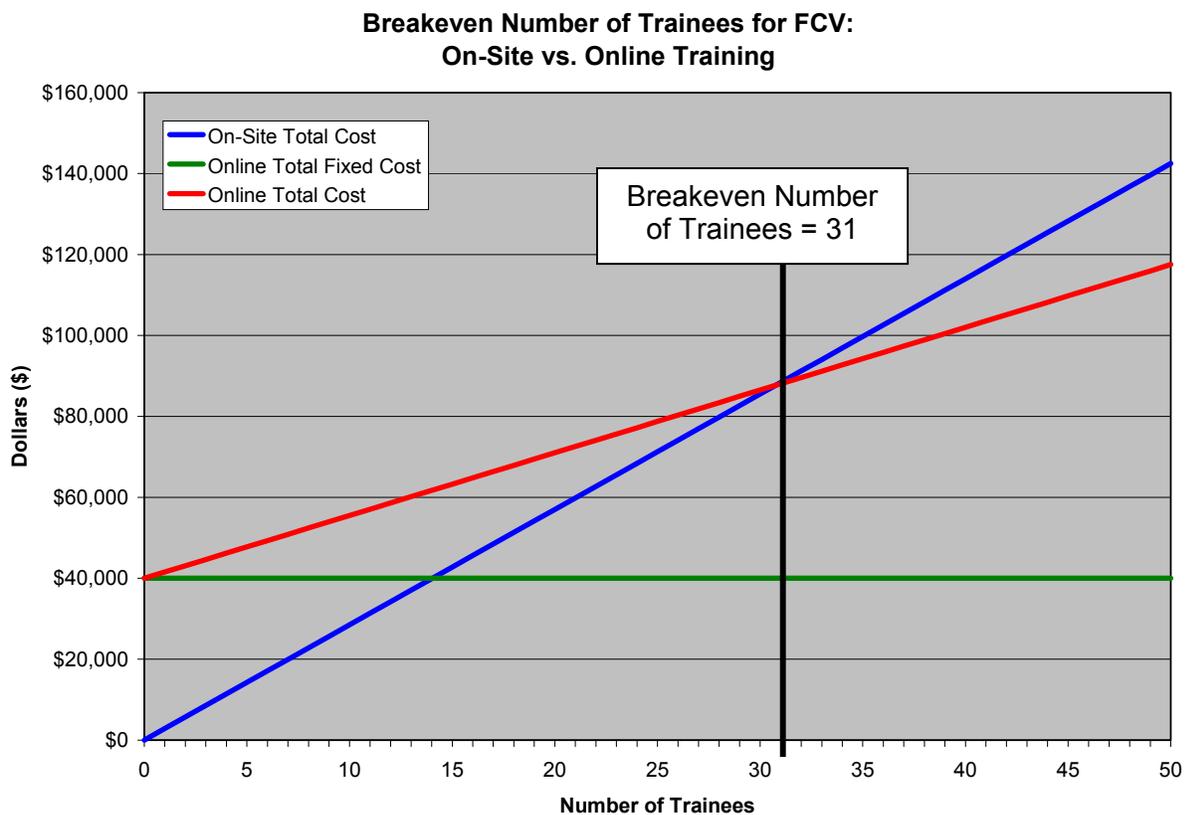
To determine the breakeven number of trainees required to make the online training alternative cost effective for FCV, the projected total, fixed, and variable costs found in Table 5.1 and 5.2 were graphed (Figure 6.1). It was found that the total costs of the traditional and online training cross at about 62 trainees. At this point, the high development costs of the online training have been spread out and the total costs of the online training become lower than those of traditional training, making online training the preferable alternative.

Figure 6.1: Projected Costs for Online vs. On-Site Training Using Predicted Development Cost



Since FCV did not actually incur \$80,000 in development costs, but actually only paid \$40,000 to develop this program, the actual breakeven number of trainees in this case is much lower, at 31 trainees (Figure 6.2). This means that once 31 trainees have completed the online program, the online training costs less than training the same number of people using traditional face-to-face methods, online making online training more cost effective for FCV.

Figure 6.2: Projected Costs for Online vs. On-Site Training Using FCV Actual Development Cost



Analysis of the cost of the FCV online training program shows a cost structure similar to that of the two articles discussed earlier (Tables 2.1-2.4). There are high fixed (development) costs of online training; however, as these costs are spread over a larger number of employees, they are greatly reduced. Since the variable costs of the program are lower for online than for traditional training, the e-learning is more cost effective in the long run. As long as the program is used with at least 31 trainees, where total cost of the e-learning falls below that of

traditional training, the online training is more cost effective than the traditional training. Since four FCV trainees completed the program in 2004, and FCV anticipates having two additional trainees each of the following years, it will take about 14.5 years for the online training's cost to be lower than traditional training at this rate. If other Farm Credit associations were allowed to use the program for a fee for their trainees, the time period to get 31 trainees through the program could be reduced.

7 Conclusions and Implications

This study has shown that online training can be a reasonable option for agricultural lending institutions. The quality of education was high and the training was economically cost effective, having a reasonably low breakeven at eight trainees. Technology did not appear to impede the learning process, as long as feedback is given to trainees on a regular and timely basis. In fact, in the finance trial, it was shown statistically that trainees who have better computer competence tend to have improved comprehension of the training material. Trainees who had been out of the academic mode for some time required more feedback to help their confidence level in their work. Trainees who were just out of college tended to grasp the information more quickly than others; however, they lack the personal experience and depth of other trainees. It is important to have a program administrator who can answer questions and update module content as needed, as well as keep the training organized and ensure all trainees stay on schedule.

It is recommended that the modules are used in a synchronized fashion, having a group of trainees go through at the same pace to facilitate interaction between trainees and simplify administration of the training. Addition of an online chat room or discussion board could help facilitate this interaction, but is not necessary. Trainees indicated that each module contains valuable information, so they should not be allowed to "test out" of a module. This also helps maintain a cohesive group of trainees and ensure that every trainee has a similar

knowledge base. It was also found that the time of year the training is given does not really matter, but summer and fall would be preferred because of increased workload during the winter loan renewal period.

Application exercises were viewed as helpful in grasping and applying the module content, and were not seen as “busy work.” Mentors agreed and indicated that trainees could complete applications that were useful to the organization. Trainees suggested adding more diverse case studies to the training program with varying complexity and agricultural enterprises represented.

Evidence from the focus group meeting and reviewed literature suggests that the content of the modules should be kept relatively general since there will be less need for updating material and trainees need a broad training experience. Updates should just be focused on keeping information current and adapting it to prevailing market conditions. The specificity in the program should come from interaction with the mentor and completion of on-job applications. This allows the mentor to educate the trainee on specific practices that are used by FCV, and how they relate to the agricultural lending industry as a whole. Keeping content general could also allow for the training program to be used in other Farm Credit associations without major modifications.

It was found that, on average, it takes about two hours to complete module reading and test, and another two to four hours to complete on-job applications and discussions with the mentor for each module. It takes more time to complete modules containing technical content. Each module reading is about seven to twelve pages long. If each module is completed in a two-week period, assuming a 40-hour workweek, ten percent of a trainee’s time or job description should be allocated to online training. This is important to consider as a trainee’s supervisor is scheduling the trainee’s time, especially since 90 percent of the trainees completed the module training during the workday between 7:00am and

5:00pm instead of after-hours at home. Those trainees who had a large amount of institutional and customer responsibilities felt that two weeks per module was insufficient for completion of module reading, test and applications. Supervisors should consider other responsibilities of trainees and allocate time for training to ensure the trainee can perform well.

The role of the mentor is critical, so special consideration should be given to matching mentors with trainees to better facilitate the learning process. Choosing a mentor with background and characteristics compatible with the trainee, as well as enough time to spend with the trainee is important. Concerning a mentor's time spent with the trainee, they should be prepared to allocate ten to thirty percent of their time in the early stages of training. More time may be needed if the trainee and mentor are located in the same office, and the mentor-trainee relationship can be better coordinated this way as well. This time allocation tends to decrease slightly as the trainee becomes acclimated to the work environment and advances further into the online training. As an added bonus, the online training refreshed mentors through review of the modules in anticipation of questions from their trainee. Mentors enjoyed assisting trainees, and indicated that they would be willing to mentor two trainees consecutively before requiring a break.

Regarding accelerated training time, mentors indicated that through interaction they could see that trainees understood and comprehended loan analysis, marketing and sales analysis. Mentors stated that compared to traditional training, online training provided trainees with more reinforcement of concepts on the job. This was because mentors were familiar with the modules and concepts and they could be reinforced on the job, versus a traditional training school that frequently has no follow-up. The online training process also assists in job performance review of trainees since supervisors and mentors are involved in the trainee's progress. Mentors had confidence that trainees would be prepared to start making small loans after completion of the six-month online training, and

trainees agreed with this statement. This is further evidenced by the quality of on-job applications and final case study papers. These conclusions indicate accelerated learning, since traditional methods take about one year for an agricultural lender to be a productive contributor to the institution.

8 Recommendations

The concept of a comprehensive blended educational experience, consisting of online and traditional face-to-face portions, mentorship and on-job applications, is recommended to FCV, the sponsoring organization. Survey results show that a blended approach is the best training option. Only ten percent of the agricultural finance students preferred online training to instructor-led training and 75 percent of the Farm Credit trainees preferred a combination of online and face-to-face training. Further evidence from agricultural finance students indicates that 85 percent enjoyed the case vignette exercise, and 90 percent felt having an experienced loan officer summarize case applications in class reinforced the material and helped develop a better understanding of the subject matter.

The following benefits support this recommendation.

- The blended training experience is flexible. That is, it is not confined by geography, time of day, background or experience of trainees. With central administration and coordination of trainees and mentors, the ten-module course can be offered in whole or parts depending upon the training needs assessment.
- The study confirms through mentors, final case study results and participants themselves, that the program is an effective tool that enables staff to become productive contributors to the association in six months. The level of a trainee's productivity is very dependent upon performance on applications, discipline of trainees, mentor involvement, and administration of the course.

- This educational experience can be offered to employees at any level of the organization with people in various stages of their career as proven by our pilot group.
- The application exercises assist the organization and mentors in answering relevant questions, problems, and challenges of the institution. The training allows for experiences and institutional memory to be integrated into the learning experience, which is critical in identifying opportunities, and avoiding the repeat of mistakes.
- Mentors and supervisors benefited from interaction with trainees to determine areas for improvement, strengths and general overall attitude.
- The online technology was not perceived to be a limitation; however, lack of background and experience with computer technology was an impediment to the online learning experience.
- The modules can be offered outside FCV, which spreads fixed cost and builds upon a proven cost effective program with a breakeven of eight students.
- Since the program is general in nature, administrative cost and updating of content can be done without significant incremental cost. The mentor is responsible for teaching much of the dynamic Farm Credit-specific information a trainee needs to learn, reducing the need for frequent updating of online modules.
- The trainees' networking ability is enhanced through other trainees, mentors, outside professionals and others outside the association. On-job applications, discussion questions, and case studies facilitate this interaction, providing a fulfilling training experience.

- Comprehensive blended training appeals to many different types of people. By including high-tech and high-touch, face-to-face components, incorporating a combination of online training, classroom learning, videoconferencing, reading relevant books, and hands-on learning at different branch offices, the association can most effectively use its resources to provide a balanced training program that appeals to a variety of trainees.

9 Areas for Further Research and Expansion

Further research should center on the costs of online training. Since this is a relatively new field, ongoing research will definitely help to solidify the notion that online training is cost effective and efficient for businesses to implement. There have not been many economic studies on this topic to actually determine cost effectiveness in specific industries. Since each industry is different, each will require a unique training program. Quality of delivery and administration will have a major impact on the effectiveness of online training. By testing with trial and error, a company can determine the best mix of training types for the business.

Further study of different learning styles of various trainee types would help to determine the most effective method of training delivery. It would be interesting to know how different learning styles affect comprehension, retention and productivity of trainees. Also, using a larger number of trainees to determine comprehension and retention of material could further validate conclusions from this study.

Due to the modular structure of the online training program, developing additional modules covering different topics of interest to agricultural lenders could easily be used to expand the training. Also, experienced staff could pick and choose several modules to complete as a refresher course.

Another opportunity for this program is to coordinate with local universities, with which Farm Credit recruits, to provide course credit to interns who complete the online training. If these interns are eventually hired into the organization, they will already have completed some training, and should be able to be productive in a shorter amount of time.

The structure of this program is very versatile, and can be used in many different situations. Other Farm Credit or agricultural lending institutions, academic institutions or regulatory firms could use this program as well. The AgFirst district of Farm Credit has expressed interest in further developing this program by adding additional modules, as part of a “Farm Credit University” comprehensive district training concept.

10 References

Allen, Michael. "Training Rewards Good Performance." *Quality*, 42:9, p. 28. Sept. 2003. Accessed on ABI/Inform Global.

Buch, K, and S. Bartley. "Learning Style and Training Delivery Mode Preference." *Journal of Workplace Learning*. 14:1. 2002.

Carlton, Connie. "Should I Consider Multimedia (CBT) Training?" www.dataschmartz.com. Dataschmartz, Inc. 2001.

Ely, Bert. *The Farm Credit System: Reinvented and Mission-Challenged*. Ely & Company, Inc. 2002.

Farm Credit of the Virginias website. Accessed online. Feb. 2004. <<http://www.farmcreditofvirginias.com>>

Institute of Management and Administration. "How to Compare the ROI for Traditional Training vs. E-Learning." Human Resource Department Management Report: S4, pp.16. www.ioma.com. Apr. 2002.

Kohl, David M. Professor and Industry Expert. Department of Agricultural and Applied Economics. Virginia Polytechnic Institute and State University.

Monhahan, Julie. "Net can help flatten learning curve." *American Banker Community Banking Supplement*, Feb. 2000.

VNU Business Media. "Brewing the perfect blend: with all of the training delivery methodologies at your disposal, how do you create a blended learning program that's right for your organization?" *Training*, 40 (11): 30, Dec. 2003.

[Www.CardWeb.com](http://www.CardWeb.com). Frequently asked questions. Accessed online. Feb. 2004. <<http://www.cardweb.com>>

11 Appendix

11.1 Training Program Subject Matter

Credit

- Basic Farm Credit knowledge
- Eligibility
- Compliance (2-day program established)
- Pricing for service/relationship as well as risk
- Risk management
- Understanding/reading credit scores (do's & don'ts)
- Reading credit reports (training exercise with multiple cases and a team/mentor evaluation)
- Tax analysis (mid- to upper-level)
- Legal entities (business organization)
- Using spreadsheets (Express credit scorecards, country living, general Ag, general business)
- Evaluate management of businesses
- Recognize difference in accounting systems (cash vs. accrual)
- Problem loan identification
- Loan structuring

Marketing

- Product knowledge – flexibility of Farm Credit (but not overwhelming customer)
- Listening/communication
- Market segments (different industries)
- Understand difference between established and trendy commodities
- Recognize new opportunities
- Marketing/sales knowledge
- Loan negotiations
- Advocacy (legislators)
- Time management

Organizational Knowledge

- Special programs (beginning young small farmer)
- Other programs available (Farmer MAC, FSA)
- Knowing when to hand off loan to someone else

11.2 Table of Contents for FCV's 10 Module Training Program

Module 1: Mega Forces in Agriculture and Ag Lending in the New Century

Introduction

Current State of Agriculture

Globalization of World Markets

Weather

Government Policy

Interest Rates

The Four Quadrants of Agricultural and Rural Residential Customers

The Four Quadrants of Communities

Age Wave

Environmental Trends

Information and Biotechnology Explosion

Marketing and Consumer Trends

The General Economy

Summary and Conclusions

Module II: Consultative Marketing

Consultative Marketing

 Skill Base of the Agrilender

 21st Century Agrilender

 Sales versus Marketing

 Product

 Place

 Promotion

 Price versus Relationship

 Match-Maker Selling

 Activity versus Results

 Differentiating Yourself as a 21st Century Agrilender

 High Tech High Touch

 Invest in the Customer

 More than a Lender

 Brand Called You

Module III: Strategic Prospecting

Strategic Prospecting

- Prospect Database
- Information Sources
- Prospect Profile
- Qualifying Prospects
- Data Mining for the 21st Century Agrilender
 - Trigger Events for Marketing Opportunities
 - Balance Sheet
 - Credit Cards, Auto Loans & College Loans
 - Income Statement
 - Other Financial and Miscellaneous Information

Module IV: Call Preparation

Introduction

Initial Contact

- Keys in the Initial Contact
- Initial Contact Methods

Cold Call

Reversing the Sales Process

Developing Field Call Objectives

Developing a Field Call Plan

Steps in Call Planning

Sample Field Call Plan

Module V: The Sales Call Process

Sales Call Process

- Opening and Rapport
- Probe and Focus
 - Listening and Observing
- Presentation and Problem Solving
- Overcoming Obstacles and Objections
- Close

Module VI: Sources of Agricultural Credit and Loan Pricing

Sources of Agricultural Credit

- Introduction

- Who's Who in Financing

- The Farm Credit System

- Commercial Banks

- Agribusinesses & Individuals

- Insurance Companies

- Farm Service Agency (FSA)

- Federal Agricultural Mortgage Corporation (Farmer Mac)

Loan Pricing

- Impact of Local Environment on Pricing

- Overview of Customer Profitability Systems

- Sources and Uses of Funds

- Revenues or Income

- Expenses

- Risk

- Profit Objective

- Five Cornerstones of Pricing

Module VII: Small Loan Analysis and Credit Evaluation

Consumer and Agricultural Lifestyle Loans

The Small Agricultural Loan

Credit History

- The Score

- What Impacts Credit Scores?

- Types of Credit

- Dealing with Errors

Reading a Credit Report

Outside the Numbers

- Achievers

- Hotshots

- Strugglers

- Miners and Coasters

Other Factors

Small Loan Risk Rating System

Module VIII: Agricultural Financial Statements and Conversion from Cash to Accrual Basis

Overview of Financial Statements

Interrelationships Among Financial Statements

Balance Sheet

 Balance Sheet Entity

 Time of Preparation

 Classification of Assets, Liabilities, and Owner Equity

 Classifying Assets

 Classifying Liabilities

 Owner Equity

 Verification of Balance Sheet Information

Income Statement

 Entity and Timing

 Cash and Accrual-Adjusted Income Statements

 Adjustments

 Unused Assets and Unpaid Expenses

 Other Adjustments

 Verifying Income Statement Information

Module IX: Credit Analysis for Larger Farms

Introduction to Commercial Credit Analysis

Repayment Analysis

 Term Debt and Capital Lease

Sensitivity Analysis

Liquidity

Solvency

Collateral Position

Profitability

Financial Efficiency

Individual and Farm Resources

 Personal Characteristics and Habits

 The Sustainable Customer

 On Site Visit

Module X: Problem Loan Identification and Strategies for Workout

Overview

Will Problem Loans Return?

Non-Financial Factors

Conditions and Behaviors

Management

Problems Created by the Lender

Outside Forces

Financial Factors

Procedures and Conditions That Help Minimize Loan Losses

Trouble-Shooting Matrix

Steps of a Workout

Step 1: Cut Costs

Step 2: Use Supplemental Income

Step 3: Sale of Capital Assets

Step 4: Reduce Family Living Withdrawals

Step 5: Options Provided by a Lender

Step 6: Capital Infusion

Step 7: Bankruptcy

11.3 Online Training Schedule for Farm Credit Trainee Trial

June 1-June 15: Module 1

June 15-July 1: Module 2

July 7-July 18: Module 3

July 21-Aug. 1: Module 4

Aug. 11-Aug. 22: Module 5

Aug. 25 - Sept. 5: Module 6

Sept. 15 - Sept. 26: Module 7

Sept. 29 - Oct. 10: Module 8

Oct. 20 - Oct. 31: Module 9

Nov. 3 - Nov. 14: Module 10

11.4 Ag Finance Trial Survey

Small Loan Analysis and Credit Evaluation Module Survey

Please check the most appropriate choice.

Background

1. What is your major at Virginia Tech? _____
2. What is your gender?
 Female
 Male
3. Have you taken an online course or segment of a course before this one?
 Yes
 No
4. If yes, how many online courses have you taken? (Check one)
 1
 2
 3
 4
 5 or more
5. How would you rate your computer competence?
 Poor Average Good Excellent
6. Which courses have you completed or are you currently taking?
 Accounting Bookkeeping
7. Which of the following services have you utilized at a bank or financial institution?
 Credit card
 Online Banking
 Checking account
 Savings account
 Investments: IRA's, Mutual Funds
 Drive through banking
8. Have you ever read your or another individual's credit report prior to this class?
 Yes
 No
9. Have you ever had a loan you were responsible for outside a college or auto loan?
 Yes
 No
10. How would you classify your own personal spending and savings habits based upon the module reading?
 Achiever
 Struggler
 Miner and Coaster
 Hot Shot

Module Evaluation

11. How long did it take you complete the module reading and module test?
 Under 60 minutes
 60 to 120 minutes
 121-180 minutes
 over 180 minutes
12. How long did it take you to complete the three case vignette analyses and write ups?
 Under 60 minutes
 60 to 120 minutes
 121 to180 minutes
 Over 180 minutes
13. Did you print off text to read and analyze or complete it all on the computer?
 Printed off text
 Read text on computer screen
 Both
14. What do you feel is your comprehension of the subject matter?
 Excellent Good Fair Poor
15. How well do you understand how lenders analyze small loans for agriculture?
 Excellent Good Fair Poor
16. The lecture on March 20 by a Farm Credit Representative assisted in understanding of the Module Unit.
 Strongly Agree
 Agree
 No Opinion
 Disagree
 Strongly Disagree
17. Would you rather learn this material online or through an instructor-led lecture?
 Online
 Instructor-led Lecture
 No difference
 Depends on Instructor
18. Was the online format easy to use and navigate?
 Yes
 No, why? _____
19. The content covered was clearly explained and easy to understand
 Strongly Agree
 Agree
 No Opinion
 Disagree
 Strongly Disagree
20. The case vignette assignment helped me learn the course material.
 Strongly Agree
 Agree
 No Opinion
 Disagree
 Strongly Disagree

21. The questions asked on the module test were adequately covered in the module.

- Strongly Agree
- Agree
- No Opinion
- Disagree
- Strongly Disagree

22. The length of this module was:

- Too short
- Just right
- Too long

23. The date you completed the Module Reading and Test was:

- Before March 1
- March 1-9 (Spring Break)
- March 10-14
- March 15-19

24. The date you completed the module Case Vignettes was:

- Before March 1
- March 1-9 (Spring Break)
- March 10-14
- March 15-19

25. What were the major strengths of the module?

26. What are some major areas for improvement of the module?

11.5 Marketing Trial Survey

Sales and Marketing Modules Evaluation Survey

Please check the most appropriate choice.

Background

1. What is your major at Virginia Tech? _____
2. What is your gender?
 Female
 Male
3. Have you taken an online course or segment of a course before this one?
 Yes
 No
4. If yes, how many online courses have you taken? (Check one)
 1
 2
 3
 4
 5 or more
5. How would you rate your computer competence?
 Poor Average Good Excellent
6. Which courses have you completed or are you currently taking?
 Accounting Bookkeeping
7. Which of the following services have you utilized at a bank or financial institution?
 Credit card
 Online Banking
 Checking account
 Savings account
 Investments: IRA's, Mutual Funds
 Drive through banking

Module Evaluation

8. How long did it take you complete the reading and test for each of the 4 modules?

Consultative Marketing

- Under 60 minutes
- 60 to 120 minutes
- 121-180 minutes
- over 180 minutes

Strategic Prospecting

- Under 60 minutes
- 60 to 120 minutes
- 121-180 minutes
- over 180 minutes

Call Preparation

- Under 60 minutes
- 60 to 120 minutes
- 121-180 minutes
- over 180 minutes

Call Process

- Under 60 minutes
- 60 to 120 minutes
- 121-180 minutes
- over 180 minutes

9. How long did it take you to complete the Case Study: Field Call Planning Application on James Paxton?

- Under 60 minutes
- 60 to 120 minutes
- 121 to 180 minutes
- Over 180 minutes

10. Did you print off text to read and analyze or complete it all on the computer?

- Printed off text
- Read text on computer screen
- Both

11. What do you feel is your comprehension of the subject matter?

- Excellent
- Good
- Fair
- Poor

12. How well do you understand how lenders market consultatively?

- Excellent
- Good
- Fair
- Poor

13. How well do you understand how lenders strategically search for prospects?

- Excellent
- Good
- Fair
- Poor

14. How well do you understand how lenders prepare for sales calls?

- Excellent
- Good
- Fair
- Poor

15. How well do you understand the sales call process?

- Excellent
- Good
- Fair
- Poor

16. Would you rather learn this material online or through an instructor-led lecture?

- Online
- Instructor-led Lecture
- No difference
- Depends on Instructor

17. Was the online format easy to use and navigate?

- Yes
- No, why? _____

18. The content covered was clearly explained and easy to understand

- Strongly Agree
- Agree
- No Opinion
- Disagree
- Strongly Disagree

19. The Field Call Planning assignment helped me learn the course material.

- Strongly Agree
- Agree
- No Opinion
- Disagree
- Strongly Disagree

20. The questions asked on the module test were adequately covered in the module.

- Strongly Agree
- Agree
- No Opinion
- Disagree
- Strongly Disagree

21. The length of the Consultative Marketing module was:

- Too short
- Just right
- Too long

22. The length of the Strategic Prospecting module was:

- Too short
- Just right
- Too long

23. The length of the Call Planning module was:

- Too short
- Just right
- Too long

24. The length of the Call Process module was:

- Too short
- Just right
- Too long

25. The date you completed the Module Readings and Tests was:

- Before April 12
- April 13-16
- April 17-19
- April 20-23

26. The date you completed the module Field Call Planning Application was:

- Before April 16
- April 17-23
- April 24-30
- May 1-7

27. What were the major strengths of the modules?

28. What are some major areas for improvement of the modules?

11.6 Ag Finance Survey Summary Tables

1	Major	#	%
	AAEC	31	28%
	AGED	1	1%
	APSC	30	27%
	CSES	6	5%
	DASC	7	6%
	HORT	29	26%
	FIN	2	2%
	HDEV	1	1%
	IDST	1	1%
	ENSC	1	1%
	BIOL	1	1%
		110	100%

2	Gender	#	%
	Female	67	60%
	Male	44	40%
		111	100%

3	Taken an online course?	#	%
	Yes	64	58%
	No	47	42%
		111	100%

4	Number online courses taken	#	%
	0	47	42%
	1	41	37%
	2	16	14%
	3	3	3%
	4	2	2%
	5 or more	2	2%
		111	100%

5	Computer competence	#	%
	Poor	2	2%
	Average	33	30%
	Good	51	46%
	Excellent	25	23%
		111	100%

6	Taken accounting or bookkeeping?	#	%
	Neither	69	62%
	Accounting	39	35%
	Bookkeeping	1	1%
	Both	2	2%
		111	100%

7	Services used at a bank	#	%
	Credit card	75	68%
	Online	53	48%
	Checking	110	99%
	Savings	102	92%
	Investments	28	25%
	Drive thru	91	82%
		111	

8	Read a credit report?	#	%
	Yes	13	12%
	No	98	88%
		111	100%

9	Had a loan?	#	%
	Yes	15	14%
	No	96	86%
		111	100%

10	Classify yourself into a quadrant	#	%
	Achiever	40	36%
	Struggler	61	55%
	Miner/Coaster	9	8%
	Hot Shot	0	0%
		110	100%

11	Time taken to complete reading & test	#	%
	<60 minutes	22	20%
	60-120 minutes	78	71%
	120-180 minutes	8	7%
	>180 minutes	2	2%
		110	100%

12	Time taken to complete case vignettes	#	%
	<60 minutes	53	48%
	60-120 minutes	51	46%
	120-180 minutes	5	5%
	>180 minutes	1	1%
		110	100%

13	How did you read the module text?	#	%
	Print off	58	53%
	Read on screen	18	16%
	Both	34	31%
		110	100%

14	Comprehension		
	Excellent	3	3%
	Good	79	72%
	Fair	25	23%
	Poor	3	3%
		110	100%

15	Understand how lenders analyze loans?		
	Excellent	3	3%
	Good	75	68%
	Fair	30	27%
	Poor	2	2%
		110	100%

16	Did loan officer's lecture help?		
	Strongly agree	49	45%
	Agree	54	49%
	No opinion	7	6%
	Disagree	0	0%
	Strongly disagree	0	0%
		110	100%

17	Online vs. instructor-led preference		
	Online	9	8%
	Instructor led	45	41%
	No difference	14	13%
	Depends on instructor	42	38%
		110	100%

18	Was format easy to use & navigate?		
	Yes	107	97%
	No	3	3%
		110	100%

19	Content is clear & easy to understand		
	Strongly agree	15	14%
	Agree	68	62%
	No opinion	10	9%
	Disagree	15	14%
	Strongly disagree	2	2%
		110	100%

20	Case vignettes helped to learn material		
	Strongly agree	17	15%
	Agree	78	71%
	No opinion	11	10%
	Disagree	4	4%
	Strongly disagree	0	0%
		110	100%

21	Questions were adequately covered		
	Strongly agree	16	15%
	Agree	71	65%
	No opinion	12	11%
	Disagree	9	8%
	Strongly disagree	2	2%
		110	100%

22	Length of module was:		
	Too short	1	1%
	Just right	96	86%
	Too long	14	13%
		111	100%

23	Date of completion: reading and test		
	Before Mar. 1	0	0%
	Mar. 1-9	3	3%
	Mar. 10-14	40	37%
	Mar. 15-19	66	61%
		109	100%

24	Date you completed case vignettes		
	Before Mar. 1	0	0%
	Mar. 1-9	0	0%
	Mar. 10-14	24	22%
	Mar. 15-19	86	78%
		110	100%

11.7 Marketing Survey Summary Tables

1 Major	#	%
AAEC	22	45%
AGED	1	2%
APSC	7	14%
HORT	7	14%
FIN	4	8%
HDEV	1	2%
ECAS	1	2%
BIT	2	4%
MKTG	3	6%
PSCI	1	2%
	49	100%

2 Gender	#	%
Female	27	55%
Male	22	45%
	49	100%

3 Taken an online course?	#	%
Yes	34	69%
No	15	31%
	49	100%

4 Number online courses taken	#	%
0	15	31%
1	23	47%
2	7	14%
3	4	8%
4	0	0%
5 or more	0	0%
	49	100%

5 Computer competence	#	%
Poor	0	0%
Average	7	14%
Good	42	86%
Excellent	0	0%
	49	100%

6 Taken accounting or bookkeeping?	#	%
Neither	19	39%
Accounting	29	59%
Bookkeeping	0	0%
Both	1	2%
	49	100%

7 Services used at a bank	#	%
Credit card	43	88%
Online	35	71%
Checking	49	100%
Savings	46	94%
Investments	17	35%
Drive thru	46	94%
	49	

8a Time taken to complete reading and test: Consultative Marketing	#	%
<60 minutes	36	73%
60-120 minutes	12	24%
120-180 minutes	1	2%
>180 minutes	0	0%
	49	100%

8b Time taken to complete reading and test: Strategic Prospecting	#	%
<60 minutes	34	69%
60-120 minutes	14	29%
120-180 minutes	1	2%
>180 minutes	0	0%
	49	100%

8c Time taken to complete reading and test: Call Preparation	#	%
<60 minutes	35	71%
60-120 minutes	13	27%
120-180 minutes	1	2%
>180 minutes	0	0%
	49	100%

8d Time taken to complete reading and test: Sales Call Process	#	%
<60 minutes	28	57%
60-120 minutes	19	39%
120-180 minutes	2	4%
>180 minutes	0	0%
	49	100%

9 Time taken to complete case study	#	%
<60 minutes	33	72%
60-120 minutes	11	24%
120-180 minutes	2	4%
>180 minutes	0	0%
	46	100%

10 How did you read the module text?		
Print off	7	14%
on screen	32	65%
Both	10	20%
	49	100%

11 Comprehension		
Excellent	35	71%
Good	14	29%
Fair	0	0%
Poor	0	0%
	49	100%

12 Understanding of Consultative Marketing		
Excellent	34	69%
Good	15	31%
Fair	0	0%
Poor	0	0%
	49	100%

13 Understanding of Strategic Prospecting		
Excellent	35	71%
Good	14	29%
Fair	0	0%
Poor	0	0%
	49	100%

14 Understanding of Call Preparation		
Excellent	36	73%
Good	13	27%
Fair	0	0%
Poor	0	0%
	49	100%

15 Understanding of Sales Call Process		
Excellent	35	71%
Good	14	29%
Fair	0	0%
Poor	0	0%
	49	100%

16 Online vs. instructor-led preference		
Online	5	10%
Instructor led	14	29%
No difference	6	12%
Depends on instructor	24	49%
	49	100%

17 Was format easy to use & navigate?		
Yes	45	92%
No	4	8%
	49	100%

18 Content is clear and easy to understand		
Strongly agree	40	82%
Agree	3	6%
No opinion	6	12%
Disagree	0	0%
Strongly disagree	0	0%
	49	100%

19 Field Call Plan helped to learn material		
Strongly agree	8	16%
Agree	27	55%
No opinion	9	18%
Disagree	4	8%
Strongly disagree	1	2%
	49	100%

20 Questions were adequately covered		
Strongly agree	4	8%
Agree	31	63%
No opinion	7	14%
Disagree	7	14%
Strongly disagree	0	0%
	49	100%

21 Length of Consultative Marketing was:		
Too short	35	71%
Just right	14	29%
Too long	0	0%
	49	100%

22 Length of Strategic Prospecting was:		
Too short	37	76%
Just right	12	24%
Too long	0	0%
	49	100%

23 Length of Call Preparation was:		
Too short	32	65%
Just right	17	35%
Too long	0	0%
	49	100%

24 Length of Call Process was:		
Too short	17	35%
Just right	29	59%
Too long	3	6%
	49	100%

25 Date of completion: readings and tests		
Before Apr.12	1	2%
Apr. 13-16	10	21%
Apr. 17-19	17	35%
Apr. 20-23	20	42%
	48	100%

26 Date of completion: field call application		
Before Apr.16	2	4%
Apr. 17-23	3	6%
Apr. 24-30	16	33%
May 1-7	28	57%
	49	100%

11.8 Survey Question Correlation Tables

Ag Finance Survey Correlations

Comprehension (#14) vs. Computer competence (#5)

Count of Adj Comp	Adj. Compt		Total
Adj Comp	2	3	
1	21	57	78
2	13	13	26
Total	34	70	104

P-Value: **0.0298**

Expected Values

	2	3	Total
1	25.5	52.5	78
2	8.5	17.5	26
Total	34	70	104

Comprehension(#14) vs. Understanding (#15)

Count of Adj Comp	Adj Understand		Total
Adj Comp	1	2	
1	69	9	78
2	5	21	26
Total	74	30	104

P-Value: **1.5E-11**

Expected Values

	1	2	Total
1	55.5	22.5	78
2	18.5	7.5	26
Total	74	30	104

Comprehension (#14) vs. Length (#22)

Count of Adj Comp	Adj Length		Total
Adj Comp	1	2	
1	73	5	78
2	19	7	26
Total	92	12	104

P-Value: **0.0046**

Expected Values

	1	2	Total
1	69.0	9.0	78
2	23.0	3.0	26
Total	92	12	104

Marketing Survey Correlations

Comprehension (#11) vs. Understanding of consultative mktg (#12)

Count of 11	12		Total
11	1	2	
1	29	6	35
2	5	9	14
Total	34	15	49

P-Value: **0.0012**

Expected Values

	1	2	Total
1	24.3	10.7	35
2	9.7	4.3	14
Total	34	15	49

11.9 Summary of Trainee Responses

- 1 – Strongly agree
- 2 – Agree
- 3 – No opinion
- 4 – Disagree
- 5 – Strongly disagree

#	AVG	Statement
1	1.71	Module material was up-to-date.
2	1.86	Application exercises with mentors assisted in the learning experience.
3	1.86	The module quizzes were helpful in understanding the material.
4	1.86	This course complemented other training within office, vendor, or district bank.
5	2.14	The course increased my confidence in dealing with customers, professionals, and Farm Credit working environment.
6	1.71	If Farm Credit of the Virginias were to sell this program to other associations, it would be beneficial to new trainees.
7	1.86	The modules were an organized learning experience
8	3.43	If you have background and experience in a specific area, you should be able to “test out” of that area /module.
9	2.00	Time allotment for each unit was sufficient.
10	2.86	You felt time-compressed in completing assigned modules along with other job responsibilities.
11	1.86	Feedback from your mentor was sufficient.
12	1.71	The objectives and outcomes were correctly identified for the modules.
13	2.14	Rate the extent to which your expectations of the completed modules were fulfilled.
14	2.00	The content of the curriculum was sufficient.
15	1.57	Technology and your understanding of technology used with the program were adequate to complete the program.
16	1.86	You had sufficient opportunities to participate in class assignment discussions with other trainees.
17	3.86	Online application exercises were just busy-work.
18	2.14	Overall the difficulty of the course was sufficient.
19	1.86	The overall quality of education received in the course was sufficient
20	2.14	The class size was sufficient to enhance learning.
21	1.71	The administration of the online training was sufficient.
22	2.00	You received adequate and timely feedback on the module tests.
23	1.86	You received adequate and timely feedback on application exercises from mentors
24	3.86	The time of the year in taking the course was a hindrance.
25	2.29	A one-day face-on-face session with an instructor after the first five modules and second five modules would be beneficial.
26	2.14	The sharing of information, thoughts, and perspectives with other classmates enhanced learning.

11.10 Characteristics of an Ideal Mentor

- Patience
- Availability
- Knowledge
- Ability to motivate
- Open minded
- Not condescending
- Approachable
- Organized and timely
- Encouraging
- Talks on your level
- Flexibility
- Sets a good example
- Resourceful
- Desire to mentor
- Enjoys business/job

12 Vita

Alicia Moyer Morris was born on May 22, 1980. She lived in Amelia, Virginia until graduating from Amelia County High School in June of 1998. She attended Virginia Polytechnic Institute and State University where she completed her Bachelor of Science degree in Agricultural and Applied Economics, with a minor in Dairy Science, in May of 2002. She entered the Master of Science program in Agricultural and Applied Economics, Agribusiness-Finance option, at Virginia Polytechnic Institute and State University in August of 2002 and will complete her degree in May 2004. In the summer of 2002, she married Bruce Corlise Morris, in Amelia, Virginia.

Alicia M. Morris