

THE DESIGN AND DEVELOPMENT
OF A WEB-BASED PROCUREMENT CARD
TRAINING PROGRAM FOR USE AT UW-RIVER FALLS

by

Gail E. Anderson

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David A. Johnson, Ph.D.
Research Advisor

The Graduate School
University of Wisconsin-Stout

May 2004

The Graduate School

University of Wisconsin Stout
Menomonie, Wisconsin 54751

Anderson	Abstract Gail		E.
(Writer)	(Last Name)	(First)	(Initial)
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The purpose of this field problem is to design and develop a web-based procurement card training program for use at the University of Wisconsin-River Falls (UW-RF). Currently a face-to-face meeting is set up between the employee receiving the procurement card and a staff member of the Purchasing Department to review how to use the card and document transactions properly. A paper manual is dispersed at this time along with the procurement card/s.

While the meeting provides a good opportunity to meet new employees, it takes time in scheduling between the two departments and can often delay the training process. The information received during the training may not always be complete or understood due to interruptions, questions, and time restraints.

Web-based training appears to be an answer to this particular training problem. The information will be consistently administered to all new users, while being convenient to the employee anytime they want to access the information. Topics can be reviewed as often as the employee needs to refer back to them. Web-based training provides a consistent, thorough, and convenient training process for the procurement card user.

The Web-based procurement card training program outlines what a procurement card is, how it should be used, and how record keeping should be maintained. With the onset of more businesses using procurement cards, the responsibility of following proper guidelines and accurate documentation falls heavily onto the employee. Therefore, it is imperative that the employee be trained with consistent and accessible information such as a web-based training program can provide.

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Chapter I Introduction

Overview

Now more than ever, businesses need to focus on ways to streamline procedures in the training area and provide cost efficient ways to deliver quality training to their employees. The University of Wisconsin System is no exception. Great efforts have been made to work towards a paperless administrative system where a majority of information and transactions can be done on-line rather than on paper. Transactions such as: registering students, paying bills and purchasing goods and materials are processed through a web/computer-based system.

Another way that the UW System has streamlined the purchasing process is by initiating a campus procurement card that is used by authorized purchasers for office and lab supplies and other low-value purchases under a designated transaction amount limit. This has streamlined the purchasing process immensely, but has also presented a need for proper training for the card users.

When a new user obtains a procurement card, the employee is currently required to attend a 20-30 minute training session with a purchasing staff member (usually the program administrator). During this training session, the approved uses of the card are outlined, as well as unauthorized uses of the card, tax exemption rules, pre-set limits and proper record keeping procedures. A manual is also furnished at this time to be used as a general reference manual for the information presented.

Statement of the Problem

The field problem that is being examined is the effectiveness of the current procurement card training manual program at the University of Wisconsin-River Falls and determination of the need to update and provide the training in a web-based format.

Purpose of the Study

The purpose of this study is to design and develop a web-based training program for procurement card usage at the University of Wisconsin-River Falls (UW-RF) campus facility. This program will require new procurement card users to complete an on-line tutorial training module to learn how to use their procurement cards in accordance with UW System guidelines.

The training will also provide other procurement card users an avenue to review or reference needed information. The goal of this project is to provide a web-based training module for procurement card users to serve as a replacement for the current training program in place.

Many campuses have merely transferred their procurement card training manual information over to a web page for easy reference; however, they have not really taken the next step and provided any interactivity with their training material.

Research Objectives

The objectives of this study were to:

1. Determine the effectiveness of the current procurement card training program.
2. Investigate how other universities have incorporated their procurement card training programs into a web-based format.
3. Design and develop a web-based process for the procurement card training program.

Significance of the Study

This web-based training program will provide the means by which an employee can save valuable time obtaining required training. The employees will be able to access important training information from the convenience of their own desk and on their own time schedule. The web-based training will also provide an excellent resource for review of frequently asked questions and serve as a refresher course for non-active or infrequent users. The web-based training module should reduce the number of inquiry phone calls made to the Purchasing Department and create a more proactive role for the employee in their own training.

Assumptions of the Study

The researcher assumed that the sample group that participated in the survey is representative of the larger population of card holders. Therefore, whatever responses were received from the survey group represent the needs and opinions of the total group of card holders.

It was also assumed that the procurement card holders have a general knowledge of how to use a computer and have easy access to a computer with internet connection at the university.

Definition of Terms

The following terms are being defined to clarify concepts of the procurement card process:

Card Holder: UWRF employee whose name appears on the Procurement Card and is accountable for all charges made with that card.

Monthly Spending Limit: A dollar limitation of purchasing authority assigned to the Cardholder for the total of all charges made during each monthly billing cycle. This amount may not exceed \$25,000.00.

Procurement Card: A charge card issued to an employee of the UW-RF for the purpose of making authorized purchases on the University's behalf. UW-RF will issue payment for charges made with the procurement card.

Program Administrator: University Purchasing department employee responsible for administering the Procurement Card Program and acting as the main contact between the University and the Bank.

Statement of Account: A listing of all transactions charged to the Cardholder's card account up to the end of the monthly billing cycle. The Bank sends this statement directly to the cardholder, on a bi-monthly basis if transactions have been made.

Support Documentation: A merchant produced or non-University document that records the relevant details for each item purchased including quantities, amounts, a description of what was purchased, the total charge amount and the merchant's name and address (e.g. sales receipt, original invoice, packing slip, credit receipt, etc.)

Transaction/Charge Limit: A dollar limitation of purchasing authority assigned to the Cardholder for each total charge made with the Procurement Card. This amount is normally \$1500.00, but can vary depending on department's established needs.

Limitations of the Study

There were three primary limitations of this study:

- 1) The relatively small number of participants. Forty-five participants were randomly selected to receive a survey from among a group of approximately 450 individual cardholders.
- 2) The results of the study are also limited to the procurement card training program at only one University campus: University of Wisconsin-River Falls (UW-RF).

3) The survey results on the effectiveness of the procurement card training program mainly addressed the reaction level of evaluation, how well they liked the program, and do not delve into the other levels of learning, transfer, and results according to the Kirkpatrick evaluation model. (DeLuca, 2002)

Summary

The study will discuss the implementation of the procurement card program and how it has changed the procurement process. The effectiveness of the current procurement card training program at UW-RF will be examined. Other Universities will be reviewed to see how they have incorporated their procurement card training programs into a web-based format. The topic of web-based training will be explored by looking at the growth, benefits, and limitations of this type of training. Lastly, the design and development process of the researcher's web-based training program will be reviewed.

Chapter II Literature Review

Introduction

There has been a tremendous push within the UW System to work towards a paperless administrative system. One way of accomplishing this is by providing needed information which is accessible through the World Wide Web and eliminating additional paperwork, such as forms and manuals. Instead of producing multiple copies of administrative forms and reference materials, this information can be viewed on the internet and either downloaded or printed as needed for each individual user.

This study reviewed the current procurement card training program in place at the University of Wisconsin-River Falls (UW-RF) campus and analyzed its current effectiveness by conducting a survey and also by indirect observation of performance data information. This information was then utilized to see if there was a need for an improved training program. Three other universities were investigated to get an overview of a variety of web-based training modules.

This literature review will discuss three main areas:

1. Procurement Cards. This section will review the implementation of the procurement card and how it has changed the procurement process; a review of the procurement card training program at UW-RF and how it compares to other universities.
2. Web-based Training. Web-based training will be explored: what is it, how it has grown, along with its benefits and limitations.

3. Design and development of the proposed web-based procurement card training program.

Implementation of the Procurement Card

Purchasing cards originated in the mid-1990's as a financial re-engineering attempt to streamline the accounts payable process. The purchasing cards were originally targeted for small-dollar payments, but now can range anywhere from \$500 to \$5000 per individual transaction (with the average being under \$1500).

The procurement card is an international credit card which is in the employee's name, but is billed to the University. The card looks and acts like a Visa or MasterCard, and is equally accepted by merchants. However, the program offers four unique features not found in ordinary charge card systems (Enos,1999). These features are highlighted below:

1. Merchant Control- Certain types of merchants can be restricted from processing any charges.
2. Credit limit controls- Various types of credit limits can be placed on the procurement cards.
3. Issuance limit controls- Each employee who receives a card signs an agreement of responsibility for the card.
4. Timely accounting and controls- Under the procurement card system, the accounting department sees all charges on a bi-monthly basis and requires accounting within a few days.

The use of procurement cards simplifies the purchasing process by allowing the departments to have direct contact with suppliers. It eliminates the need for issuing requisitions and processing invoices while providing significant savings in the cost of the

procurement/payment process. The use of procurement cards also saves time by expediting the ordering and delivery of goods and services.

During 1994 to 1995, UW-Madison and UW-Milwaukee initiated a procurement card program at each of their respective universities. Other State agencies such as the Wisconsin Department of Transportation, UW-La Crosse, and UW-Stevens Point saw value in the program and soon followed starting similar procurement card programs.

In 1995, the Wisconsin Department of Administration stepped in to oversee the procurement card program process and a committee was established through the Central Procurement Office and the State Controller Office. This multi-agency committee purpose was to establish requirements for the procurement card program, devise a request for proposal, and to obtain a statewide contract in order to decrease the administrative costs of a procurement card program.

In 1997, the University of Wisconsin System piloted a procurement card program to utilize the procurement card for designated purchases. A series of training and implementations took place throughout the state over the next three years to all UW universities and other state agencies. University of Wisconsin-River Falls(UW-RF)starting participating in the procurement card program in February 1997 with approximately 50 people involved in the initial test run of using procurement cards. Although no specific data was found, the pilot test was reported as successful.

In 1998, UW-RF decided to fully adopt a card-based procurement policy campus wide for low-value purchases and have gradually increased their user database to 450 cardholders. Cardholders can possess more than one card if they have multiple account numbers which are being charged. The account number is printed on the front of the card to avoid any confusion.

The use of the procurement cards have helped streamline operations by reducing costly paperwork, saving time in ordering, and quickened deliveries of materials to the end user. It is reported that in the year 2002, over 86 million dollars was spent statewide through the use of the procurement card (Roessler, 2003). (See Table 1 below)

Table 1

**Purchasing Card Expenditures as a Percentage of
Estimated Total State Purchases¹**
FY 1995-96 through FY 2001-02

Fiscal Year	Total Statewide Procurement	Purchasing Card Expenditures	Percentage of Total Procurement
1995-96	\$ 791,319,700	\$ 654,600	0.1%
1996-97	793,723,000	1,746,000	0.2
1997-98	824,171,400	8,854,500	1.1
1998-99	836,575,700	21,443,700	2.6
1999-2000	1,295,715,900	47,178,900	3.6
2000-01	1,107,001,600	76,114,700	6.9
2001-02	1,186,220,300	86,296,000	7.3

¹ Total statewide procurement includes expenditures made using a purchase order or made via purchasing card and excludes architectural and engineering services, construction and facilities development, highway and road construction, most purchases between state agencies, and payments to utilities.

(Roessler, 2003)

With the use of the procurement card, purchase orders under the amount of \$1500 have been reduced by over 300 percent. Due to the fact that there are still administrative costs tied to the procurement card, it has been difficult to quantify the savings seen, but state officials know it has been significant and the use of the procurement card has provided a much more efficient purchasing system.

Cardholders seem to like the convenience factor of using the procurement card, as well as the reduced time in delivery of product. According to results of the “2000 Corporate Purchasing

Card Benchmark Survey,” 88 percent of cardholders view their company’s purchasing program as a success, and 30 percent view it as a big success. (Kopp, 2002)

This single change in the procurement process, has made the purchasing process both easier and quicker for the employee to receive their orders, but at the same time has brought along more responsibility and record keeping for the employee. Therefore, it is imperative that proper training is provided and executed for employees receiving procurement cards.

Wisconsin’s Review of State Purchasing Cards noted the following, “It is a best practice to provide sufficient training for cardholders.” Most cardholders are not trained as agency purchasing officers and may be unaware of what is an allowable purchase. Without sufficient training, cardholders will be unaware of purchasing card program rules and documentation requirements, thus decreasing the likelihood of compliance.

UW-RF Procurement Card Training Program

The success of the use of the procurement card increased to a total of 450 individual cardholders with over 600 procurement cards issued. Along with the convenience of the procurement card came the responsibility to use the card in accordance with state guidelines. Therefore, a training program and manual were established to transfer this information to the procurement card holder.

Initially, group training sessions were periodically held to cover all the employees that were permitted to obtain a procurement card. Attendance was not mandatory, so some employees were missed in this process. Then, one-on-one training was introduced and was made mandatory in order to receive the procurement card. A reference manual was also developed and dispersed along with the training sessions.

The training manual outlines what can and cannot be purchased while using a procurement card. All single transaction purchases must be under \$1500, unless requested and approved by the Director of Purchasing. The procurement card can be used for all general office supplies, printers and supplies, magazine and periodical subscriptions, lab supplies, and books. The procurement card cannot be used for flowers, meals or entertainment, postage, printing, cash advances, dues or memberships, or travel related expenses.

The current training manual is four years old and needs to be revamped, edited and abbreviated to accompany the new web-based training program while still covering the same basic information. The web address will be included on each page of the up-dated written manual to reinforce and support the use of employees visiting the website for more information.

Eight websites from different universities were examined to see how they incorporated web-based training into their procurement card training programs. The researcher found that five of these websites had added reference information onto their web pages but did not actually provide any type of training tool for their procurement card holders to use. Three universities researched have added a more interactive component into their procurement card training programs via web-based training which either included a tutorial or a questionnaire and are reviewed as follows:

1. Cornell University, Ithaca, NY

Cornell's procurement card program has been in use for six and on-half years, during the last three and one-half years the training has been conducted on-line. Previously, the Procurement Card Administrator had to travel all over campus presenting training to more than 3000 users. Now all procurement card training is done on line through a software program entitled Click2Learn. This program provides a format in which web-based tutorials can be

executed. Once the training program is completed, the user submits a notification form via e-mail to the Purchasing Department. There is a comment section on the form to give the user a chance to ask questions or give feedback on the training.

2. University of Delaware, Newark, Delaware

University of Delaware has utilized their web-based training since 1997 when they first started their procurement card program. Their training is set up as a tutorial and is created by a series of 14 web pages, authored by Dreamweaver, which the user clicks through. When the user is completed with the training, the last screen asks them to fill in their e-mail address and verify that they have completed the training. Their training is also available in two formats: one with audio and one without. The Director of Purchasing indicates that their office has received helpful feedback from the procurement card holders stating that the web-based type of training has been convenient when traveling. Faculty members seem to especially like it because they can fit the training in around their busy class schedules. The University of Delaware also holds monthly meetings for anyone on campus who want to discuss problems they may be having with the procurement process in general or with the procurement card specifically.

3. University of Denver, Denver, Colorado

University of Denver's website dates back to 1999 and was formatted with an on-line Purchasing Card User Guide. The card holders are instructed to visit the website, created by Dreamweaver, and complete a three-part process: 1) review the on-line Purchasing User Guide; 2) complete and submit a purchasing card to your department's card coordinator, and 3) complete the web-based Purchasing Card Questionnaire consisting of 13 questions regarding the material and submit by e-mail with their name and department to verify that the training has been completed.

Characteristics of Web-based Training

Web-based training is a form of interactive computer-based training that is accessed with a browser and uses the Internet or a company's own intranet as delivery channels. Web-based training falls under the bigger umbrella entitled Technology-based training and is often referred to as on-line learning, electronic learning or e-learning.

Technology-based training is an all-inclusive term for training delivered by a number of means. In the past, these have included the use of mainframe computers, floppy diskettes, multimedia CD-ROMs, and interactive videodisks. Most recently, Internet and Intranet delivery have become preferred delivery options (Kruse and Keil, 2000).

One way to meet the challenge of effectively empowering users with more flexible training methods is to adopt web-based training. It is important to understand the characteristics of a Web-based environment before using such environments for training purposes. In general, Web-based environments possess the following five characteristics: (Liaw and Huang, 2002)

- 1) Web-based systems offer a multimedia environment. The information in Web-based systems can be simultaneously represented in any combination of media format, including text, image, graphic, sound, voice, and animation.
- 2) Web-based systems integrate various kinds of information and construct information bases. The media in a hypermedia system, such as the Web, can be instantly called up in a consistent manner, irrespective of the structure of the information or resources.
- 3) Web-based systems support interactive communication. Web users have a great deal of control over their own learning situations with a high level of interaction.
- 4) Web-based systems support networks to access information. Truly interactive networks can be created with information exchange between users and servers.

5) Web-based systems provide a cross-platform environment. A cross-platform means Web systems that can be executed independently on various computer operating systems.

There are basically two types of Web-based Training: synchronous and asynchronous training. Synchronous means “at the same time” and involves interacting with an instructor via the Web in real time. Asynchronous means “not at the same time” and it allows the learner to complete the web-based training on learner’s own time and schedule without live interaction with an instructor. There is complete flexibility with asynchronous training, which comes in two forms, facilitated and self-paced. (Driscoll, 1998)

Facilitated asynchronous training involves an instructor and group of students, but the interaction is not in real time. An instructor posts assignments on a Web page, typically including on-line reading and students communicate with one another through threaded discussions (on-line bulletin boards) and submit their homework to the instructor via e-mail. This form of training is common in the academic community, but the most common form of web-based technology used in corporations is self-paced instruction.

Self-paced web-based training consists of stand-alone instructional materials that can be assessed and completed via the Web without any form of personal interaction. These materials can include guided tutorials, simulations, and assessment exercises.

Growth of Web-Based Training

Web-based training is growing at an annual rate of 80 percent, followed by interactive classroom training (57 percent growth); electronic performance support system training (50 percent); and computer-based, or CD-ROM training (22 percent) as noted in an article entitled “The Future of Training-A Web-Based Option”. (Staff writer, Journal of Environmental Health, Jun 2000)

American universities as well as Corporate America are investing more time, money and interest in developing online alternatives to traditional types of education and training. Seventy percent of U.S. universities have put courses online and this number is expected to grow to 90 percent by 2005. (Blake, Gibson, & Blackwell, 2003)

According to Training magazine's 22nd Annual Industry Report, survey respondents indicated a massive shift in the preferred delivery method of computer-delivered training with no instructor for training. Computer-delivered courses that were self-paced increased from 48 percent to 61 percent in 2003. (Galvin, 2003)

Internet-based technology is projected to increase over the next several years, with older CD-ROMS and video technology decreasing in application. E learning is currently an \$11 billion dollar market and is expected to increase to \$15 billion dollars by 2005. (Melymuka, 2002)

Figure 1 below illustrates the projected growth of web-based training delivered over the Internet compared to other delivery methods such as satellite, video tape, and CD ROM (Kruse and Keil, 2000).

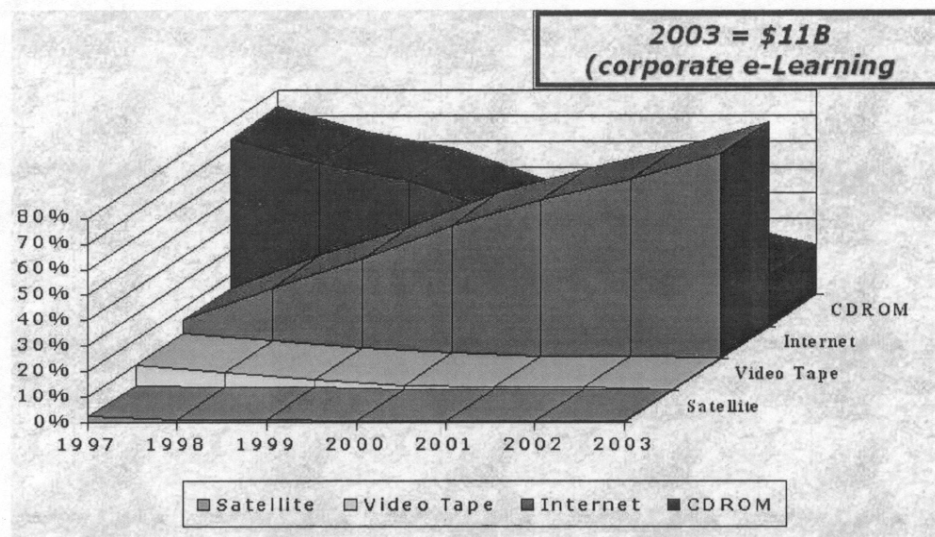


FIGURE 1

Projected growth of Web-based training delivered over the Internet compared to other delivery modalities.

Dr. Brandon Hall, editor of the Multimedia Training Newsletter, outlined three reasons for the growth in web-based instruction in an article titled: “Return on Investment and Multimedia Training”. (Staff Writer, Journal of Environmental Health, 2000)

1. Web-based training reduces the total cost of training when compared to instructor-led training.
2. Web-based training requires less time to train when compared to instructor-led training. The amount of reduction ranges from 20 to 80 percent, with 40 to 60 percent being the most common.
3. The quality of learning in Web-based training is equal to or higher than traditional instruction.

The Internet and the World Wide Web (Web) are widely popular, therefore using the Web as a tool for training is now rapidly expanding into our society. Managers have noticed the potential of the Web in training and education.

“The growing presence of the Web, and the central role it has taken in information access and dissemination, means that you can spend less time searching for information and more time creating meaning.” (Beer, 2000)

Benefits of Web-Based Training

Web-based training provides many advantages over traditional face-to-face training. Some authors contend that web-based training is equally as effective and less costly to administer. (Huang, 1997;Melymuka, 2002; Vaas, 2001; Zimmerman, 2001)

With a web-based training format, related materials can be linked allowing the user to access forms, reports, and visit other websites for additional information.

Therefore, it is important for the procurement cardholder to have basic computer skills

and a support system to provide guidance and feedback with any questions that might occur.

Minotti and Giguere (2003) find five major benefits of web-based training as are listed below:

1. Flexibility - The training can occur at anytime and anywhere that there is Internet access. Individuals can learn at their own pace and work around their own time schedule.
2. Cost- Web-based training is less expensive and eliminates travel and facilities fees. Updates and edits can be made easily and quickly and distributed worldwide.
3. Learning and understanding- Individuals may feel more in control of their own learning. Web-based training lends itself to be more interactive in nature and allows for engaging multimedia components such as graphics, video, and audio to be incorporated in to it.
4. Cross-platform and varied software- The training may be accessed on several computer platforms, including Windows and Macintosh. The training can also be accessed using many of the common Web browsers, including Internet Explorer and Netscape Navigator.
5. Accessibility- Web-based training is standardized in nature and equalizes the delivery of the materials for all individuals. It is available at anytime and at any location with an Internet access.

The delivery of traditional training to an increasing number of employees can be very costly and sometimes logistically difficult. As noted in as article entitled “Top

Web-Based Trainers”, the average cost per person of instructor-led training is \$1680, which is more than double the average per-person rate of \$800 for Web-based training.

(Staff Writer, Lifelong Learning Market Report, 2000)

In 1995, retention and comprehension rates improved from 25 to 60 percent when using Web-based training and resulted in time savings of up to 60 percent when compared to traditional classroom training delivery as illustrated in figure 2 below.

(DeLuca, 2002)

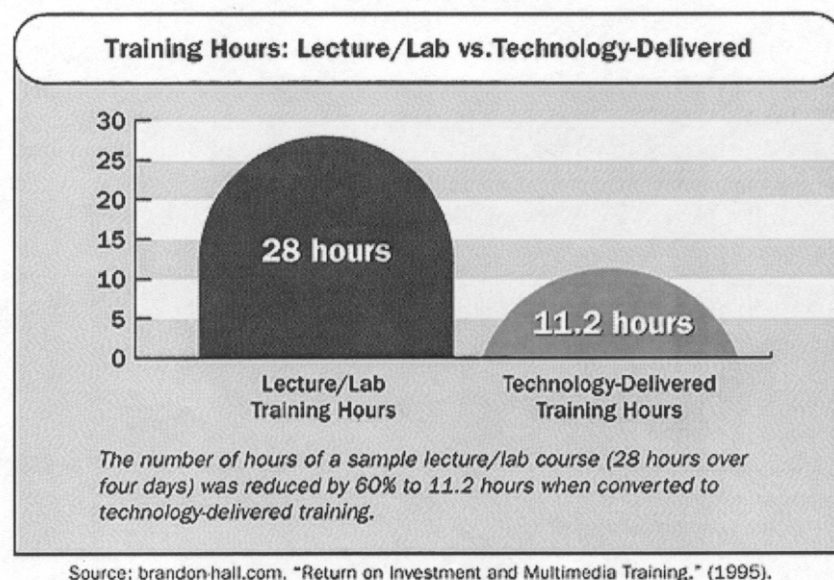


FIGURE 2

Time-savings associated with technology-delivered training.

Limitations of Web-Based Training

While Web-based training does provide many benefits over traditional face-to-face training, there are some disadvantages associated with this form of training. DeLuca notes five factors to consider when introducing web-based training to staff members; however the following three are the most applicable to the purchasing process: (DeLuca, 2002)

1. Time- There is never a designated time assigned for training; therefore it is easy for the employee to procrastinate. If there is not an established time frame in which to do the training, the employee might not feel that it is important or conducive to their job.
2. Lack of Social Contact- Some people prefer the social interaction that a classroom setting of instruction brings. Web-based training would eliminate a great deal of the face-to-face contact with the employees.
3. Computer Access and Capability – Some people still do not like working with computers or trying to find information on line. Technical difficulties could also deter users from wanting to use the on-line training.

When to use Web-based Training

Web-based training is not the solution to every training problem, but can be appropriate for teaching certain skills and imparting particular kinds of knowledge. Organizations that are considering Web-based training should have many or all of the indications shown in Figure 3 (Driscoll, 1998).

Figure 3 Indications that Web-based Technology is Appropriate (Driscoll, 1998)

- √ Gap in learners' skills and knowledge.
- √ Need for cognitive skills.
- √ Learners have adequate computer skills.
- √ Organization has capacity to deliver.

To determine the readiness of an organization for e-learning, the following two major areas should be reviewed: (Redmon & Salopek, 2000)

1) Culture Check: Is the objective of the training supported by the organization's culture? If the objective is to provide small chunks of readily available information then just-in-time training through e-learning can be a valuable option.

2) Technology Check: Does the organization have the technological infrastructure to support WBT? Requirements do vary, but as a general guideline, make sure the intended audience has an internet connection and find out what kind of computer platform they use.

Design and Development of Web-Based Training

The most widely used methodology for developing new training programs is called instructional systems design (ISD). This approach provides a step-by-step system for the assessment of the learners' needs, the design and development of training materials, and the evaluation of the effectiveness of the training program. (Kruse and Keil, 2000)

There are more than one hundred different ISD Models, but almost all are based on the generic ADDIE model, which stand for Analysis, Design, Development, Implementation, and Evaluation. Each step in the model has an outcome that feeds the subsequent step. Below each step is illustrated: (Driscoll, 1998)

Analysis- The designer develops a clear understanding of the gaps between the desired outcome and the learner's existing knowledge and skills.

Design- Specific learning objectives, content, and assessments are documented.

Development- Actual creation of learning materials is completed.

Implementation- Learning materials are delivered/distributed to the learners.

Evaluation- After delivery is completed; the effectiveness of the training materials is evaluated.

Although training needs vary, there are five features to keep in mind to provide the best web-based training solution :(Robinson, 1999)

- 1.) Self-paced courses: Busy people learn best when they can study on their own time at their own pace.
- 2.) Browser-based solutions: this allows users to log on anywhere, anytime, as long as they have Internet access and a browser.
- 3.) Low-bandwidth options: Set up a lowest common denominator system so people with different modem speeds can dial in and access the training sessions.
- 4.) Tracking and testing features: It's beneficial to keep up with who took which course and how they performed.
- 5.) Proven scalability: The system must scale as the training program adds users.

Summary

In summary, the procurement process has greatly changed with the onset of using credit cards to replace many of the low dollar value orders which were once ordered through requisitions. This change has streamlined the purchasing process saving time and money. However, the use of credit cards has put more responsibility on the employee themselves to understand purchasing process and policies. Therefore, an increased need for procurement card training has arisen.

The current procurement card-training program consists of a brief training session with employee and a Purchasing staff member with a hard copy training manual being

dispersed. The scheduling of the session can often delay the training process and the information received during the training may not always be complete or understood.

Web-based training can answer this particular training program. Web-based training provides a consistent, thorough, and convenient training process for the procurement cardholder. Web-based training is one specific delivery method within the larger category of computer-based training. The growth of web-based training has increased over the past fifteen years with the onset of the World Wide Web and shows no signs of stopping.

Universities of Denver and Delaware and Cornell University's websites were examined. These schools have introduced web-based training for their procurement card usage training. Different programs and variations in style were observed, but the bottom line was the training programs provided information to the procurement cardholders in a convenient and easy to follow format.

The ADDIE model of Instructional Systems Design was reviewed, as well as factors to consider when deciding whether or not to use web-based training.

Chapter Three will provide a description of the methodology that was used to gather the needed information to meet the stated objectives. The researcher used a variety of methods to gather the information to complete the study.

Chapter III Methodology

Introduction

The purpose of this study was to design and develop a web-based training program for procurement card usage for the University of Wisconsin-River Falls campus. With the increased use of procurement cards, more responsibility has fallen onto the procurement cardholder's shoulder as far as correct usage and record keeping of the card. Therefore, it is imperative, in order for the program to be successful, effective and efficient training needs to be in place for the procurement cardholders.

The objectives of this study were to:

1. Determine the effectiveness of the current procurement card-training program.
2. Investigate how other universities have incorporated their procurement card training programs into a web-based format.
3. Design and develop a web-based procurement card-training program.

The analysis stage of this project was done through the survey and indirect observation. This section will be limited in describing the design and development stages of the web-based training process. The implementation and evaluation phases will be executed through the pilot test and eventually through the final implementation and evaluation of the procurement card training program.

A review of literature was conducted on the use of procurement cards, the effectiveness of web-based training, and the design and development of web-based training.

Information gathered from the survey and data analysis from a year's worth of credit card reports were reviewed and used to determine where gaps existed in the

learner's knowledge and skills. From this information, a set of learning objectives was created for the cardholder. They are as follows:

- To understand what items can be purchased with the procurement card.
- To know what the individual transaction limit and not exceed it.
- To be able to charge items without having sales tax applied.

Content information from the existing training manual will be utilized, but edited to be placed on the web-based training site. An area for the learner to provide feedback or ask questions will also be provided.

To analyze the cardholders' needs, a survey was designed and administered to a small test group to gather additional information on the effectiveness of the current training program for procurement card use.

Indirect observation was used to review data provided by bi-monthly credit card reports distributed to UW-RF by the credit card company. The reports detail all purchases made by credit cards in a two-week period. Any discrepancies such as declined purchases and sales tax charged are noted. Declined purchases normally indicate that the cardholder tried to charge over their individual transaction limit. The reports are also reviewed by the Purchasing Manager for any charges that may be deemed as inappropriate.

Visiting other universities websites that provided web-based training for procurement card usage also followed best practices methodology. Discussions were held with some of the Purchasing staff as to what information and features should be featured. The researcher met with the campus web designer to discuss requirements and preferences for the design of the web pages.

The information gathered by all of these methods was then used to design and develop a web-based training program for procurement card usage at UW-RF.

Research Design

The researcher reviewed literature regarding procurement card programs, web-based training, its growth, benefits and limitations and the design and development phase of the web-based training process.

Three other university websites were examined that used web-based training for the delivery of their procurement card-training program. They include Cornell University, University of Delaware, and University of Denver.

Bi-monthly credit card reports were analyzed to review three primary areas of concern where additional training may be required. This information was compiled and reviewed for the past fiscal year to examine results.

Survey Instrument

A survey form was designed and administered to a sample group of cardholders to gauge the effectiveness of the current procurement card-training program. The survey was designed to be filled out on-line, but due to technical difficulties, the survey was administered via paper copy. Wording was added to the survey in order for it to serve as a human subject consent form as well.

Human Subjects Consent forms/surveys were sent to forty-five employees who have active procurement cards via campus e-mail. The forty-five cardholders were selected from a list of all active cardholders by selecting every tenth name. This number represents approximately 10 percent of the total group of active cardholders. An

introduction letter accompanied the survey/consent form explaining the intent of the survey.

Data Collection and Analysis

The survey data were collected, recorded, and analyzed to determine if the current training program is effective and if there is a need for improvement. An introduction letter and sample of the survey instrument is attached as Appendix A and Appendix B respectively. The survey form also served as a consent form. The survey was sent out to a total of forty-five procurement cardholders whose names were randomly selected from a list.

Indirect observation was used to gather information about certain indicators of the procurement cardholder's performance. Data were also collected, recorded, and analyzed using bi-monthly detail reports from the credit card company on purchases made in the past year examining three specific areas of concern:

- 1) Sales tax charged.
- 2) Attempt to charge over transaction limit.
- 3) Inappropriate or fraudulent charges

Software Selection

When selecting a software program for use in web-based training, there are a variety of programs to choose from. Powerpoint programs are often used to guide the learner through a sequence of information. Two main authoring tool programs that are greatly utilized for web-based training are Dreamweaver and Flash. These programs can vary in complexity and cost anywhere from \$300 and to \$3000.

When the researcher met with the UWRF campus web developer manager, it was recommended to use Dreamweaver MX from Macromedia as an authoring tool that allows developers to build web pages without using HTML code. Dreamweaver is the established software that the UW-RF campus uses for building WebPages.

The UW-System requirements for a department web page are as follows:

1. Allow everyone equal access to your web content regardless of user agent (browser). All content on pages that are used to conduct the business of the university must be accessible by non-standard browsers used by those with disabilities. The university uses Section 508 of the Federal Rehabilitation Act, 1194.22 as a guide to the universal web accessibility.
2. Ensure that the content is identified as UW-River Falls content where appropriate. All web pages of the university must have the official wordmark at the absolute top of the page and the appropriate footer at the bottom.

Dreamweaver begins with a completely blank page that can be divided into a number of zones for the placement of text or images. The layout that the researcher chose to use was a banner across the top, a strip down the left side for navigation buttons, and a general area for content on the right had side of the page.

One way of working in Dreamweaver is to create a basic page template for all the pages for the site. Zones can be created within the page that are either editable or not. When a new page is created based on a template, anything in the editable zone can be changed, but anything designated noneditable is locked, which prevents accidentally changing the consistent design of the site. (Wildstrom, 2002)

Chapter IV Results

Introduction

The purpose of this field problem study was to design and develop a web-based training program for procurement card usage at the University of Wisconsin-River Falls. A survey was conducted with a small sample group of cardholders to gather information on the effectiveness of the current training program for procurement card usage.

An indirect observation was conducted by analyzing credit card report data from the past year to determine if proper procedures were being followed in three specific areas: 1) sales tax charges, 2) attempts to charge over individual cardholders' transaction limits, and 3) inappropriate purchases.

Chapter Four of this research paper will present the findings of the survey and the indirect observation of the data reports and show how they relate to the objectives of the study.

Survey Results

A total of 29 surveys were returned of the 45 that were sent out, with one of them being sent back because the cardholder had recently left employment at the university. Therefore, 28 replies of the 45 surveys sent out resulted in a return rate of 62%. The following are the results of the survey and can be found summarized in Table #2 at the end of this chapter.

The survey results showed that 78 % of the respondents had attended a training session and have possession of a procurement card-training manual given by the Purchasing Department. Many of the procurement cardholders received their cards as long ago as four or five years ago when training was not mandatory. Since that time,

training has become a mandatory step for the new procurement cardholder to go through before they actually receive their procurement card.

Of the respondents that had training manuals, 64 % of them did have the latest version, while 22% of them had an older version, and 14% could not easily locate their manual at that time. These results show that not all the procurement cardholders are accessing the most current information. Even the most updated version of the written training manual is dated December 8, 1999 and needs to be revised.

Seventy-eight percent of the people surveyed that had possession of a hard-copy training manual have not referred to it even once in the last six months and 22% have referred to it 1-3 times. When looking for information in the manual, 39% of the respondents who used the procurement card training manual said that they were sometimes able to find their answers quickly, while only 18% said that they were able to always find the answers that they were looking for.

Currently, there is a link on the purchasing website to a copy of the traditional training manual, however it appears to get little use. Eighty-five percent of the respondents were not aware of the website and the remaining 15 % of the respondents that did know of its existence had never used it for reference purposes in the last six months.

When asked what format style the procurement card holders would prefer for receiving information, 25% stated a hard-copy manual, 25% prefer on-line information, 10% would rather call the Purchasing office, while 40% would like to see a combination of the formats for referencing purposes.

When those surveyed were asked if an easier-to-read, more abbreviated version of the manual would be available on line, would they use it, they responded with 40% replying yes they would use it, 1 % said no they would not use it, and 50% claimed that they would maybe use it.

Ninety-three percent surveyed felt that the current training method in use was effective, providing sufficient amount of information , while seven percent did not feel that the current training program was very effective. Some changes or improvements that were recommended by the respondents were to make sure that training is provided for everyone on a consistent basis and that reminders are sent out via e-mail periodically regarding purchasing procedure updates.

Table 2 on the next page shows a summary of the survey results.

Table # 2 – Summary of Survey Results

Survey Question	Results
1. Did you attend a training session?	78% Yes
2. Do you have a Procurement Card Manual?	78% Yes
3. What revision do you have of the training manual?	64% Had newest revision 22% Had older revision 14% Could not locate
4. How often do you refer to the manual?	78% Had not referred to it (6 Months) 22% Referred to it 1-3 Times
5. Have you found information easily?	18% Always 39% Sometimes
6. Did you know that the manual is on-line?	85% Were not aware 15% Were aware
7. How often have you referred to the on-line manual?	Have never used it for reference
8. What format style do you prefer for information?	25% Hard-Copy Manual 25% On-line Information 10% Inquire by phone 40% Combination of All
9. Would you use an on-line abbreviated version manual?	40% Yes, they would use it 10% No, they would not use it 50% Maybe they would use it
10. Is the current training method sufficient?	93% Sufficient Training 7% Non sufficient Training

Summary of Findings

Findings suggest that a large portion of the respondents seldom utilize the existing procurement card-training manual. This could be interpreted that the procurement cardholders do not feel like they need any further training or reference material. However, that would suggest that they regularly use their procurement card correctly. Bi-monthly reports that the researcher receives from the credit card company suggests differently. There are occurrences on nearly every report of improper uses, sales tax charged, or attempts to charge over the procurement cardholders set limit.

Respondents were receptive to the idea of a web-based procurement card-training program. The majority of the procurement card holders readily have access to a computer with an internet connection. Therefore the climate of the work culture is very accepting to trying web-based training information, as so many of their other work transactions have become more web-based.

The majority of the respondents preferred their training in a combination of formats to include a hard-copy manual, on-line information, and personal contact with the Purchasing office. Therefore, it appears that a blended style of training would be recommended.

“Over the past few years, training managers have become pragmatic in their approach to technology-based media by using it to augment traditional forms of training delivery, such as classroom instruction and text-based materials. This trend has led to the rise of the term blended learning.” (Johnson, 2003)

The vast majority of the respondents (93%) do not have any complaints about the current procurement card-training program. Therefore, the current procurement card-training program appears to be effective for the most part. However, there are still problems that exist in the proper usage of the cards to warrant examining using a more effective means of training, such as web-based training.

Bi-monthly reports are processed by the credit card company and sent to the Purchasing Department. Three main areas that relate to the cardholder's understanding of the procurement card transaction process are reviewed and analyzed in Table 3 below:

Table 3- Discrepancies found in Credit Card Reports

Area of Concern Requiring Additional Training	Data Analysis Fiscal Year 2003-2004 (Starting July 2003)
Sales Tax Charged	98 Occurrences
Attempted charges over transaction limit	20 Occurrences
Inappropriate/Questionable Charges	8 Occurrences

Although appropriate actions were taken to correct the above discrepancies, the event of them occurring initially signify a misuse of the procurement card which could be linked to a lack of training or understanding on the cardholder's account. There appears to be a gap between the procurement cardholder's knowledge and skills that could be assisted with more consistent and timely delivery of training materials.

Chapter V

Conclusions and Recommendations

Introduction

The purpose of this field problem study was to design and develop a web-based training program for procurement card usage at the University of Wisconsin-River Falls. The current procurement card training program consists of a face-to-face meeting between the employee and a staff member of the Purchasing Department to review how to use the procurement card and document transactions properly. A paper manual is dispersed at the same time as the procurement card.

The procurement card training session provides a good opportunity to meet with new employees, but it also takes time to schedule an appointment between the two departments and can often cause a delay in the training process. The information received during the training session may not always be consistently delivered.

Web-based training appears to be a viable solution to this training problem. The information would be administered the same to all employees anytime they want to view it at the convenience of their own desk. The employee would have control over what specific areas they want to review, when they wanted to view it, and how often.

The web-based procurement card training program outlines what a procurement card is, how it should be used, and how record keeping should be maintained. More responsibility is shifted to the employee for following proper Purchasing guidelines and providing accurate documentation records.

A survey was conducted to a small sample group of cardholders to gather information on the effectiveness of the current training program for procurement card

usage. An indirect observation was also conducted by analyzing data from bi-monthly credit card reports.

Summary of Study

Based on the foregoing study, the effectiveness of the current training program at University of Wisconsin- River Falls (UW-RF) was rated fairly high at 93% satisfied. However, it was brought to the attention of the researcher that the manual is rarely used and the majority of procurement cardholders were not aware that the same information could be found on line.

If the information was presented on-line in a more abbreviated, easy-to-follow format, 75 % of the procurement cardholders questioned stated that they would probably use it. So although the users do not feel that the current system is ineffective, they are open to using a more updated format delivered to them through the internet.

The data analysis of the bi-monthly credit card reports of transactions for the 2003-2004 fiscal year showed that there were 98 Occurrences of sales tax charged although UW-RF is a tax exempt facility. Fifty-six attempts were made to purchase more than the individual cardholder's transaction limits, and six occurrences were noted of improper usage.

Limitations

This study only covered about 10% of the total population of cardholders of only one campus, the University of Wisconsin-River Falls. The survey was at a level one-evaluation response reflecting primarily the procurement cardholder's reactions to the training and did not explore deeper to see if procurement card holders actually learned from the training and transferred that knowledge to their job.

Recommendations

The researcher recommends that a pilot test be run for the web-based training of procurement card usage. The web-based training would be run for a sample test group of 15 participants asking them to complete an on-line survey at the completion of the training material for feedback on what they liked and did not like about the training program.

Experimentation with audio narration and graphics could be done in the development process of the web-based training and ask for feedback from the pilot test participants to gather information for further development of the web-based delivery of the procurement card training program.

It is recommended that a pre and posttest be executed on-line to monitor if learning actually took place among the users during the pilot run of the web-based procurement card training program.

Summary

The purpose of this study was to design and develop a web-based training program for procurement card usage at the University of Wisconsin-River Falls (UW-RF) campus facility.

This program will require new procurement card users to complete an on-line tutorial training module to learn how to use their procurement card in accordance to University of Wisconsin System guidelines.

Research objective one of this study was to determine the effectiveness of the current procurement card training program. Through the survey, it was found that 93 % of total respondents felt that the current training method was sufficient, but suggested to make sure that training is provided for everyone on a consistent basis and send out

reminders for changes and updates via e-mail. Through the data analysis of credit card reports, three areas of concern that may require additional training are as follows:

- 1) Occurrence of Sales Tax Charges
- 2) Attempts of over transaction limit charges
- 3) Inappropriate or fraudulent charges

Research objective two of the study was to investigate how other universities have incorporated their procurement card training programs into a web-based format. Eight different university websites were examined, however the majority of them had added reference information onto their web pages, but had not actually created a training tool for their procurement cardholders to use. Three universities were found that had added an interactive component into their procurement card web-based training: Cornell University, University of Delaware, and University of Denver. These websites were reviewed and compared to examine possible options.

Research objective three of the study was to design and develop a web-based process for the procurement card training program. Using the ADDIE model of Instructional Design, specific learning objectives and content were documented for the design stage of the web-based training project. The existing training manual was edited and revised and that information was used for the content framework. Through the development stage of the web-based training project, a Frequently Asked Questions section was created from discussion with other Purchasing staff members. A reference chart was also developed to assist procurement cardholders to quickly determine what items can and can not be charged on their credit cards.

The researcher recommends a pilot test be run for the web-based training of procurement card usage for UW-RF for further development before it is fully implemented. Evaluations should be administered during this time to get feedback for possible changes and improvements to the web-based training. Further assessments should be conducted once the web-based procurement card training program is implemented in order to evaluate the effectiveness of the web-based training materials.

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Appendix A Introduction Letter

December 3, 2003

Dear Employee,

I am completing my Masters degree at UW-Stout in Training and Development and as part of my research project; I am conducting a brief survey studying the effectiveness of UW-River Falls current Procurement Card Training Program.

Your name has randomly been selected from a list of procurement card holders on campus to participate in this study by filling out a survey and returning it to me. Participation in this study is voluntary and you will be guaranteed complete confidentiality. A summary of the data will be used in my research paper, but no reference to you will be made in any part of my study.

I would like respondents to fill out the attached survey and return it to me by **December 15, 2003**. Just fold the survey in half and staple it shut. I have already pre-addressed my return address on it for your convenience. If you have any questions, please feel free to call me at X 3232. Thank you for taking out time to do this. I really appreciate it!

Sincerely,

Gail Anderson
Program Assistant 3
Purchasing Department

Attachment: Graduate Study Survey

Appendix B-Effectiveness of the Current Procurement Card Training Manual

By returning this questionnaire, I am giving my informed consent as a participating volunteer in this study. I understand the basic nature of the study and agree that any potential risks or potential benefits are exceedingly small. I am aware that the information is being sought in a specific manner so only minimal identifiers are necessary and confidentiality is guaranteed. I have the right to refuse to participate any my right to withdraw from participation at any time during the study will be respected with no coercion or prejudice. (Please check only one box per answer) Please fill out survey, fold in half, and return to Gail Anderson by **December 15, 2003**

1. Did you attend a personal or group training session by someone in the Purchasing Department when you first received a procurement card on campus?
 Yes No I'm not sure
2. Do you have a Procurement Card Manual?
 Yes No (If no, skip to #6)
3. If yes, please find it and fill in date on the front of the cover? Date _____ or
 I can't find it
4. How often have you referred to your Procurement Card Manual in the last six months?
 None 1-3 Times 4 -6 Times More than 6 Times
5. When looking for information in the manual, have you been able to find your answers quickly and to your satisfaction?
 Always Sometimes Rarely Never
6. Did you know that the Procurement Card Manual is available on-line and can be found on the Purchasing Department's website? Yes No (If no, skip to#8)
7. If yes, how often have you referred to the On-line Procurement Card Manual in the last six months? None 1-3 Times 4-6 Times More than 6 Times
8. Which format style would you prefer when referencing information about procurement card usage?
 Paper On-line Call Purchasing Office Combination
9. If an easier-to-read, more abbreviated version of the manual would be available on-line, do you think you would use it? Yes No Maybe
10. Do you feel that the current training method in the usage of procurement card is sufficient?
 Yes No – If no, what changes would you like to see?