UNIVERSITY OF SCIENCE, ARTS AND TECHNOLOGY

BACHELOR'S DEGREE STUDY PROGRAM

ESSAY - 5

COMPREHENSIVE ESSAY READING - Part 1

SCIENCE & TECHNOLOGY

[Instructions: Read the essay and when you encounter each set of questions, indicate your answer on the separate sheet.]

MODULE – 18

Chapter 1 - "Using Technology to Teach" – By Erik J Buford

INTRODUCTION

Change in today's society is inevitable. Business and social facets of daily living continue to be affected by external proponents as economy and globalization. With this wave of change it is important to stay in step with the processes and protocol that are being used to support the new connected society

that exists. A primary consideration that is affected by the globalization process is that of education.

Technology and computers are used to unite the world in terms of current events, knowledge sharing and business strategy. These types of developments can also be used to further education and place knowledge expansion directly at the fingertips of students or employees. Consider the following questions, though: What basic history of technology is needed in order to plan for an education and technology merger? What example can be shown of a company evaluating and justifying technological advancements within the organization? What type of lesson plan could potentially apply in a computer-based learning environment?

UNDERSTANDING THE WAVE OF CHANGE

Before delving into the merger of education and technology, a foundation must be laid. The background of technology and the advancements in computer networking need to be understood before being able to implement and recommend technological solutions in the educational environment. How much education in technology and computer awareness is going on in the business world for example? According to Belasco, in his book *Teaching the Elephant to Dance – The Manager's Guide to Empowering Change*, he states: "Chairman Akers uses training to remind his people about the IBM vision. All new employees (including old employees who are in new jobs) receive eighty hours of training. All management and professional employees get a minimum of forty

hours."[1] Akers' vision is not uncommon. As a result, utilizing the wave of technology to educate is imperative in order to save money and use time in the most effective way possible. To begin our technological foundation, we can make the following comparison.

In the decades to come, computers will continue to alter the business world radically, much as the automobile did. As with the automobile, most people today continue to build on the basic understanding of how computers have impacted the business arena. It is understood that for more than fifty years, the automobile supported the economy in the United States of America, spawning dozens of industries from oil companies to supermarkets. Other businesses – real estate and restaurants for example – were transformed by the mobility provided by this new invention called the automobile.

Computers are having a similar effect for three reasons:

1. They have radically and dramatically changed the business world.
2. They have brought the cost of technology down. This is due in part to the high level of production required, as they are a high demand and highly necessary consumer product.
3. Most business organizations use them.

Although these are the three most common reasons, as you read through the pages of the newspaper or study advancements in social technology, you will probably be able to list more reasons why computers are having similar effects.

Primarily, computers are a series of electronic circuits that accept data as input. Throughout these circuits there can only be two states – electricity flowing, or “1”, or not flowing, or “0.” Transistors on silicon chips store either a “1” or “0” known as a “bit” (**B**inary Digi**t**). Eight bits are used to make one “byte,” a unit of computer memory. Each character of the keyboard is given a code. This code is called the ASCII code (American International Code for Information Interchange). There are many ways to input data into a computer. A scanner, digital camera, telephone line, keyboard, or even a magnetic strip can all enter data into a computer. Once data is inputted it is processed in a main processing chip called the CPU (central processing unit). The results of processing are passed to output devices or stored. The most common output device is the VDU or monitor.

Data that is to be stored is put into a “backing store” that retains either programs or data after the computer is switched off. This is also known as secondary storage; all computers have some form of this, usually by means of a hard disk. Other storage devices are also used, such as CD’s, floppy disks, or magnetic tapes.

By combining computers with communications, we create network connectivity, which today is one of the most important types of data communication in the business world. We can look at examples which show the success of businesses that continue to demonstrate and prove how data communications has helped them become prosperous “e”-business or computer-network-based business enterprises and corporations.

Although a number of technical terms have already been presented in this basic history of computers, as an educator or training professional the primary concern is with the basic understanding and appreciation of the terms. Knowledge of the technical aspects involved in telecommunications is not important; however, the opportunities they can provide to educational organizations, colleges and universities through telecommunications are important concepts to remember. Therefore, to begin the discussion, it is important to make the statement that "telecommunications for many businesses has become the primary information technology infrastructure."**2** In fact, many businesses and schools today could not survive without a variety of interconnected computer networks to service their information processing and communication needs.

- Which statement is the most accurate?

372. As an educator or training professional, the primary concern is the basic understanding and appreciation of technical terms. This means that knowledge of the technical aspects involved in telecommunications is important; however, the many opportunities provided to educational organizations, colleges and universities through telecommunications are not important concepts to remember.

373. It is understood that for more than eighty years, the automobile supported the economy of the United States of America, spawning dozens of industries from oil companies to supermarkets.

374. Many organizations and technological breakthroughs show us that by combining computers and communications we create network connectivity, which today is essential for data communication in the business world.

375. Before delving into the merging of education and technology, a foundation must be laid. We need to understand the background of technology and the advancements in computer networking. Otherwise,

we will not be able to implement and recommend technological solutions in the educational environment.

Telecommunications

Telecommunication can be broadly defined as “the exchange of information in any form (voice, data, text, images, audio, video, etc.) over computer-based networks” (p.210). So, using this definition we could say that this would involve high-speed Internet technology, telephone services, cellular phone services, mobile radio, video teleconferencing, television, etc. Therefore, an interesting question at this point is: How did telecommunications begin? In providing a suitable answer, we must first look at the history of the Internet.

A Brief History of the Internet

The Internet is a huge international network made up of many smaller networks linked together like a spider’s web. It started as a self-healing communication system for the US government in case of nuclear disaster. This was later opened to nonmilitary users, to include large universities and educational facilities to exchange research material. It has grown to include business and personal network spanning the globe. It has become an invaluable communications channel for individuals, schools, businesses, and governments around the globe.

In a world of monopolies and technical corporate protocol, of particular interest is the fact that no one owns the Internet. The Internet has no central headquarters, no centrally offered services and no comprehensive online index to tell you what information is available or necessarily correct.

The first Internet experience most people have is to use electronic mail, more commonly referred to as e-mail. This tool allows the sending and receiving of messages from one computer to another. One of the greatest advantages of using the Internet is the World Wide Web, which is occasionally referred to as simply “the Web.” The World Wide Web is an immense database of information that is stored on network servers, which reside in remote locations.

With all these computers connected together to form the world’s largest network, how do they “talk” to each other?

The vast array of networks that make up the Internet pass messages along through electronic links called gateways. These use a standardized protocol called Transmission Control Protocol/Internet Protocol (TCP/IP). These messages are sent to network servers where ports allow for public access. Once the information is accessed it can be transported to your personal computer. Information is stored on the network servers as text files called web pages that could possibly include text, graphics, color, sound, charts, animation, or video.

As mentioned, one of the most important data communications in the education and business world is network connectivity. A network connects one computer to another computer, and to other peripheral devices, enabling the sharing of data and resources. There are a variety of network configurations that could be made to help in the field of education. However, the network configurations that a technology-based educator should be most familiar with are the Local Area Network, commonly referred to as a LAN, and a Wide Area Network, known as a WAN.

In a Local Area Network, computers and peripheral devices are located relatively close to each other, generally in the same building, and can be linked by wire or fiber optic cables, microwave links or even satellites.

A Wide Area Network, on the other hand, covers a large geographical area. The Internet itself is a WAN. To be able to connect to a WAN by use of a telephone line, one must also use a modem. This (Modulator-Demodulator) enables digital data from the computer to be transformed into analog, and vice versa. Both types of network configurations have been used in educating in school environments and in rural or off-campus training.

Intranet

In applying our understanding of such terms as telecommunications, Internet, TCP/IP, LAN, and WAN, we can now discuss how the existence of the intranet and extranet could impact an educational organization. Intranets are internal websites that are specifically designed to provide a wide range of media, lesson plans, training, or information to end users within an educational organization or business environment. For example, within a very widely known and technologically successful corporation they use the intranet as a way to provide end users with current news, upcoming training, access to instructions, policies, ship deployments, job announcements, e-mail addresses, telephone directories, virtual library resources, CBT, etc. However, prior to the development of the intranet, this information was posted on the corporate Internet website. This meant that anyone who had access to the Internet could view this information, which posed a possible breach of confidentiality. How did previous

loopholes in technology impact the overall operations of this organization? Well, unfortunately, putting information on Internet websites throughout the organization became uncontrollable. For this company, having unclassified information located on various websites was not a violation of operational security. A group of contractors was hired to take a look at all the company's websites to see if classified information was being released. By collecting all the information, from the various websites, it was discovered that information security *was* being violated. As a result, most of the company's *vital* information is now being posted to their intranet.

Today, one of the biggest uses of the intranet in many organizations is communications. The intranet helps to eliminate corporate procedures on confidentiality and many of the inherent communication problems within the corporate structure. Now, everyone within the organization has access to the same information, in the same place, at the same time, and within the stipulations of corporate policy.

An issue arose, however, when there was a discovery that people outside of the organization needed to view this same information, or a regulated portion of corporate information. This growing need led to the development of an "extranet."

Extranet

An extranet allows others to gain access through the Internet to certain files or web pages. For example, a few months ago, a corporate executive developed a conference web page, which allowed authorized personnel to log in and

register for the conference. Prior to the development of the extranet, registering for a conference or having access to certain files or web pages within their intranet was not as easily accomplished if one was not within the organizational structure. Today, however, the Internet, intranet, and extranet are important connections that have radically changed the way business is done. First introduced to end users as a means to improve communications, coordinate and collaborate work efforts, both the intranet and extranet extend to thousands of users now, having become a necessity.

- Which statement is the most accurate?

376. The intranet helps eliminate corporate procedures on issues of confidentiality and many of the inherent communication problems within the corporate structure. Now, everyone within the organization has access to the same information in the same place, at the same time, and corporate policy is respected.

377. The intranet helps to eliminate corporate procedures on confidentiality and many of the inherent communication problems within the corporate structure. Now, everyone within the organization can have instant access to the same information, in the same place, at the same time, without strict adherence to the stipulations of corporate policy.

378. Intranets are very practical external websites that are specifically designed to provide a wide range of media, lesson plans, training, or information to end users within an educational organization or business environment.

379. The network configurations that a technology-based educator should be most familiar with are: the Local Area Network, commonly referred to as a TCP/IP, and a Wide Area Network, also more widely referred to as LAN. These types of Internet connections enable you to download and send out large files of information.

Teleconferencing

Another area involving telecommunications that is beginning to increase in use is teleconferencing. This involves the use of technology to bring people and ideas together despite geographical barriers. There are several varieties of teleconferencing, but the most common today is videoconferencing. The necessary components usually include a large screen, video cameras for sending live pictures, and an online computer system to record communication among participants. Although for some educational facilities and businesses this setup is expensive to rent and even more expensive to own, the costs can seem trivial when compared to travel expenses, airline fares, lodging and meals for hungry students.

Recently an executive had the distinct pleasure of using the corporation's systems development process to determine if the use of videoconferencing would provide a cost savings to an organization located in a distant continent. The initial cost of installing and implementing this new technology (approx. $50,000 U.S.), proved to be very beneficial for a number of reasons. Only one week after it was up and running, it saved an estimated $20,000 (U.S.) in travel costs. Additionally, within six months it was estimated that the use of videoconferencing had saved the organization an estimated $100,000. According to Everett T. Suters, being realistic about costs is an important consideration that always leads to asking the question: Is the plan practical? What are some of the drawbacks to using this type of system?

Well, some employees were uncomfortable about their appearance on camera. A more serious drawback was that people feared that personal contact

would be lost. However, the biggest drawback was the users' overwhelming desire to leave the continent, a remote island, have the conference and then use the opportunity to take a vacation. Needless to say, the executive's directorate was not high on the "approval" list with the users. However, about a year later other organizations began purchasing and installing the video-conferencing equipment. This particular method used by the executive is now currently being utilized by video tele-training (VTT), tele-medicine, tele-psychiatrics, etc. Therefore, its return on investment has far exceeded its cost.

For future technology and education innovators, the key terms to remember are: Internet, intranet, extranet, TCP/IP, World Wide Web, LAN, WAN, and teleconferencing – all of which are now playing a defining role in the implementation of education at present and will continue to do so in the future.

INTRODUCTION TO INFORMATION SYSTEMS

Computers have become perhaps the most successful and versatile machine in history. They can produce professionally typeset documents, help translate from one language to another, produce music, help diagnose diseases, control machinery, keep track of airline reservations, and much more. However, such versatility is only made possible through the use of software. Computer software determines and helps control what a computer is able to do. In a sense, software transforms a computer from one kind of machine to another. For example, software can transform a computer from a drafting station to a typesetting machine. Software can even transform a computer from a flight

simulator to a calculator, all with the push of a button. Software is an invaluable tool that is used to manage and control data and computer use.

Computer Software

Computer software can be divided into two major categories: system software and application software. *System software* consists of programs that are related to controlling the actual operations of the computer. A very important part of the system software is a set of programs called the operating system.

Operating System

The operating system is a very complex program that controls the entire operation of the computer. Examples would include well-known programs such as DOS, Windows 98, Windows NT, Windows ME, Windows 2000, Mac, UNIX, OS/2, Linux, etc., all of which tell the computer how to perform functions. Such functions could be to load, store, and execute a program and transfer data among the system devices and memory. The program also controls the hardware resources such as memory and disk storage space. In short, the operating system is specifically developed for the computer.

How important is the operating system to the overall operations of the computer? Based on what you have read so far, the operating system performs specific functions that are important to the running of the computer. Although much of the operating system functions are hidden from view, you will know when you are using an *applications software* package, such as Word or Excel, which requires that you invoke, or call into action, the operating system. Some of these functions include:

1. Managing the computer's resources, such as the central processing unit, allocating a slice of time for each job
2. Maximizing use of the computer's memory by allocating different sections to the programs in use.
3. Executing and providing services for application software.
4. Establishing a user interface.

A commonly used operating system is Windows NT 4.0, which was first introduced to the market in the mid-1990's. The selection of an operating system for any organization is an important issue. Many Information Technology (IT) professionals have a tendency to make the same mistake over and over by not considering the needs of the potential student or end user. This process skips an important step highlighted by David Sherman, one that would allow the participants to discuss options that would affect them directly.

Application Software

Application Software consists of programs that tell a computer how to produce information. Application software (such as Microsoft Word, Excel, Access, PowerPoint, Netscape, Explorer, CAD/CAM, etc.) are programs that help you produce documents, perform calculations, manage financial resources, create graphics, compose music, play games, maintain information files, browse the web, and so on. Application Software is specifically developed for the user. How is the decision made on which application software to use? Many of the decisions made in the past took into account what application software was currently being used. Although this was not the only criterion used to select new

software packages, it had a tremendous bearing on the decision. However, it must be remembered that these programs can become rapidly outdated with “latest versions” making their predecessors almost obsolete. Other factors have been the cost of training and what other organizations were using. Nothing is more costly than to have all the integrated software listed in your books on every end user’s computer or shared on the network. Another problem is not having the application software that is needed to get the job done, which could potentially result in users’ frustration and annoyance.

Student Software Adaptation

All too often, and sometimes without warning, students are expected to make adjustments, “because the implementation of a new operating system will make their lives much easier.” The implementation of a new operating system sometimes requires hours of training for the student. For example, before the introduction of Windows NT 4.0, the graphical user interface was designed differently. Now imagine yourself coming in to work one day and finding out that you now have a new user interface, not to mention the hidden software change. A complete change such as a change from NT 3x or Windows 3x (desktop) to NT 4.0 (workstation) requires planning, coordinating, and user training. However, in some organizations this does not happen at first. Why? Reasons range from availability of funding to not having the perfect opportunity. Regardless, training on a new operating system will be inevitable. Unfortunately, it could take from six months to a year to train all the users, which could have a negative effect on the overall work performance and outcome (or output). Some organizations

eventually recover, whereas others are not as fortunate. What could be done in this situation? What if we were asked to purchase and deploy new software (operating system or application software) in your educational organization? What are some of the steps you would take to avoid trial and error? Keep in mind that most organizations cannot afford a six-month training program that impacts overall work performance.

Also, in making decisions that impact the organization, it is important to know what the current trends are and how the organization can benefit from using them. This should be viewed as a business or educational decision that provides return on investment. For example, an interesting and notable trend in application software packages is Microsoft Office 2000. This integrated software package has more web capabilities or enhancements than previous versions. One of the most compelling reasons to use Microsoft Office 2000 is the common interface that all Office programs share. Is this a trend in application software that will affect organizations? The answer is yes. Therefore, as future implementers of technology in education it is important to continue learning about information systems and their impact and importance in the educational and business world. Here are some things we can remember:

1. Application Software requires the operating system to carry out hardware-related tasks such as printing reports or storing data on disks.
2. The Operating System acts as a liaison between the computer hardware and the application software.

3. The computer hardware is the core of the system, but the hardware cannot function without an operating system.

- Which statement is the most accurate?

380. In applying our understanding of such terms as telecommunications, Internet, TCP/IP, LAN and WAN, we can now better understand how the existence of the intranet and extranet could affect educational organization. Intranets are external websites that are specifically designed to provide a wide range of media, lesson plans, training, or information to end users within an educational organization or business environment.
381. Application Software requires the operating system to carry out hardware-related tasks such as printing reports and storing data on disks. The Operating System acts as a connection between the computer hardware and application software. The computer hardware is the basis of the system; however, the hardware can function without an operating system.
382. A computer is perhaps the most successful and versatile machine in history. It can produce professionally typeset documents, produce music, control machinery, keep track of airline reservations, and even help to accurately diagnose diseases and much more. However, it cannot perfectly translate between languages.
383. The operating system performs certain functions that are important to the computer. Much of the operating system functions are seen; therefore, you will know when you are using an applications software package. Also, you will have to call into action the operating system.

Implementing Optimal Teaching Technology

The management role of the systems development area has become an integral part of the entire organization. Whether you are a part of the systems development team, which is usually the information technology department, or from a department that will interface with that group, it will help to understand how the systems organization functions. The relationships that develop can reinforce the quality of the products that are produced. Since we live in the

Information Age, it is beneficial to all of us to have at least a basic understanding of how information systems are developed, or could be developed. In either case, you should seek to understand the responsibilities and the importance of the sharing of responsibilities during evaluation and development of systems.

As an education professional, it is important not to fall into the trap of thinking that newer is always better. One reason is that in today's global economy there is constant change and intense competition. Also, it is imperative to remember that companies use information as a vital resource in the battle to increase productivity, deliver quality products and services, maintain customer loyalty, and make sound decisions. In a global marketplace, information technology often means the difference between success and failure. Managers who make decisions to experiment with new technology must find a way to balance the risk of using new technology against the potential benefits in either production or business improvements. There are many management techniques, which can help managers, or us, to assign a dollar value to the various options in the selection of software that will be of value in the educational process.

Systems Development

Systems development is the process of examining a technical situation, designing a solution to improve that situation, and acquiring the resources needed to develop and implement the solutions. A system project begins with a project proposal, which is a result of problem or opportunity recognition. The system development process is the set of activities that brings about a new technological solution. When the principles and ideology of system development

are ignored, cost and schedule overruns are inevitable; this sometimes results in system failure and, above all, not having the infrastructure needed to provide the education and training needed.

Systems development must also involve an in-depth study of end user information. This includes needs, which dictate functional requirements that are used as the basis for the design of a new information system. In other words, system analysis, which must effectively use hardware, software, data, processes, and people to support the company's educational objective, is a key part in the development of information systems. A key factor in the system analysis phase is users being involved in the process of identifying functional requirements. However, based on the use of the systems analysis approach, we can assert that each part of the system development process plays a vital role in the success or failure of the system. Requirements, both functional and technical, must be appropriately identified. If there is not a proper identification, what could possibly happen? The developer involved in providing the system would develop what he/she *thought* the users wanted, based on interpretation of what the users were saying. This could potentially result in an information system that runs over budget, is behind schedule, extremely slow, and does not meet the users' educational needs. In recent times, however, many organizations developed systems based on what the developers thought would meet the company's needs.

Minor oversights or miscommunications negatively impact the system's design, implementation, and maintenance phases in businesses and educational facilities all over the world.

- Which statement is the most accurate

384. Computer software determines and helps control what a computer can do. Software can transform a computer from a drafting station to a typesetting machine. Software can even transform a computer from a calculator to a flight simulator. However, because it is soft you must be very careful when cleaning the components.
385. Application Software consists of programs that tell a computer how to produce information. Software (such as Microsoft Word, Excel, Access, PowerPoint, Netscape, Explorer, CAD/CAM, etc.), however, has its limitations. For example, it cannot be used to produce documents, manage financial resources, perform calculations, maintain information files and so on.
386. In making decisions that affect the organization, it is not imperative to know what the current trends are. Keep in mind that decisions need to be viewed as either business or educational decisions, which provide return on investment.
387. A very important part of the system software is a set of programs called the operating system. The operating system, which could include programs we've all heard of such as DOS, Windows 98, Windows NT, Windows ME, Windows 2000, Mac, UNIX, OS/2, Linux, etc., tells the computer how to perform crucial functions.

MODULE - 19

Case Examples of Evaluating and Acknowledging Technological Needs

Following below is an example of how I evaluated the technological needs of a friend's corporation (a security design firm). This evaluation can and is applied regularly in educational environments.

The purpose of this study is to address and provide timely and economic computer information system solutions for Parker/Sloan/ Thorne, a high-tech security design firm. Parker/Sloan/Thorne has recently experienced an over-whelming increase in business and needs to adapt its computer systems quickly in order to meet their clients' demands. Due to the nature of their business and the possible relatively short-lived surge in sales, the proposed computer system must not only be adaptable to rapid fluctuations in workload cycles but also must be financially feasible in short- as well as long-term scenarios.

Business Requirements

Sales Functionalities – Parker/Sloan/Thorne is a company that relies heavily on the success of their sales team. There are many companies that have let the increase of business lead to their demise. With this in mind the proposed technological solutions would require changes made within many of the standard sales functions such as training, quoting, use of buying trends, and inventory management. Part of the solution should improve the way that this information is extracted from their current system, enabling their executives to maximize every selling situation.

Quoting is a very important aspect of the selling process because this is where it is determined if an opportunity is real or not. During this process it is vital to the company's success that employees quote accurately and are in sync with what has been quoted in the past. Part of the solution should provide a past history of what has been quoted, either formally or informally. That information will be automatically linked to the customer's account so that when a quote

request is made for a specific item, the customer will be given the same information from any person they speak with at Parker/Sloan/Thorne. This particular process will also apply if a customer asks for an item that they have purchased previously.

Being able to track buying trends will help the corporate team know who purchased what and when they purchased it. The same table that holds customer information will also hold information regarding what this particular customer has purchased, what they are interested in purchasing and what times of the year they typically buy from Parker/Sloan/Thorne. This information will be able to be accessed by going to the reports section of the database. The marketing representative will be able to simply enter in a product code and from that point they will be prompted to enter time periods, specific customers, or simply product inventory history and how long it usually sits on the company's shelves before it is shipped to a customer.

A key business requirement is inventory management. By having a centralized database, every employee at Parker/Sloan/Thorne has "real-time" access to inventory information. This is important if the firm is to remain consistent with the promises made to their present and future clients. Parker/Sloan/Thorne has one of the most revolutionary warehouses in the United States, using barcodes and hand-held devices to track and manage products at various facilities. The central database used for tracking inventory will have two backup locations at undisclosed locations, reinforcing the stability of Parker/Sloan/Thorne.

Remote/Independent Sales – As mentioned previously, Parker/Sloan/ Thorne has invested in a centralized database solution for all employees to benefit from. The recent situation is that of the remote sales force not having enough access to the system to perform tasks critical to their individual success, and hence that of the team.

The intranet that the company currently has in place for remote employees is good for conveying information and accessing employee information changes and permanent personal records. However, the remote team does not have access to inventory information, price history, new account number changes, etc.

Another part of my proposed solution would be that the remote team has access to the new centralized database by use of a virtual identity password. This changes every thirty seconds and applies only to the laptop assigned. Here's how it works: The Parker/Sloan/Thorne employee will log on to the system using AT&T Internet connection. They will then be prompted to enter in the number on the screen off their virtual private network key chain (attached to the laptop). The system will accept the password if it is accurate. This method has been tried at many corporate locations and should prove to be successful at Parker/Sloan/Thorne as they move to a more united front with a centralized database.

Corporate Employee Tracking

Parker/Sloan/Thorne is dedicated to keeping the team successful. With that in mind it is important that the company continually track employees' activities with clients and potential clients. This procedure is not to be a monitor or to micro-manage the team but to help the team improve.

With every quote that is made to a client, the salesperson's corporate three-digit identification number is associated instantly. This will not only help the management team to locate the activity of the salesperson, but also help the salesperson keep track of what they have been working on. The tables that will be programmed to help with the acquisition of this information are very similar to the programming that will be done in the customer-tracking scenario. The only difference is that this will be for the employees.

Training

Parker/Sloan/Thorne is recognized for the foundation of training that is provided to employees. Initially, new employees receive a two-week training and sales education class. Employee education is very important and vital to this company's success. It is recommended that once the equipment is forwarded to the remote and traveling employees, they will be scheduled for a three-day training course, together with the corporate team, at the home office.

During this training they will review accessing the internal system, using the virtual private network security key, troubleshooting, and basic system functions and reminders.

System Recommendations

For a successful implementation, I have outlined the following system requirements. In order for the company to have a very profitable return on investment, it is necessary to invest in what I feel is a high-quality solution to the problems that are on the horizon.

The first choice is the IBM ThinkPad T Series notebook PC. This is recommended primarily because of the power it has. It also comes with a very high-power memory module. The drive should have plenty of space for the company's applications plus the virtual private network software from Cisco. The 14-inch display monitor is a very important selling point. When in front of clients, the company wants to make sure the client can get a good picture of inventory and documents that the team will have access to. This is one instance where size does matter.

The software choices are very standard. As a corporation they are planning on upgrading to Windows XP in the second quarter of 2002. Implementing my solution would only expedite their current plans. The only other software that I am recommending is based on the use of the virtual private network.

Corporately there are minor changes that need to be made in order for the team to access the system through a virtual private network. There are two extra pieces that need to be added to the already existing network, the Cisco VPN Unified Client Framework and Cisco VPN 3002 Hardware Client.

Hardware Recommendations

Laptop

- IBM ThinkPad T Series
- 1.1GHz Mobile Intel Pentium IV Processor
- 128 MB / 1.0GB Non-parity SDRAM
- 30 GB Hard Drive
- Ultra bay Plus / DVD-ROM
- 56Kbps data/14.4Kbps fax / Ethernet/Wireless LAN (802.11b)
- 14.1" 1024x768 TFT active matrix display

Software Recommendations

- Microsoft Windows XP Professional
- IBM Access Connections
- IBM Software Installer
- Cisco AVVID Virtual Private Network Software
- AT&T dial-up
- Microsoft Office 2000
- Parker/Sloan/Thorne Inventory Management
- Microsoft Outlook 2000
- Palm Hot Sync
- Firewalls

Corporate Hardware Recommendations

- Cisco VPN Unified Client Framework
- Cisco VPN 3002 Hardware Client
- Hardware VPN Routers
- Firewalls and Hardware Clients

Case Study Summary

Parker/Sloan/Thorne is in need of a solution that will unify their efforts at non-corporate locations. This unification process should allow us to hold on to existing business with a tighter grip in addition to having the resources to handle future business.

Ultimately the proposal provides an answer to the increase in business and managing off-site executives. The proposal is by no means radical or awkward. This simple system design, mentioned in the proposal, has been utilized by many companies. Interestingly, implementation of similar programs usually comes below the allotted budget.

As the industry has a rare upturn, it would be in the company's interests to do their best to capitalize on the situation with the aid of technology. There are many benefits that can come out of the implementation of this proposal. The company is unified in efforts, travel back to corporate site is not necessary, real-time inventory access is provided for our executives and visiting customers, and the list goes on.

The key to using technology to our advantage is to know what is out there and to implement the right tools for the job. I believe I have located the job and the right tools.

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No doubt the above example can apply in any situation where technology is the solution. As far as schools and education go, a simple evaluation of the situation and goals of the organization will guide a technological educator in helping to make the right decisions when it comes down to choosing software, hardware or even online tools to further teaching and education.

- Which statement is the most accurate?

388. Employee education is very important and vital to a company's success. It is recommended that employees be scheduled for a training course with the corporate team at the home office before the equipment is in place.

389. The intranet that the company currently has in place for remote employees is good for conveying information, access to inventory information, price history, new account number changes and accessing employee information changes to permanent personal records.

390. As an education professional, it is important that we do not fall into the trap of thinking that newer is always better. It is imperative to remember that companies use information as a vital resource in the battle to increase productivity, deliver quality products and services, maintain customer loyalty, and make sound decisions.

391. Quoting is an optional way of completing the selling process because this is where it is determined if an opportunity is real or not. If this process is used it is vital that employees quote accurately and are in sync with what has been quoted in the past.

Possible Internet Based Lesson Plan

As an example of implementing a technical solution into an educational plan, I've documented the following possibility. Please note that I am using the fictional organization, University of Thesis Paper.

Overview

COURSE DESCRIPTION

This course introduces the fundamentals of computer systems and the role of information processing in today's business environment. An overview is presented of information systems, systems development, operating systems and programming, database management, networking and telecommunications, and the Internet.

TOPICS AND OBJECTIVES

Information Systems

- Define the roles of information systems in business.
- Define the System Development Life-Cycle methodology.
- Review basic hardware components of a computer.
- Discuss trends in hardware.

Operating Systems and Programming

- Distinguish between operating systems, programming languages, programs, and applications.
- Review common computer software.
- Analyze the role of office automation.

Database Management

- Define terminology used with databases.
- Analyze the ways databases are used as components of business solutions.
- Analyze database administration.
- Demonstrate a *Microsoft Access* database.

Networking, Telecommunications, and the Internet

- List business applications of telecommunications.
- Define the terms and examine the technology of networks and telecommunications.
- Analyze the role of the Internet.
- Distinguish between the Internet, intranets, extranets, and e-business.

Business Systems Development

- Apply the System Development Life-Cycle methodology.

DELIVERY METHODS

This module contains assignments and information for multiple course delivery methods.

ALL DELIVERY METHODS
These assignments are applicable for all delivery methods.

CLASSROOM
Students meet face to face with the instructor and their classmates.

ONLINE
Students meet via computer with the instructor and their classmates.

FLEXNET®
Classroom and Online delivery methods are combined.

DIRECTED STUDY
Student works one-to-one with the instructor.

In all cases, refer to the syllabus distributed by your instructor for a comprehensive listing of the assignment descriptions and due dates.

ASSIGNMENTS DUE

CLASSROOM
All assignments are to be completed prior to the workshop in that they appear.

DIRECTED STUDY AND ONLINE
All assignments are to be completed during the workshop in which they appear.

Student Materials

BOOKS, SOFTWARE, OR OTHER COURSE MATERIALS

Alfred, Herman A. (2001). *Conclusion of Information Systems: Essentials for the Internet Corporation* with E-Tutor (10th Edition). Boston, MA: Irwin/McGraw-Hill.

University of Thesis Paper approved style guide

"Library Handbook." (Download from http://ecampus.UofThesisPaper.edu.)

You are required to have the software specified below.

- *Microsoft Office Professional* for *Windows*.

- An e-mail address.
- An Internet Service Provider.
- *Microsoft Internet Explorer* 5.0 or higher.
- *Netscape Navigator* 3.0 or higher.
- Virus protection software.

ELECTRONIC RESOURCES

UNIVERSITY OF THESIS PAPER MATERIALS

"Project Overview."
"Directions for Completing Learning Team Log." (Download from http://ecampus.UofThesisPaper.edu .)
"Learning Team Log." (Download from http://ecampus.UofThesisPaper.edu .)
"Directions for Completing the Learning Summary." (Download from http://ecampus.UofThesisPaper.edu .)
"Learning Summary." (Download from http://ecampus.UofThesisPaper.edu.)

Workshop One

Information systems

- Define the roles of information systems in business.
- Define the System Development Life-Cycle methodology.
- Review basic hardware components of a computer.
- Discuss trends in hardware.

ASSIGNMENTS

ALL DELIVERY METHODS

Read Chapters 1 and 3 in Introduction to Information Systems: Essentials for the Internet worked Enterprise.

CLASSROOM

1. Read the following items, available at http://ecampus.UofThesisPaper.edu:
   a. "Learning Team Charter"
   b. "Directions for Completing Learning Team Log"
   c. "Learning Team Log"
   d. "Directions for Completing the Learning Summary"
   e. "Learning Summary"

2. Select Learning Team members who will work together throughout the course.
3. Suggest an appropriate Learning Team Meeting location.

ONLINE

1. Submit your Weekly Summary for this workshop as instructed in the course syllabus provided by your instructor.
2. Select Learning Team members who will work together throughout the course.

DIRECTED STUDY

1. Submit your Weekly Summary for this workshop, as instructed in the course syllabus by your instructor.
2. Prepare a 4- to 6-page paper (350 words per page) answering the following questions:
   a. What are the implications for management of the reduction in cost of hardware with time?
   b. What are the implications for management of the reduction in size of hardware with time?
   c. What are the implications for management of the increase in power of hardware with time?

Learning Team Meeting One

Time: 5 hours

ASSIGNMENTS

CLASSROOM AND ONLINE

1. Review the objectives from Workshop One and discuss additional insights and questions that may have arisen.
2. Complete the assignment due for Meeting One in the University of Thesis Paper Material “Project Overview” (Note: This material is found in the back of the module.)

CLASSROOM

1. Create the Learning Team Charter.
2. Prepare the Learning Team Log.
3. Identify your next Learning Team Meeting location.

Comments about Online Learning

Many students remark that online learning is convenient. Is convenience the ultimate deciding factor? In an interview conducted with several people currently involved in online classes it has been found that effectiveness is also a factor. The phrase, “nothing beats human contact” is definitely difficult to contend with; however, much can be said of the external factors in physically being in a school environment over a prolonged period of time. Without discussing in-depth the pros and cons of online classes it is obvious that as convenience becomes available technologically, something will be done to appease the desire for it. This will also trickle down into the field of education as we are already seeing.

Conclusions and Recommendations

In conclusion, it is very important to consider the benefits of utilizing technology in education. People today are mobile and travel to remote parts of the world and still want to continue to grow mentally and expand their knowledge. There are people that will continue to pursue education at specialty schools regardless of where they are in relation to the institution. Within the business world, which makes up a vast amount of educators and educated, technology has an increasing hand in delivering corporate training and philosophies of high-level executives.

As technological wonders persist in this ever-changing world, we as educators of the English language should embrace and utilize these as invaluable tools.

- Which statement is the most accurate?

392. Regarding schools and education, the technological educator who only does a simple evaluation of the situation and goals of the organization is not fully equipped to make the right decisions about choosing software, hardware or even online tools.

393. Corporately, there are some major changes that need to be made in order for the team to access the system through a virtual private network. There are many pieces that need to be added to the already existing network, such as the Cisco VPN Unified Client Framework and Cisco VPN 3002 Hardware Client.

394. A good choice is the IBM ThinkPad T Series notebook PC. This is recommended primarily because of the power it has. It also comes with a very high-power memory module. The drive should have plenty of space for the company applications and the virtual private network software from Cisco. Also IBM has the 14-inch display monitor, which is a very important selling point. When in front of clients, a company wants to make sure they get a good picture of inventory and any documents that the team accesses.

REFERENCES

1. *Balasco, James A., Teaching the elephant to dance; the manager's guide to empowering change. New York, N.Y.: Crown, c1990*

2. *Suters, Everett T., The unnatural act of management: when the great leader's work is done, the people say "We did it ourselves". New York, N.Y.: HarperCollins, 1992*

3. *Sharman, David., The perfect meeting. New York, N.Y.: Random House 1993*

4. *Bott, Ed., Using Microsoft office 2000. Indianapolis, In.: Macmillan Computer Publishing 1999*

5. *Encyclopedia Britannica (2001) "Motivation" Herbert L. Petri*

6. The Columbia Electronic Encyclopedia Sixth Edition 2000 www.encyclopedia.com/ "Language Acquisition"