Introduction to Technical Training:

A seminar for technical user supporters

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About this document

This document is intended as a guide for seminar leaders who teach user supporters at Community Access Sites. It is assumed that user supporters have an intermediate to advanced facility with computers but little experience in training or instruction.

In order to lead this seminar effectively, seminar leaders should have access to at least one, Internet-connected computer terminal. It is acknowledged that this seminar will probably take place in a computer lab, however. Seminar students will be performing role plays, so the room needs to be able to accommodate this. Also, the seminar leader will need a white board (ideally) or a flip chart to write down important issues.

This curriculum is a mixture of lectures and tasks. The seminar leader should be comfortable explaining concepts as well as directing students in role plays and other tasks. It is assumed that introductions will take place before the seminar commences.

Module 1 – Introduction to technical training

This module is designed to introduce students to the practice of technology training. The seminar leader will lead students through the following tasks in order to increase their own comfort level with computers. But these students will also become ***teachers themselves***. The seminar leader should also remind students throughout this module that they themselves can use these techniques when they train others.

This section is about introducing the pedagogical practice of technology training. The tasks described below will take very little time. The seminar leader can choose to set aside time in the first minutes of the seminar for these tasks, or, if they prefer, they can integrate these tasks throughout the seminar.

Technology training is not easy. Many students experience ***tech anxiety*** when dealing with computers. They sometimes say they are afraid of computers and have often experienced frustration when trying to use them on their own. A technology trainer's job is not to simply teach students how to perform tasks on a computer. Rather, the technology trainer should ***demystify technology*** and ***create a sense of comfort*** for the students.

The process of creating a comfortable, non-intimidating atmosphere has several key aspects to it: students should learn that:

- Technology is not perfect. It is often poorly designed.
- Making mistakes is a normal, natural and unavoidable part of gaining technical skills. Accept the fact that you will, at times, become frustrated.
- Using computers is like learning a new language. Just because you don't speak it doesn't mean you're stupid!

The following tasks can assist in engendering a sense of comfort for students, but seminar leaders should be aware that demystifying technology is philosophical underpinning of technology training; remind students throughout the seminar about technology's limitations.

Tasks

Sharing feelings about technology

At the beginning of the seminar, the seminar leader can ask students to throw out words that they think of when they think about computers. Words like "confusing," "scary," "frustrating" are often used. Writing these words down on the white board and discussing them as a group will set the stage for a supportive, non-intimidating environment.

The seminar leader can then tell the students how the skills they'll learn over the course of the day will help dispel some of these words. However, students often have inflated expectations about their abilities after a single one-day seminar. Seminar leaders are encouraged to remind students that they may well continue to experience frustration after the seminar but that this is a normal part of learning technical skills.

Pointing out the limitations of computer design

Periodically throughout the seminar, the seminar leader should ask students what they think of the design of the technology they are using. For example, what do students think about the tool bar in Netscape? Does it make sense? Is it confusing? Seminar leaders should encourage students to form and express opinions about the design of technology. Students will develop an understanding that poor technology is the cause of their frustration, and not the fact they "don't get how to use it."

In this section, students can discuss a particular piece of hardware, such as the mouse. Seminar leaders will ask students what's hard about using the mouse and what they might do to improve the design. Students' critiques and suggestions go on the white board for everyone to discuss.

Introduce technical language

Using technical language is unavoidable when doing technical training. Unfortunately, it is exactly that language that creates a sense of unease for novice computer users. Newly trained "experts" often exacerbate this situation by using confusing technical jargon unnecessarily.

The seminar leader will choose one student from the group for a role play: to explain to the group what is wrong with his or her computer. The computer isn't working because the mouse is not plugged in. But the student is only allowed to use the following words:

- Signal enhancer (the mouse)
- Engagement site (where the mouse plugs in)
- Signal (mouse point or cursor)
- Digital signal enhancer (the keyboard)
- Display device (the monitor)

The student/actor will try to explain to the group that his or her mouse isn't plugged in and that's why the computer isn't working properly. After, the entire group will discuss how they felt during the discussion, e.g., did they feel any frustration? Anxiety? Puzzlement? The

seminar leader will then take suggestions on how to improve the communication and write these on the white board.

Straightforward instructions

When guiding students through technical task, it's important to use simple instructions on what to do. The practice of coaching relies on a simple formula for giving instruction:

- **Break down the task** into each of its constituent parts and explain each part. For example, instead of saying "Open a new window," say, "Find a short-cut on the desktop. Double click on the short-cut."
- **Tell students the purpose** of each task. For example, learning how to minimize a window will help users switch between all the applications the computer is running.
- **Offer students no more than two "coaching points"** or things to remember or look out for when completing the task. For example, when opening a new window remember to click on the short-cut and not just an icon, and remember to double-click and not simply single-click.

The task in this section is to break down, explain, and offer coaching points on a simple task: creating a copy of a file. The seminar leader will take suggestions from the group on how to break down the task (e.g., first, take the mouse and open up Windows Explorer, then …). These steps will be recorded on the white board.

Students will then be asked what the purpose of this task is. Why would you want to copy a file? This too will be written on the white board.

Finally, students will be asked to come up with two "coaching points" or possible pitfalls of the task of copying a file. These will be recorded on the white board.

Effective listening

The key to good technology training and effective user support is effective listening. Seminar leaders and help desk assistants must know what the user is actually asking before they can help. Reflective listening is a technique that will assist students when they become helpers or trainers to others.

Effective listening incorporates several important elements:

- **Mimicking or "parroting":** In order to fully understand what the user is asking, helpers should frequently paraphrase what they think the user has asked, and seek confirmation about this interpretation. For example, "Correct me if I'm wrong, but I think you're having a problem understanding the difference between minimizing and maximizing. Is this what you're asking?"
- **Open body language:** It is very intimidating for a user to ask for help from a person who has their arms crossed in front of their chest and a disinterested look on her face. Ensure that you appear interested in what the user is saying. Use encouraging non-verbal cues, such as nodding or smiling.

- **Acknowledging and validating user feelings:** Novice computer users can find computer problems a frustrating experience. Helpers should empathize with these feelings. For example, "I can see that you're frustrated. Computers certainly do try your patience, don't they?"

In this section, the seminar leader will enlist students to enact a simple role play. Two students can be selected to play out an unsuccessful helping session. The "helper" actor should employ as many off-putting mannerisms as possible, while the "user" actor should be as frustrated as possible. The rest of the students can offer feedback on how to improve the interaction, keeping in mind the above features of effective listening. The actors re-do the role play, incorporating the other students' feedback.

Module 2 – Helping users with Windows

This module is designed to fill in the gaps that students might have about how computers work. Consequently, this module includes a lot of instruction from the seminar leader. Students should be encouraged to take their own notes and to ask questions.

About the Windows file system

There are three key elements to a file on a Windows computer. Each file has a:

- name
- location
- file type

Names are easy for many of us to understand. The only thing that students might not realize is that file names in Windows are not "case sensitive," or in other words, it doesn't matter if you use capital letters. However, other computer operating systems, such as UNIX, for example, *is* case sensitive, so students should be aware of that. Also, Windows supports file names with spaces or punctuation, but again, other systems may not.

In this section, the seminar leader can show students what constitutes a bad file name (e.g., file.doc) and a good file name (minutes_agm092101.doc). When naming a file, think like a librarian.

Location is where novice users often get confused. The metaphor of the computer hard drive being a drawer in a filing cabinet is helpful. In the drawer, there are folders and in the folders there are individual files. Windows has a different kind of name for files that helps you know where they are: the path name. The path name will tell you what drawer the file is in (c:\) and what folder (c:\royalbank\) and what the file name is (c:\royalbank\statement0806.doc).

Finally, understanding file types is key to exchanging and opening files and often where new users get tripped up (especially with email attachments, but more on that later). The file type is actually included in the file's name, or at least, in the "last name." Each file has an "extension" or last name after a dot at the end of the name (e.g., minutes.doc). The file extension is a clue to the type of program that was used to create the file.

Explaining file name, location, and type to new users will assist them greatly in finding their files.

Common problems

Students can encouraged to share problems that they have faced.

"Losing" files

Novice computer users often don't know how computers store files. They don't have a conceptual idea of where files go when they save them and often, therefore, "lose" their files. Show the user Windows Explorer and how it offers a view inside of their computer. Use the filing cabinet drawer to explain how it works. Once the user has a basic understanding of how Windows stores files, browse through folders in Windows Explorer with the user. If the file cannot be found this way, use the "Find File" function. Remind the user of the three components of a file: name, location and type.

Task: role play

The seminar leader will choose a helper and a user. The user is having difficulty finding a file he or she made. The helper's role is to explain how to find that file, remembering to:

- use non-technical language
- break down the task into understandable bits
- listen effectively
- empathize with the user

Other students will critique the role play and offer recommendations.

Module 3 – Helping users with the Internet

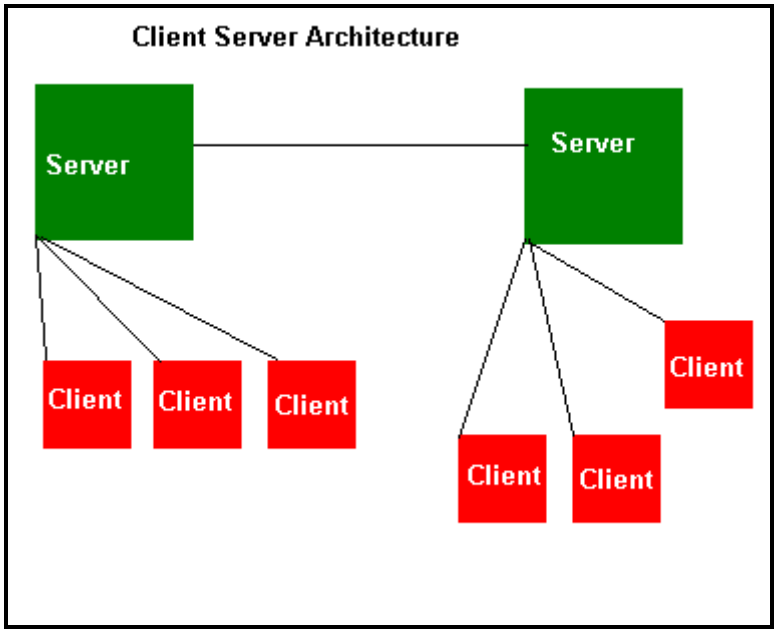
About the Internet

This section requires some explanation from the seminar leader. Below is an explanation, complete with a diagram that seminar leaders can draw on a white board, that will show what the Internet actually is. Showing students what the Internet is and how it works goes a long way for their conceptual understanding of how to use it. This is an important section. Seminar leaders are encouraged to take the time to offer this brief explanation.

The Internet was created in the 1970s as a way of connecting university-based and military computers. The "internet" itself is actually the cables that connect big computers, called servers, to each other. When we go "on the Internet" we are connecting our little computer to these cables.

Client/Server Architecture – clients are little computers, like the ones we're working on right now. They are connected, using a big cable or maybe your telephone line, to big computers called servers. These big computers are connected to each other.

Servers are designed to "serve up" files and documents to the clients. So using your client, you can contact the VCN server and say, "Serve me up the CBC's Web page." The VCN server goes to the CBC's server and says, "Give me that Web page."



The Internet – based on the client/server architecture, the Internet is actually the cables that connect the servers. You get on the Internet by using a cable or your phone line to connect to a server.

The World Wide Web – the actual HTML pages that you see when you browse the Internet. The World Wide Web is made up of the individual files on all the servers that are connected to the Internet.

About search engines

A big problem for new users is learning how to find meaningful information on the Internet. There are actually two types of search engines. Understanding the difference between them is important in understanding how they organize information.

- Directories – Yahoo is a directory. Just like with the phone book, you have to register your Web site with Yahoo for it to be listed. A site isn't automatically registered.
- Web Crawlers – Google is a Web crawler. Google's servers go out every night on the Internet and find new stuff out there.

Common problems

Double clicking on links

Novice Web surfers often assume that the clicking patterns for Windows and the Internet are the same. There is no real harm in double-clicking on Web links, but occasionally it will lead to slow computer response time. Learning to single click makes Web surfing a more efficient and enjoyable experience.

Server not responding

New users often expect instant response from the computer and if they don't receive it, they will assume it is *their own fault*.

Teach the user to notice and use the information that the browser offers them. The status bar will tell the user what the responding server is doing. The spinning logo in the top right-hand corner of the browser will also tell the user that the server is working for them and that they should wait.

Unable to "go back"

Occasionally, Web designers will create their pages in such a way as to "break" the back button. The back and the forward button are the only ways that new users know how to get around the Web. There are other ways, however. In Netscape, there is the "go" menu. Users can select a recently visited page and return to it directly, without having to use the back button repeatedly. Internet Explorer has the "view" menu, as well as the pull down menu for the location bar. Both of these will allow users to avoid getting stuck.

Typing in a URL directly

Besides being difficult to type without any mistakes, users often don't know where to put a URL. I have seen many new users type a URL directly into Yahoo and push search. I've also noticed that they type the URL into the location bar and instead of pushing "enter" they click on the "search" button of the browser's tool bar. New users need to be taught *exactly how* to type in and access a URL.

Underdeveloped searching skills

People who are new to the Web often feel overwhelmed by the amount of information out there. Show the user a search engine that is well-suited to their searching needs.

Some simple search strategies can also help. Learning to use the Boolean operators "and," "or," and "not" will make a big difference in the search results list. Also, exact match searching, where the user wants to find instances of an exact phrase, is useful. Putting the phrase in quotes returns instances of those words in that particular order.

Users might still experience searching frustration. There *is* a lot of information on the Web but they won't necessarily find exactly what they're looking for. Assist the user in having realistic expectations about what the Web can and cannot offer, and to practice surfing.

Evaluating the search results

New users often fail to critically examine the information they find on the Internet. But because there are no established indicators of credibility, they are frequently overwhelmed with any information they find. Encourage users to learn what the new indicators of credibility are. For example, do you recognize the URL? Is it an established source of credible content? Users need to learn that the skills they employ everyday such as "don't believe everything you read" are just as relevant with the Internet.

Task – role play

The seminar leader will select one person to be the helper and one person to be the user. The user is trying to find information on a specific hotel in San Francisco. The helper will assist the user in doing so, keeping in mind:

- Non-technical language
- Effective listening techniques
- Boolean searching or exact match searching techniques

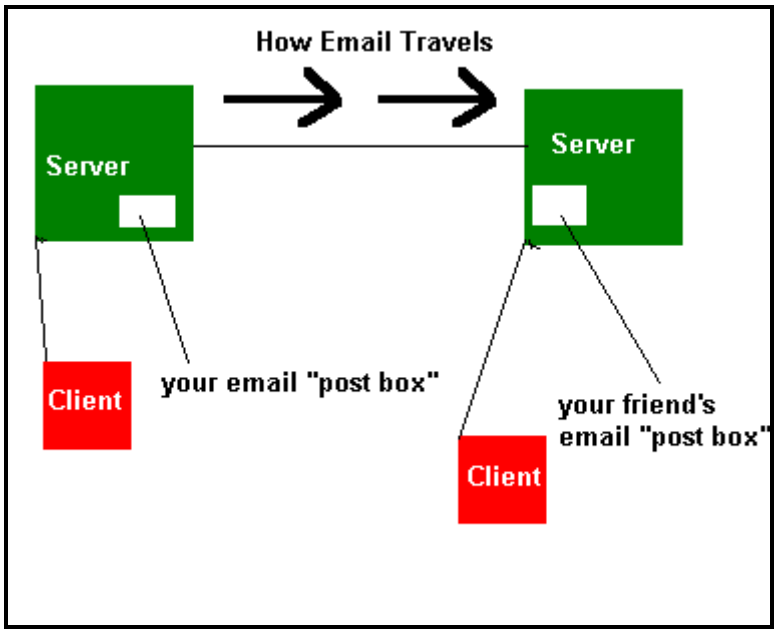
The rest of the group will then critique the assistance and offer recommendations.

Module 4 – Helping users with email

About email

Email is electronic text messages that are sent from server to server. Clients can download the mail that the server holds for them if they have a password.

- **Attachments** – files that are "piggybacked" onto the text email message and sent from server to server, but attached to a particular email message.



Common problems

Addressing messages

New users are frequently inexperienced typists as well. As a result, they often make mistakes in addressing their emails. They often don't realize that it must be an exact match for it to

work. Encouraging users to have patience and be mindful of their typing will help, but it's better to teach them how to input people into their address books.

Reply-all

How many of us have experienced this faux pas? The CC function in email can result in a big oops in a tiny second. New users don't realize that there's a difference between reply and reply-all. Explaining it early is helpful.

Attachments

Attachments are the biggest problem new email users face. Most people don't have a problem learning how to attach a file – the visual cues on the email tool bars are easy enough to follow. It's the downloading, saving, and opening of these attachments that are the problem.

Just like with all other files, attachments have the three important components, but they also have an additional important element:

- name
- location
- type
- size

Teaching new users to download, save, and open attachments means teaching them the basics of the four above elements. First, users need to know what the name of the attachment and where they saved it. Right-clicking on the attachment and saving it this way allows users to see where they saved it and what it's called (their first instinct is to simply double-click).

When users get into trouble is when they receive an attachment created in a program that their computer doesn't have. There are advanced techniques for solving this problem, such as renaming the file and its extension, and associating the file with a program the computer actually has. These techniques are a little advanced for new users, however. The best option is to reply to the email and ask their friend what program was used to create the file, or to ask that they resend the file in a format their computer understands.

The final element of file attachments is file size. Now that emailing pictures of the grandkids around has become common practice, huge files are being sent as email attachments. Users don't realize that image files take up more space than other files. Sometimes the file is denied by the user's email server because it's too big.

Task – Role Play

The seminar leader will choose one student to be the user and another to be the helper. The user has received an email but cannot open the attachment. The helper needs to help the user understand attachments and explain how to open them, remembering to:

- use non-technical language
- listen effectively

- break down the task into small sub-tasks
- empathize with the user

The other members of the group will watch the role play and critique it, offering suggestions for improvement.