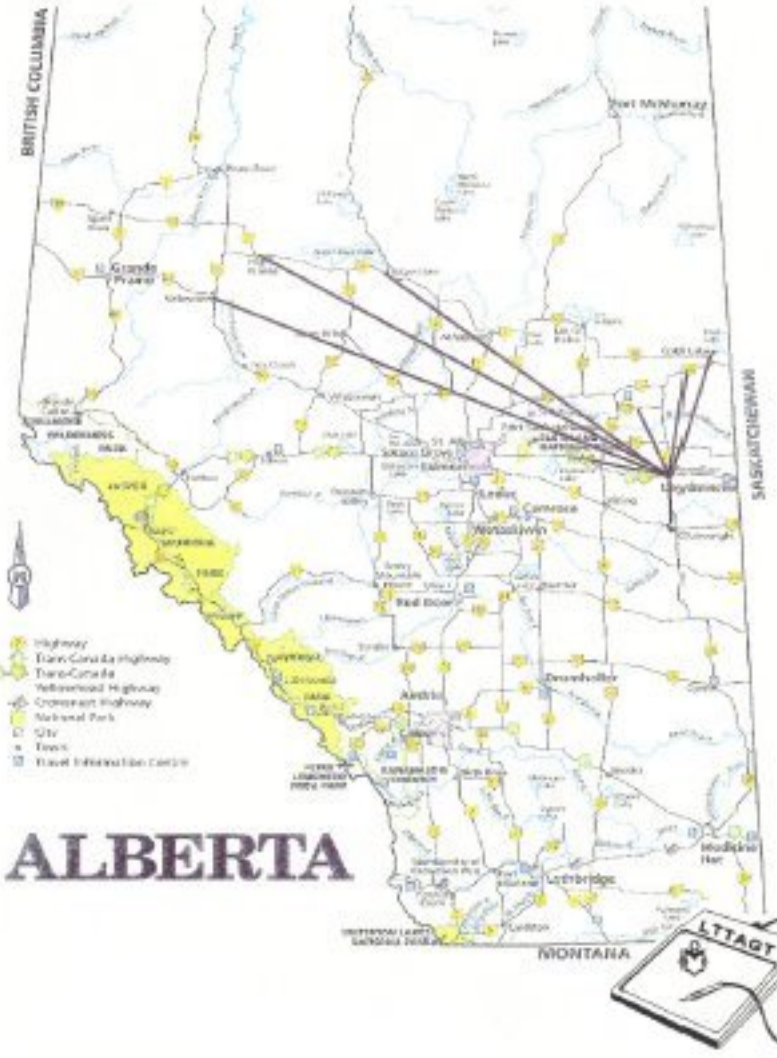
A Project Funded By
The National Literacy Secretariat

A Literacy Practitioner's Guide to Audiographic Teleconferencing



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Acknowledgments

The undertaking of this project was made possible through a grant from the National Literacy Secretariat. Special thanks to Yvette Souque, Keith Anderson and Yvon LaBerge for their encouragement before and during the project. Thanks to Lakeland College, Alberta Vocational College -Slave Lake, and the University of Manitoba for providing the facilities and equipment necessary to carry out the objectives of this project.

It is important to have a strong support system to provide encouragement. Thanks to Don Ingram and the LEARN - Vermilion literacy council for being there for me during the project.

The literacy coordinators and tutors who were asked to participate in this project did so with little prompting. I thank each program for taking part, including:

- LEARN - Vermilion
- LEARN - Vegreville
- LEARN - Wainwright
- LEARN - Cold Lake
- LEARN - St. Paul
- LEARN - Ft. Kent
- Community Reading Project - Slave Lake
- Prairie River Regional Literacy Project - High Prairie
- VALID - Valleyview

I am grateful to the presenters - Rod Corbett, Mary Finlin, Marcia Shillington, and Robin Millar - for their participation. It was a pleasure to work with Theresa Berg again as we developed support materials together. Thanks to my willing and able evaluation team -Peter Faid, Rod Corbett and Natalia Toroshenko - for staying the course. Their experience, good questions and perspectives helped to keep me on track.

The bridge operators and technicians, who worked faithfully behind the scenes to assure that we were all connected and ready to go, are to be commended for their hard work. This includes those at AVC Slave Lake, Lakeland College, and the University of Manitoba.

Last but not least, my husband, Barton, deserves much credit for spending many late hours on my behalf. I appreciated his willingness to preview the session materials, help train the instructors in Vermilion in the use of OPTEL@, and for being there when I needed his expertise

Meredith Ottoson
Project Coordinator

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Note: The materials contained in this study guide were compiled for the **Literacy Training Through Audiographic Teleconferencing Project** by Marcia Shillington.

What is audiographic teleconferencing?

Simply stated, audiographic teleconferencing combines the features of regular audio teleconferencing and the transmission of images (graphics)and text between computers. The computer acts as an overhead projector providing visual information such as diagrams, text or pictures on the computer monitor.

An electronic writing pad (telewriter) with stylus (pen) may also be used. This enables the instructor to highlight important information on-screen. It also permits the students to manually participate in the teleconference by underlining or highlighting a section of a slide or write in comments. The computer keyboard can be used for this purpose as well.

The data for slides must first be created using software such as Powerpoint®, Presentations®, Corel Draw® or other similar software. Computer generated graphics or pictures can be used to augment the text.

The slides are then saved in an audiographic software format, in this case OPTEL®, and the disks distributed to each receiving site for installation on the computer's hard drive. The same information is stored on the hard drive of the instructor's computer. This allows the instructor to change the slides at all participating sites at the same time.

Training materials and other support material scan be produced for use during an audiographic teleconference. This allows learners to do pre- and post-session activities designed to enhance their learning.

Audiographic teleconferencing can take place between two locations (point-to-point) or among several locations (point-to-multipoint). An audio bridging system is required to connect several sites, while direct dialing is all that is necessary to connect two sites.

Like other distance delivery methods, a greater responsibility is placed upon the student for his/her learning. The roles of the learners should be discussed in advance of the first session or during the first session. Some questions that require answers include:

1. **Are the learners willing to take more responsibility for their learning?**

   This may mean asking others to be quiet, asking the instructor to rephrase a question or clarify a point, taking the lead in discussion or acting as a catalyst during group activities on or off-line. It also implies that other's opinions are respected.

2. **What are the learners' expectations of the technology and the sessions?**

   Dealing with anxiety about the technology from the start and incorporating some fun into the training activities can help to ease negative feelings. Students' learning goals can be clarified and incorporated into the training to encourage ownership of the course and content.

3. **What is their prior experience with computers and/or other distance delivery systems?**

   Dealing with anxiety about the technology from the start and incorporating some fun into the training activities can help to ease negative feelings. Students' learning goals can be clarified and incorporated into the training to encourage ownership of the course and content.

Satisfaction with this and other distance delivery technologies indicates that

1. student experience is influenced by prior needs and expectations
2. students believe that an on-site coordinator is critical to the success of the training;and,
3. proper instruction and guided practice are fundamental to eliminating anxiety about the teletraining experience.

Reminder: The effective use of audiographic teleconferencing is directly related to the planning and preparation efforts taken beforehand. IT is important that both instructors and learners be trained in its use.

The Project

The idea to pursue *Literacy Training Through Audiographic Teleconferencing* as a literacy project began in the fall of 1992. The Business Studies Department at Lakeland College in Vermilion, Alberta had begun distance delivery using this technology. My husband, Barton, was the instructor for the course being delivered. His involvement in the project initiated many discussions about using this and other types of technologies to provide training opportunities to a greater number of individuals located at some distance from the instruction site.

My experience as a literacy coordinator led me to believe that audiographic teleconferencing had great potential for volunteer tutor training, especially in rural literacy programs. Providing training opportunities on restricted budgets, being separated by great distances and not having access to resources is a great concern for rural literacy programs. It seemed reasonable to expect that literacy coordinators would benefit from sharing the responsibility for and the expense of training with other program coordinators. Creating partnerships to explore current distance delivery methods was an imperative.

Audiographic teleconferencing sites had been established in Alberta through community consortia and colleges, as well as universities. This permitted the project to be undertaken with no capital having to be spent on equipment. Audiographic teleconferencing met the criteria for providing adult learning opportunities as identified in Alberta Advanced Education & Career Development's document, *New Directions for Adult Learning in Alberta* (1994). It was both available and accessible at all Lakeland College and Community Learning Centre sites, as well as AVC Slave Lake and its satellite campuses. The University of Manitoba Distance Education Division of Continuing Education provided the studio and equipment for the Manitoba instructor, Robin Millar, to instruct from the Winnipeg campus.

The audiographic teleconferencing system had the advantage of acting as both a sending and receiving site. This flexibility allowed me to arrange instruction from a variety of Alberta sites including Slave Lake, Lloyd minster, and Vermilion, as well as from Winnipeg.

During this project, several outcomes were anticipated. The training had to be responsive to the needs of rural literacy coordinators and their volunteer tutors. Exploring an existing technology and determining its usefulness were central to this project. Approaching audiographic teleconferencing from the perspective of the literacy practitioner was of utmost importance.

When the project started, several of the participating literacy coordinators either did not use a computer or considered themselves novice computer users. None had prior experience with audiographic teleconferencing. Being accountable to the literacy coordinators. by providing adequate exposure to this technology and requesting on going feedback, was a top priority. It was equally important to be accountable to the volunteer tutors by producing resources that supported their learning goals, augmented the audiographic teleconference and were useful tutoring tools.

Due to the scope of the project, I chose not to do the presentations myself. Individuals who were experienced workshop presenters, but had no background experience in audiographic teleconferencing, were recruited to instruct the sessions. This arrangement permitted the project to determine the ease with which they adapted both teaching styles and development of materials to the technology.

It was imperative to acknowledge the literacy coordinators' understanding of their volunteer tutors' training needs and experience levels. They provided input for the first tutor training sessions, *LEFT Brain / RIGHT Brain*, during a practice session for the literacy coordinators and the instructor. The literacy coordinators were asked to evaluate the module content, including the audiographic teleconferencing presentation, study guide and User's Handbook.

The practice session for *LEFT Brain / RIGHT Brain* allowed Ms. Shillington to become better acquainted with the technology and make adjustments to her delivery. It also permitted Rod Corbett to evaluate the technical aspects of the presentation and the User's Handbook and make recommendations for improvement.

The volunteer tutors were asked to fill out a needs assessment following their first training sessions to determine their learning needs for the second module to be presented by Robin Millar. By taking into account prior learning, tutor interests and current tutoring experience, Ms. Millar was able to design her sessions to meet the needs of participants. She combined learning styles and strategies, learning disabilities and meta cognition into a comprehensive training package.

The project objectives

Two primary objectives were targeted during the course of the project. The **first objective** was to validate audiographic teleconferencing as a practical means of training for literacy coordinators. To determine whether this objective was achieved, the following criterion were established:

- the cost-effectiveness of using the technology
- the adaptability of instructors' methods to the technology
- impact of technology glitches on the training process
- level of participant satisfaction
- the need for and/or added value of having a literacy coordinator at each site in a facilitator/trouble shooter role

The **second objective** was to develop and test modules for tutor training using audiographic teleconferencing technology. The following measures were instituted:

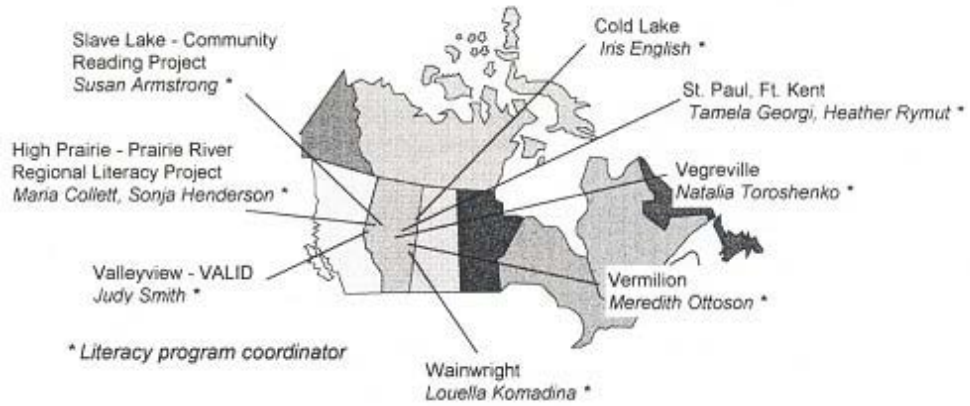
- evaluate the development process;
- evaluate the adaptability of the instructors in course preparation;
- identify the range of individuals who could use the technology for literacy training purposes;
- determine the relevance of the module contents in actual tutoring situations

To assure that these objectives were met, each phase of the project was evaluated using both written evaluations and informal dialogue with participants and instructors. The evaluation tools reflected the types of information needed at each stage. *

* See **Report on the Evaluation** by Peter Faid

The participants

Literacy coordinators from programs in the Lakeland and Slave Lake regions were asked to participate in the project. Tutors for the project were recruited by letter and personal contact by each participating coordinator. A limit of five volunteer tutors was established for each site. Participants from the Lakeland region included LEARN program coordinators at Cold Lake, Ft. Kent, St. Paul, Wainwright, Vegreville and Vermilion. Lakeland College provided the equipment, space and technical support at each of the participating sites.



Susan Armstrong, literacy coordinator for the Community Reading Project at AVC Slave Lake, recruited two other programs in her region. Prairie River Regional Literacy Project in High Prairie and VALID in Valley view joined the project, in addition to local literacy program participants. Susan was also their contact person, in the event problems were encountered during the project.

The instructors

Rod Corbett, AVC -Slave Lake,was selected to provide the introduction to the technology because of his extensive background in distance education. Rod played a valuable role in supporting Susan Armstrong, in addition to being a valued member of the evaluation team.

Marcia Shillington was chosen because of her long teaching career and experience as a work shop presenter for the peer tutoring program at Lakeland College. She had no prior experience in audiographic teleconferencing and her distance education participation was limited to teleconferencing.

Mary Finlin was recruited to replace Marcia for the first tutor training session of *LEFT Brain/RIGHT Brain*. As Learning Assistance Centre coordinator at Lakeland College, Mary had delivered a variety of workshops to both students and faculty. Her distance education experience was limited to participation in teleconferences.

Robin Millar was asked to be a presenter because of the scope of her literacy experience. Her background included developing materials for literacy training via teleconferencing, television and video for the Manitoba Department of Continuing Education and Literacy Training. This was her first exposure to audiographic teleconferencing.

What we learned

Prior to the tutor training

The literacy coordinators' prior computer experience (pre-novice to intermediate) had an impact on their impression of the technology. We also observed that their experience level had some impact on their expectations, as well

The *Introduction to Audiographic Teleconferencing* focused primarily on the use of the Optel ® pad and pen and the keyboard. The literacy coordinators were also given the opportunity to go into the directory and bring up sub-directories. All participants appreciated the hands-on approach to learning about the technology,

A User's Handbook was distributed to the literacy coordinators that explained more about audiographic teleconferencing, how to connect to the teleconference, teleconferencing protocols and what to do when glitches occurred. A study guide was also distributed which contained session goals, activities and other relevant information.

Some literacy coordinators commented that they missed the face-to-face contact with other participants. Others mentioned that the audio transmission was poor at their receiving sites. The coordinators would have preferred that the instructor clarify his expectations at the beginning of the session and that more written information about the technology and its limitations had been included. They were also interested in learning more about how slides were created.

Recommendations for improving the study guide for *LEFT Brain / RIGHT Brain* included providing practical suggestions and strategies for use in tutoring practice. It should be noted that the instructor's training on the equipment prior to going on-line enabled her to deal more effectively with the technology glitches. Rod Corbett's suggestions for ways to improve some of the technical aspects of the delivery of the tutor training were incorporated into the tutor training sessions.

Tutor Training

The tutors were pleased with the support materials, including the study guide and User's Handbook. Most deferred to their literacy coordinator when technology problems arose. They preferred a faster paced, less experiential presentation style. Some commented about the repetitiveness of information on the slides; others appreciated the reinforcement. Several mentioned that they missed the face-to-face interaction.

The technology glitches caused some project participants to be distracted throughout the audiographic teleconferencing sessions. The literacy coordinators were concerned about the effect that these glitches were having on their tutor's overall learning experience.

The technical glitches encountered during the tutor training sessions included line static, voice transmission difficulties, slides that were out of sync or not properly installed on the computer's hard drive, and software incompatibility. Not all receiving sites had technical support available during the sessions which compounded the level of frustration experienced by some participants.

The instructors became aware that three aspects of their presentation were critical to each session's success.

- Teaching style does impact what is being taught.
- Teaching style does affect the level of participant satisfaction.
- *Timing is everything* in course preparation and presentation.

Four key elements affecting the outcomes of the project:

Transition -

During the course of the project, employment changes and relocation affected one of the instructors and two of the literacy coordinators Together with equipment relocation and changes in technical and support staff, unexpected challenges were encountered in meeting *timelines* for the preparation and distribution of materials, *training* and instruction. *Technical glitches* often correlated directly with the amount of transition taking place.

Timelines -

To adequately meet the needs of the literacy coordinators and their volunteer tutors, materials needed to be available for distribution well in advance (two to four weeks) of the first sessions of each module. This would have permitted more time for previewing the materials, installing slides and trouble-shooting, as necessary.

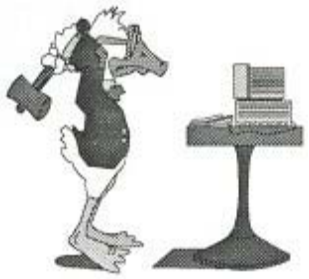
The number of sites and participants meant that scheduling and *re-scheduling* were of great concern. Three audio bridges were involved during the first sessions. A fourth was needed for the last three sessions. Trying to accommodate so many different schedules - instructors, tutors, literacy coordinators, and audio bridges -was time-consuming and a satisfactory compromise was not always reached.

Training -

The literacy coordinators were satisfied with the training they received prior to the tutor training. Some, in their role as site facilitator, took the initiative to introduce their tutors to the equipment prior to the first tutor training; others did not. The tutors and all of instructors would have all benefited from at least one on-line session dealing with the technology only

Technical glitches -

Any technology has the potential for glitches, whether it be a pencil or a computer. The more pieces of equipment and number of people involved, the greater the potential for Murphy's Law to go into effect!



Accomplishments

- Introduced literacy coordinators and volunteer tutors in nine rural programs to an alternate delivery method for tutor training
- Provided supplementary training to programs dispersed over a large geographical area in Alberta
- Demonstrated the flexibility of audiographic teleconferencing by providing instruction from four different locations
- Demonstrated that volunteer - supported literacy programs benefited from access to audiographic teleconferencing.
- Exposed the need for further investigation of distance delivery as a means to support literacy workers and programs
- Provided volunteer literacy tutors with practical tutoring resource materials
- Successfully connected participants through four audio-bridges

Conclusion

My observations during 15 years as a practitioner in adult literacy programs have led me to conclude that literacy coordinators and volunteer tutors rank among the most resourceful of people.The number of volunteer hours spent in support of community literacy programs and initiatives in Alberta is remarkable. I believe this major contribution is often overlooked when funding allocations are made to support the literacy network.

Finding alternate ways to provide literacy training is one way to sustain programs. This requires leadership with vision and a willingness to explore and recommend useful ways in which services can be provided to strengthen literacy efforts. Using technology as a tool and adapting it to fit literacy needs is important. Being objective about what it can and cannot do is equally important

In a study of educational late-bloomers, Jack Levin (1996) observed that, ". . .we live in a society in which second chances are fast becoming a way of life, especially in the educational field." While this study focused on the success rate of university students re- entering the education milieu, it identified four factors that were central to a student's success. These included:

- Intellectual capacity and/or high level of commitment and involvement
- Opportunity
- A triggering event, e.g. job placement or loss
- Readiness to accept change in which social support is present

These determinants are not significantly different from those which apply to successful literacy students and volunteers. However, I believe they underscore the need to provide access to ongoing training opportunities. Looking for ways in which to link literacy program volunteers and students needs to be actively pursued.

Dr. A.W. Bates (1995) has stated,

> ". . . it is easy to get hung up on the technology, which is exciting, challenging, and not without major risks and hazards. However, technology is not the issue. There is more than enough technology available already for us to teach in more or less anyway we like. The issue is the changing needs of adult learners, and the need to find new ways of teaching and learning that will prepare them for the 21st century."

AN EVALUATION OF THE LITERACY TRAINING THROUGH AUDIOGRAPHIC TELECONFERENCING PROJECT

A REPORT BY

Peter Faid, Community Services Consulting Ltd.

AUGUST 1996

BACKGROUND

Challenges for literacy programs

Literacy programs for rural communities in Alberta are dispersed over a large geographical area, and dependent on volunteer tutors. Because of their distance from large centres, these programs share common challenges: how to provide training for volunteer tutors and obtain resources beyond a basic level. These challenges are complicated further by budget and time constraints.

Instructors need training

A 1991 study of training approaches for instructors in adult basic education (ABE)and English as a Second Language (ESL) programs concluded that, generally, volunteer instructors lack sufficient training. The American study identified several elements as being key to successful training programs. Among these are the inclusion of on-going evaluation processes, and the opportunity for trainees to participate in the selection of training course content.

Audiographic Teleconferencing Project

The Audiographic Teleconferencing Project offers a way of exploring an option for meeting the training needs of volunteer literacy tutors in 8 sites in Alberta. Audio- graphics refers to the transmission of images and text between computers. When used in conjunction with audio-teleconferencing, participants are simultaneously able to hear each other and view the same information, diagrams or pictures on computer monitors. In addition, an electronic writing pad allows participants to communicate by writing or drawing. Participants receive and relay the visual materials through the computer and transmit their voices using a half duplex microphone system.

Audiographic Teleconferencing Project: An Evaluation

Audiographic teleconferencing allows training to take place in several locations concurrently; all sites can receive and transmit information using the technology; and participants can interact live with each other using voice, script and computer graphics. This gives the technology an advantage over other distance learning approaches such as teleconferencing.

Objectives of Project

The Audiographic Teleconferencing Project had two objectives.

- To validate audiographic teleconferencing as a practical means of training for literacy practitioners with a focus on volunteer literacy tutors in rural communities; and
- To develop and test modules for tutor training using audio-graphic teleconferencing technology.

Training provided tutors and instructors

The Project targeted volunteer literacy tutors in literacy programs in the Lakeland and Lesser Slave Lake regions. A test-run of the technology was conducted for the literacy coordinators in May 1995. Informal training was given to two of the instructors prior to a session in June when one instructor previewed a session for the Project Coordinator. The tutors participated as learners in five sessions: two 90 minute sessions on left/right brain held in October 1995 and, in January 1996, three two-hour sessions on learning styles and strategies. Each of these topics comprised a module. Two instructors each presented one of the sessions making up the module on the brain, and a third instructor presented the learning strategies module.

EVALUATION REPORT

Objectives of evaluation

This report addresses the two separate but related Project objectives in two evaluation objectives:

1. To assess the practicality of using Audio-Graphic Teleconferencing to provide training for volunteer tutors in the two regions targeted, and
2. To assess the development of the tutor training modules being used with the Audio-Graphic Teleconferencing technology

The report begins by outlining the methodology. Next comes the main body of the report in which the findings from interviews and evaluation forms are presented to address the two evaluation objectives. These findings are analysed to develop Observations and Conclusions.

METHODOLOGY

The nature of this Project required seeking the observations and opinions of a range of stakeholders: the Project team, instructors, coordinators, and tutor-learners. Some form of evaluation was conducted at each stage of the project. either formally or informally. Feedback was sought from the coordinators and the tutor-learners in an evaluation form completed at the end of each of the modules. Analysis of the results of these 38 forms showed that additional information or elaboration was needed. This became the basis of structured telephone interviews held with a sample of the key stakeholder groups during June and July 1996. Respondents included two instructors. six coordinators and eight tutor-learners. for a total of 14. Each interview was 15 to 30 minutes long. This report relies heavily on the results of the evaluation forms and interviews, with observations of the consultant and the project coordinator serving as validation.

FINDINGS

Information from two primary sources

In this section, information from several sources is presented to address each of the evaluation objectives. In the case of the first objective, the primary sources include two sets of evaluation forms, and telephone interviews with coordinators. tutor-learners and instructors. These findings are supported by observations of the Project Coordinator and the consultant. In addressing the second objective related to the development of training modules, the report relies entirely on information from the interviews.

Interviews with key stake holders

Eight tutor-learners. representing six sites, and six coordinators were contacted and interviewed by telephone during June and July 1996. All agreed to participate in the interview. Attempts during July to reach the three instructors who were involved in the pilot project resulted in two being interviewed. The third could not be reached.

All those interviewed were very thoughtful and candid in their responses. Where they perceived a problem or an issue, all tried to come up with creative solutions. For these reasons, this part of the report draws heavily from the interviewees, in a great many instances quoting respondents' exact words. Because of the richness and completeness of their comments. little additional interpretation or elaboration has been required. The comments speak for themselves. Although confidentiality was not discussed, the report does not tie names to the comments. however. J

Objective #1. **To assess the practicality of using Audiographic Teleconferencing to provide training for volunteer tutors in the two regions targeted.**

Findings from Evaluation Forms

Two evaluation forms were completed by tutor learners and coordinators following audiographic teleconferencing sessions in October 1995 and January 1996. Fifteen forms were completed following the first module and 23 following the second. The responses were analysed and compared to relevant materials from other sources, such as the Project Coordinator's presentation to the Literacy Coordinators' Annual Conference, and the consultant's observations over the several months.

Evaluation of October Sessions

Fifteen people returned a form evaluating the session on left and right brain held October 4 and 18, 1995. Their ratings of questions about the Users' Handbook, the Study Guide and Publicity were fairly positive and consistent across the three topics. However. the questions about Audiographic Teleconferencing tended to be less positive and less consistent with the others. The contrast becomes clear when the percentage of ratings along the 5 point scale are compared for each section of questions, as is shown in the table below. (Only those questions using the 5 point scale are included.)

% of responses by ratings **(A high rating = a positive response.)**			
Topics	**Ratings**		
	1 / 2 %	**3 %**	**4 / 5 %**
Users' Handbook	0	2	80
Study Guide	0	13	85
Advance Notice	2	7	89
Audiographic Teleconference	13	19	63

Of the 15 tutors responding. 14 made additional comments and suggestions. Only two of these did not make some reference to the technology. Several themes emerge from the comments of these 12 people. The comments are summarized below under these themes and supported by direct quotations taken from the form.

- **Technology insufficient or inflexible for individual needs**
- Could use more microphones and keyboard closer to where we were seated.
- My eyesight warrants the screen to be closer, but then maybe it's too close for others.
- I think tutors would have benefited more from...having more telewriters and/or keyboards.

- **Communication poor or inconsistent**
- There was no visual communication with other locations or Lakeland Centre. Not all participants could be heard and/or understood.
- Parts of presenter's words were cut out -still understandable, but annoying.
- Presenter's voice sometimes not too audible.
- Sound quality was poor.
- Presenter's voice often broken up. (Mentioned by two people.)
- **Pace and Time**
- I find audiographics painfully slow. (Six people mentioned the slowness of the pace.)
- Signing on took almost 30 minutes.
- My major criticism of the audiographic teleconferencing is that the time involved to let everyone speak/write/type seems to take up so much time. If it isn't working perfectly, more time is lost.
- There was time to break in but it slows the pace and we definitely ran out of time.
- ...tutors were hesitant, knowing the time frame, to take up too much air time.
- **Other technical issues or problems**
- Technical delays were especially frustrating. The session started very late.
- We were unable to use our writing pad but [based on observations) it seemed slow and inexact.
- The writing pad in particular I cannot ever see as being an effective tool for the student....
- I and local staff attempted to delete files and put new ones on for session Ib. We thought we did it right but I guess we just deleted the files.
- **Practical and "human" issues**
- Not used to concentrating on screen, speaker, pad, study guide.
- A certain amount of impersonal feeling.
- My tutors' attention wandered during long waits for responses.
- My set-up was different from the one described (in the handbook).

- **Advantages to the technology**
- Liked the connection to students in other points.
- Enjoyed the session because it met needs for education, information.
- As familiarity with the teleconferencing system improves, its effectiveness as a teaching tool should improve.
- increases access to learning opportunities and tools for those in rural areas.
- **Suggestions for improvements**
- Coordination needs improvement [Better coordination at each site would help sessions start on time. Equipment testing and practice prior to a session could reduce delay.]
- Perhaps it would be useful to dispense with audiographics and use the study guides and student participation using teleconferencing only.
- Might be appropriate medium if only one or two (participants] at two or three sites. This group/number of sites is unwieldy.
- Too much time spent on review; signing on took almost 30 minutes. Perhaps we could all type in location and names at the beginning.
- I think tutors would have benefited from having better training on using the technology .

Evaluation of January Sessions

Twenty-three people returned evaluations forms for the sessions on learning styles and strategies held January 10, 17 and 24. 1996. As can be seen in the table on the following page, when ratings for the questions on Audiographic Teleconferencing are compared between the two evaluations (October and January), the results indicate that respondents were not becoming more positive about the technology as they got used to it. This is confirmed in the additional comments and suggestions.

Problems with technology

Of the 23 people adding comments, 16 made some reference to the technology. One said that the method had improved "since the project began." although timing was still an issue, and three indicated that the technology either improved over the sessions or during one session. "The third session in the three part series was the most effective because we were not plagued by technology problems." For the most part, the others reiterated the themes from the October evaluation. In addition. one person mentioned having to advance the slides manually, and four referred to static for the first time, which, in the words of one, "kills concentration."

% of ratings to questions on Audiographic Teleconference (A high rating = a positive response.)					
October			January		
1/2 %	3 %	4/5 %	1/2 %	3 %	4/5 %
13	19	63	13	27	55

Stakeholders hopeful

In fact, ten people (or 43% of respondents) specifically described the technology as interfering with their learning in some way besides timing or pace. Comments included, "very distracting," "Some of the slides were difficult to read." "The medium interfered to some extent with the message." "I Found the content very difficult to focus on delivered this way." The quality of sound was poor and the conVersations were hard to follow or sometimes not heard." "I found the presenter hard to understand most of the time." "Once we lost the teacher, [and] because of static, it was very difficult to come back." As with the October sessions, a number of people again drew attention to the time wasted and the slow pace. Nevertheless, despite these comments and others mentioning ongoing frustration with the technology, no one suggested disposing of it. The impression conveyed is that many participants see potential or value in the technology and are still hopeful that the "glitches" can be resolved.

Suggestions for improving the technology included:

- Seems to go smoother without everyone trying to use the telewriter.
- More microphones (I per person).
- Better planning and communication [Improved quality of slides, equipment tested before session, users given practice time before session]
- A well done video that a group could use more than once might serve the purpose just as well.
- Limiting participants at a location to two to six would help to stimulate discussion "without allowing participants to duck using and becoming comfortable with the microphones, etc."
- Limiting locations on line which "creates timidity, intensified by the fact that there are other locations waiting to have their say and, suddenly, our comment or question does not seem important enough to intrude."

Observations Support Findings

The findings from these two evaluations support the consultant's observations and those made in the presentation to the Literacy Coordinators of Alberta Annual Conference; namely.

- Tutors like the users' handbook.
- They prefer a faster paced presentation style.
- Emotions about the technology are mixed.
- Technical glitches include slide and audio difficulties. pace slowed by limits of technology. and the pace of presentation.

Findings from Interviews

Set up and trial

The first two questions asked coordinators about their involvement in setting up and trying out the system. These questions turned out to be irrelevant. In all cases, the equipment was set up by Lakeland College and Alberta Vocational College at the site. In at least one case the equipment had been there for years. In another, the respondent indicated that the equipment was in continuous use so there was no need to check it.

Satisfaction with training

All coordinators were either satisfied (4)or very satisfied (2)with the training they had received on how to use the audiographic technology. By comparison. five tutor-learners were satisfied with their training and three were not. Tutor-learners gave several suggestions for how the training could have been improved. First. they would have benefited from more hands-on practice time prior to using the technology. particularly the telewriter. This instrument was described by two tutor-learners as a problem and "intimidating," partly because others were "on line and could witness one's difficulties." To alleviate this, one person recommended half an hour's practice before each session. Such extra training or practice would have speeded up the procedure because the technology would not have had to be explained "as the sessions progressed." One respondent thought that participants should have been forewarned of potential problems or difficulties with the technology.

Other issues affected tutor-learners' training. In one case, where the coordinator was new to the job. she was unfamiliar with the technology and therefore "unable to help others." Others commented on the slow response time which was "frustrating." the lack of face-to-face interaction. and the overall need to "perfect the technology used to deliver distance education."

Issue with time of sessions

The interview also asked whether coordinators' other needs had been met in setting up and trying the system out. "Other needs" referred to timing, resources and support from staff or colleagues. Five coordinators thought these additional needs had been met; however, one thought they had not. The person who disagreed made reference to problems with the sessions being held between 3:30 to 5:30 PM. Because of work commitments, only one of her learners had been able to attend the second session, and no one attended the third. This respondent suggested offering the sessions in the evenings or on weekends. However, the lack of attendance may have been affected by other timing-related factors. For example, her tutor-learners had been disgruntled because the first session had not begun on time, and, once it did start, the first 45 minutes were taken up letting on-line users practice with the equipment. This was a waste for the tutor-learners in question because they had practiced earlier. The coordinator handed out the materials for the second and third sessions prior to the presentations, and she thinks that having this information and having been put off by the first session, her learners may simply not have bothered attending the second two sessions.

Two other coordinators indicated that the time between receiving the materials and the presentation was too short (usually two days). They had insufficient time to copy and distribute the materials to the tutor-learners and familiarize themselves with the information. These coordinators would have preferred two weeks. (One of these people works part-time.)

Ease of using technology

All coordinators described the technology as relatively easy to use; however, all identified problems with the equipment, either technical or operational. The technical problems are outlined below. In a few instances, the coordinators were able to offer solutions.

- In one case, the slides did not advance, leaving participants having to catch up to the speaker and thereby losing track or losing information. This same coordinator mentioned that her group never knew when to advance the slides. This could be alleviated with a beep indicating the slide should be advanced.
- Another coordinator mentioned that the volume was inconsistent, either too low or too loud. Also two referred to glitches which resulted in some people having trouble getting on line or (possibly) never getting on.
- Three coordinators mentioned having occasional interference or static on the line. Respondents did not know the solution to these technical problems.
- One coordinator said that the technology was not as friendly as was thought. "You did what you were supposed to do and it just didn't happen." This led to frustration. Two made references to the pen not working easily or at all. One said that the presenter was writing but the participants at her end were "just getting meaningless lines."
- One coordinator pointed out that the equipment requires significant fine motor coordination. "It's not at all like being able to point and click." Related to this, she saw difficulties associated with shifting from a more advanced system (point and click) to this "basic technology." In this example and the one cited immediately above, practice was seen as the solution.
- Another comment was that having to wait for a turn to talk kills spontaneity. And yet another thought that the learners get so caught up in trying to use the equipment that their attention on the presentation is destroyed. A third said that it was frustrating "to press down the mike bar and cut off other speakers."

Coordinators also identified several "human" problems.

- For one, booking a common time at all six sites in her area was difficult because the equipment is so heavily used.
- This person also thought the number of participants was overwhelming. She suggested starting with a smaller group first and building up to this larger size.
- Three coordinators thought that one of the instructors was not familiar with the equipment. One said, "One presenter did not handle the technology well and this made a difference. My learners felt frustrated and short changed." She pointed out that the style in this type of presentation is very different than in a face-to-face. Another said, "A presenter must be good at doing this -energetic and experienced with distance education." More practice for the instructors was suggested as the solution.
- One person mentioned background noises, such as people moving about and papers being shuffled, as interfering with the learners' ability to hear.
- One coordinator received a disk of the slides which turned out to be blank. The replacement disk did not work either. So, she ended up using the handouts in place of the slides.

Tutor-learners identify problems

When tutor-learners were asked, *How easy did you find the technology to use*, their responses were as follows:

Very easy, no problems	2
Quite easy, hardly any problems	3
Not too easy, frequent problems	2
Not easy at all, constant problems	1

A range of problems was identified. Technical problems included static, audio problems such as voices cutting out, legibility and technique of the writing pad, and the slides not being "teed up" to the instructor's speech. "It was tough to interact due to technical problems which took away from the content." In addition there were problems associated with the complexity of the technology or with users being unfamiliar with it. "It's hard to concentrate on all things at once: the presenter's voice, the telewriter, the microphone, notes and other participants." "With so many locations, sometimes things got bogged down."

Both instructors had found the technology reasonably easy to use. There were a few glitches - including one in which the instructor's software was incompatible with that at the sites, resulting in sites not being able to use the telewriter.

More practice needed

Generally, tutor-learners were unable to offer solutions to the problems they identified, beyond more practice and training. With more training, participants will be able to focus on content. One tutor-learner suggested that the presenter needs to better recognize the number of participants and locations involved and "share the time better." Another said, "The pen was too cumbersome; drop it."

Improvement over time

When asked if the technology became easier to use over time, most tutor-learners (75%) agreed it did. Their responses were as follows:

Yes, definitely	4
Yes, I think so	2
No, I don't think so	1
No, definitely not	1

Impact on learning

However, tutor-learners' responses were more divided on the question of whether audiographic teleconferencing technology aids learning. Five thought it did and three did not. Those disagreeing did so because technical problems had interfered with learning. "Initially, the technology inhibited learning because the stylus was tough [to use]." Two thought that these technical problems would have been reduced if participants had had more training. One tutor-learner suggested using a larger screen which would offer more "human-like interaction."

All but one coordinator answered yes to the question, *Does the technology aid learning*? The dissenter said that having the slides was beneficial and better than a handout; however, having to respond using the telewriter was not easy. "If the telewriter could be devised to be as easy to write with as a pen, I would say yes. If the technology responded easily, I would say yes. But, in this format, it is more a hindrance than a help."

Impact on style and approach

When asked to what extent they had had to adapt their presentation style to the technology, both instructors pointed out the differences between distance learning and conventional classroom learning. With audiographic technology, instructors are cut off from the small group activities of the students. Unable to hear the discussion or see the students, the instructors cannot judge whether the groups even "get the gist" of the exercise. Distance technology naturally forces groups to work independently of the instructor. With the loss of face-to-face contact, immediacy and spontaneity suffer. If the small groups involve other sites, the interaction tends to be reduced, again because people cannot see each other.

The second feature of distance learning is that it requires students to be better prepared before a lesson. It is more demanding of students. When students come unprepared - as some of them had for one of the sessions - they can fall behind since the presentation is pitched to a higher level of understanding.

One instructor believes that audiographic teleconferencing requires more work than does classroom instruction, and the work must be done well in advance - "months before." This is because the slides and script have be sent to centres and loaded and tested or, in the case of handouts, copied and distributed well before a session.

Impact on instructor-learner relationship

These features of the audiographics technology have an impact on the instructor- learner relationship. Presentation styles must be adjusted, and the student has to be more responsible for preparation and group work. In addition, because students are learning new technology at the same time as they are learning a new subject, their unfamiliarity with the technology can interfere with their understanding of the subject, causing frustration. During the presentation, rather than discuss their frustration with the technology, the students wanted to "get on with it." However, students need to recognize and discuss these inter-related pieces of the learning experience. The fact that they are learning technology and a subject simultaneously needs to be stated in the timetable.

Use technology again

When asked whether they would use the technology again, four coordinators said "yes." The two who said no did so because of the slowness, time and trouble "to figure out, hook up and get rid of the glitches." One suggested. exploring other options such as video conferencing. This person had wanted the Teleconferencing to be positive and had felt responsible (to her learners) for it not working properly which resulted in her learners being frustrated and "rolling their eyes." The other said, depending on the topic, the information could be presented in another format, such as conference calls or correspondence courses. She would prefer a less troublesome method.

Two who said yes qualified their comments by adding, "if the glitches were taken care of," and "if a good training session could be developed and delivered to greater numbers." One person thought that Audiographic Teleconferencing was ideal because it allowed more scope and more time for training. She would like to use it again with other modules. However, she pointed out that there might be some better technology available, and if so, "let's try it."

All tutor-learners would use Audiographic Teleconferencing Technology again. Two described it as "a good system" for sharing ideas with a broad range of people. Three others qualified their response, however; two saying they would use the technology if they were interested in the topic. The third saw a place for the technology - "with improvements."

Both instructors plan to use the technology again. Both learned from the pilot project and have ideas about adapting their styles to improve their presentations in the future. One now sees more ways of using audiographics technology; for example as a suitable complement to other learning methods such as correspondence. The other instructor wants to try offering a greater number of shorter sessions. She thinks that six one-hour sessions would be more effective than three two-hour sessions because "two hours is too long on the telephone." More frequent sessions would help students become comfortable with the technology quickly.

Additional comments

When asked if they had any additional comments, many tutor-learners reinforced the responses they had given earlier. -Three said the audiographic teleconferencing medium does not fit their style, partly because they prefer face-to-face courses. Another preferred video-conferencing because "visual is better than just hearing."

Several tutor-learners reiterated the need to "get the bugs out" of the technology. And others identified the components they liked best; for example, the content or the film. Two described the personal interaction - "the anecdotal information from other participants" -as the most valuable feature of this technology. One suggested, rather than providing handouts that are a repeat of the information on the screen, that supplementary or additional reading material be made available. With this, the audio visual material on the monitor could then be presented as graphics.

Coordinators likewise made some additional comments about the Project, again mostly reiterating what had been said before. "Practice should occur before the session starts, otherwise time is wasted." However, two people made a point of commending the Project Coordinator for her efforts- "Meredith is to be commended for coming up with this idea and executing it." - and her willingness to address all problems or issues.

Objective #2. To assess the development of the tutor training modules being used with the Audio-Graphic Teleconferencing technology

Input to modules

Both coordinators and tutor-learners were asked, *How much of a say did you have in the development of the training modules*? Coordinators' responses covered a range from "a great deal" to "none at all", with three falling in the latter category. About half of the respondents remembered being asked to choose from a list of possible topics or offer ideas. They believed that all or most of their ideas or suggestions had been included in the modules.

Tutor-learners expressed some confusion about the question. Nevertheless, a number referred to input they gave input through a questionnaire developed by Robin Millar at the University of Manitoba asking participants to identify their choices of content for the January sessions. When asked to what extent their input was used, one responded "a great deal" and four said to some extent. One did not know. Respondents who did not attend these sessions did not see themselves as having given any input.

Modules meet learners' needs

All six coordinators and both instructors thought that the modules had met the learners' needs. One coordinator elaborated, "The frustration of dealing with the technology interfered, but they enjoyed the content. They found the content interesting and of value." Another pointed out that, in some cases the material was a repeat. A third commented that the left brain right brain information was too slow paced, and more information could have covered. The coordinators' and instructors' observations were borne out by the tutor-learners, seven of whom said the modules had met their needs. One responded, "somewhat."

Fit between modules and technology

Only two coordinators were completely satisfied with the fit between the modules and the technology. One described the process as "a trade-off. This is not my first choice of how to get information but it's a fact of life." Another pointed to the potential of the technology. "It's logical for distances, cost effective, and an effective use of volunteer time." One of the dissatisfied respondents thought the same thing could have done in a conference call. Another said that the slowness and technical problems interfered greatly with learning and effectiveness. She could see no advantages to the technology other than "the thrill of knowing you were able to connect so many people over so many sites."

Positive features outweigh negative

While acknowledging that face-to-face presentation is ideal, both instructors agree that the positive aspects of audiographics outweigh the negative. With this technology, people from "all over" can get together to do "a lot of things at greater distances than ever before." It enables people from remote areas to take courses they could not otherwise have taken, without having to travel great distances. Although computer mediated instruction is more effective, in places where fibre optics is not available, audiographics adds value to teleconferencing.

OBSERVATIONS AND CONCLUSIONS

Stakeholders see potential in technology

Is audiographic teleconferencing a practical way of providing training to tutor-learners in remote locations? When the findings are reviewed as a whole, there can be no question that the technology is not perfect. Coordinators, tutor-learners and instructors identified a litany of problems. Nor is it particularly easy to use: it is cumbersome and requires considerable training and practice to become proficient. The technology is not flexible; instructors have to adapt their style to it. Nevertheless, almost all stakeholders are generally satisfied with the technology, see its potential, and are willing to use it again. Eighty-six percent of those interviewed think the technology aids learning. Interviewees see a "trade-off" between being able to deliver a presentation simultaneously to a large number of people - who may not otherwise have a chance to communicate with each other - and having to deal with problems associated with basic, long distance technology. Even the doubters admitted to being willing to try it again, provided some of the problems can be addressed. Therefore, this section of the report looks some of the ways in which the technology can be improved.

Practice key solution

While the most frequently mentioned technical "glitches" - sound quality and lost connections -probably cannot be remedied substantially, many of the other problems can. The most commonly offered solution is practice. Three quarters of the tutor- learners said that the technology became easier to use over time. The impression is that competency improved within a session or a module, but not necessarily between the modules. According to the evaluation forms, ease with the technology did not increase between October and January. However this is not surprising given that tutor-learners had only just begun using the technology in October, the change in instructors, and the time lapse between the two modules.

Unrealistic expectations

Comfort with the technology seems to have two components; first, the handling of all the mechanical parts -microphone, pen, etc. - individually and in concert with each other. This is a motor skill that can be improved with training and practice. Learners would also benefit from being aware of the limitations of the technology at the outset. Better training materials would close the gap between their expectations and the reality. Several references were made to differences between what learners thought would happen and what did happen, or between what was shown in the handbook and what they had on the site. Users familiar with "point and click" applications were frustrated when this technology did not respond in the same way.

Practice aids interaction

A second related component is the social one. The "conferencing" part of the technology is out-dated, cumbersome and prone to cutting people off, largely because of the nature of the half duplex system. A large bar is attached to a centrally positioned microphone; anyone wishing to speak must lean towards the microphone and press the bar down. thereby cutting out other speakers. Some tutor-learners reported feeling intimidated by this, conscious of others in the group waiting to speak or watching them trying to handle the technology. They hesitated, not wishing to "intrude." Some were intimidated by the number of participants involved. Those who are so uncomfortable with the technology do not benefit from the potential for interaction. There is more "dead air."

Similarly the instructors were uncomfortable letting participants "off the hook" to break into small groups. One interviewee suggested practicing in small groups first and moving to the larger group only once learners were at ease with the medium and the participation process. Again. this issue should be addressed in the training and handbook, and can be expected to improve with practice.

Preparedness and presentation skills

The instructors were also new to the technology, as both pointed out. Neither felt completely comfortable with it. Some participants observed this discomfort. Both instructors indicated they would make changes to their presentation styles in the future. This is because audiographic teleconferencing technology is not flexible; teaching styles have to be adapted to it, and spontaneity is not possible. The technology does not lend itself to casual use. It requires skilled handling by instructors who must be well prepared, well in advance of their presentation. Once more, practice becomes the key note. Both instructors plan to use audiographic teleconferencing again and to "get better at it."

Shorter, more frequent sessions

Robin Millar made an interesting point. Learners are struggling with learning the technology and the content at the same time. Their frustration was with their lack of skill on the technology. However. neither this frustration nor the learning experience was discussed as part of the presentation nor addressed in the timetable. Instead of taking time to think about how they were learning during the session. the learners simply wanted to "get on with it." Based on her observations, she is adapting her presentations in Manitoba. For instance, she will be using six one-hour sessions because two hours is "too long on the telephone." She thinks the more frequent, shorter exposure wi1lincrease learners' comfort with the technology and make learning more effective.

Communication and quality control

Lastly. the use of audiographic teleconferencing can be improved through tighter communication and quality control. Do all the sites and the instructor have the same software? Is the equipment in working order? Have the disks been checked before they are sent out? Is the coordinator being given enough advanced notice to book the equipment? What is the most convenient time to schedule a presentation? Greater attention to these kinds of details will help reduce participants' frustration. (It must be pointed out. however. that audiographics equipment is heavily in demand in Alberta. making scheduling a problem, particularly when so many sites are involved. Bridging equipment is required for each additional "point" or site, adding to the complexity of scheduling.)

Factors affecting cost-benefits

One factor affecting practicality is cost. Is audiographic teleconferencing cheaper than other methods? There is little conclusive research on this question. partly because of the age old problem of comparing apples and oranges. Other approaches. such as face- to-face instruction can be self-contained, whereas audiographic teleconferencing is not designed to be used alone. Further. it is unrealistic to compare the costs of face-to-face instruction - the preferred option of all interviewees -to audiographic teleconferencing because the effects are vastly different. Nevertheless, one study in Colorado did find that live instruction. where the instructor traveled to the remote site, was less costly than audiographics teleconferencing or three other electronic alternatives. (Caffarella et al.)- However. this comparison was based on compressing a semester into a few weeks.

Any attempt to compare different approaches must examine a number of costs and benefits. Operating. maintenance and capital costs are usually measurable. However, since the equipment and building were neither purchased nor are used exclusively for this Project. only a fraction of these costs could be considered. It is probably fair to say that the development costs of audiographics teleconferencing are high but the delivery costs are relatively low. The more the existing technology is used (as opposed to sitting idle). the cheaper each session becomes for the college. Other costs and benefits include access (to information, to resources and to other students). human resources, quality of outcomes. and environmental impact. However. a thorough analysis of costs would involve a separate study involving the measurement of outcomes.

Input to modules advised

Did the training modules meet learners' needs? All but one person agreed that they did, and that person agreed partially. Several interviewees made reference to having more visual material. Based on their now increased familiarity with the technology. the instructors are examining new ways to present their content in future. It may be appropriate to seek more input from tutor-learners and coordinators before developing a module. Having a chance to give input to the content, learners will feel more committed to it and the content is more likely to meet all needs.

- *Caffarella*. E.et al.. *An Analysis of the Cost Effectiveness of Various Electronic Alternatives for Delivering Distance Education Compared to the Travel Costs for Live Instruction*. 1992. ED380127

Project largely successful

The Audiographics Teleconferencing Project was experimental. Everyone involved was new to the technology and the presentation format. Based on the satisfaction of the stakeholders, the Project was largely successful. Importantly, stakeholders are willing to use the technology again. They would like to see a number of issues addressed first however. To this end, several lessons were learned from the evaluation, particularly the interviews with stakeholders. In future, more training and significantly more hands-on practice will be needed before users can feel comfortable with the technology and handle it adeptly. The training should be designed to give users a better understanding of what the technology can do as well as its limitations. Instructors also need extensive practice using the technology because it requires a different approach and different skills from face-to-face or teleconferencing instruction. All stakeholders learned from this Project. Better preparation combined with their obvious enthusiasm to learn and improve will help stakeholders get more out of using Audiographic Teleconferencing in future.

Getting ready

Deciding to use audiographic teleconferencing for training requires some pre-planning to determine:

- ***Who*** will participate?
  instruct?
  develop the materials?
  provide technical support?
- ***What*** are the objectives of the training?
- ***Where*** are the nearest sites?
- ***When*** will the training take place?
- ***How*** long will each session be?

The 1994 January/February issue of **Non-Credit Learning News** cites several key elements in successful training programs for ABE and ESL.

- Trainers who possess an expertise in the specific content area
- Decentralized training services
- Opportunities for follow-up are provided
- On going evaluation procedures are included
- Trainees are provided instruction on how to teach adults and to be sensitive to the needs of adults with learning deficiencies,in addition to primary subject areas
- Trainees are given a strong voice in selecting the content of the training through needs assessment
- Participants are actively involved in their own learning by practicing skills demonstrated at their work sites
- Incorporates up-to-date research findings or theories within staff development activities.

The effective use of audiographic teleconferencing, like all good teaching practice, is proportionate to the amount of time and effort that precedes going on-line. In addition to lesson planning and preparation, two other important factors are crucial to its success. These are understanding

1. the technology - *the visual presentation mode that uses computer hardware and software*, and
2. the audio mode - *using audio-conferencing equipment -e.g. microphone,speakers*.

Learners need to be eased into audiographic teleconferencing to become confident, skillful users of the technology. The instructor requires additional practice time off-line to familiarize him/herself with the equipment. The extra preparation helps the instructor to gain confidence and to deal with glitches when they occur.

Instructor directed learning can be useful initially to help the learners become more comfortable with the audiographic teleconferencing components, the subject matter and each other. To encourage reluctant participants, activities that promote contact with the equipment, the instructor and with each other can be implemented during the session planning. This might include:

- communicating with the instructor,who then writes the response on-screen
- pointing to areas on-screen with the stylus (pen)
- typing or writing in comments

Because audiographic teleconferencing does not lend itself well to a lecture style of presentation, creativity is required on the part of the presenter to monitor the understanding of the subject matter by frequently asking for feedback. (Gooey 1995)

Developing course materials

The time and effort taken during the development and preparation of materials to support an audiographic teleconference are central to its success. To help expand a learner's routine approaches to learning, it is important to provide resources that integrate a variety of learning strategies. The techniques and strategies used should reflect the age of the learner, the material content and the context of learning. It is anticipated that the learner will be able to apply personally useful strategies to different learning experiences throughout his or her lifetime. Some of the techniques for consideration include:

- Providing suggestions for setting up one's study environment
- Increasing awareness of the relationship of what is being learned to 'real world' experience through journal keeping or a learner log.
- Providing a general framework for the course content-mind mapping, outlines, discussing the important features what is to be learned accompanied by a representation of the end product
- Structuring activities, assignments or questions that require students to apply the new knowledge in personally meaningful ways.
- Making suggestions as to how one might get started on an assign mentor learning activity. (Connop-Scollard,1995)

Distance education literature suggests that students working together to achieve cooperative learning goals perform better than those who are working in competitive or individual settings. Cooperative learning opportunities, both on and off-line, can be established through the integration of the student's learning goals into the course materials.

The collaborative approach to learning enhances both individual accountability and positive student interdependence. The role of the instructor in this model is to facilitate learning through observation, interviews, and feedback to allow the group to process their effectiveness.

Based upon the training to be delivered, in study materials design, then, it is important to address these questions:

1. **What are the learning objectives? What are the teaching objectives?**
2. **What kind(s) of collaborative exercises will help the students integrate what needs to be learned into practical application?**
3. **How long will these activities take? Do they involve real life situations, e.g. tutoring practice?**

AT&T studies in distance education have found a correlation between student satisfaction and

- course content that was relative to their jobs and that challenged their level of expertise;
- the appeal of the visuals; and
- the interactivity of the course being taught.

Research results also suggest that teletraining can be made more appealing by focusing more attention on instructional elements, social needs and the relationship between innovation and acceptance of distance education delivery.

Reminder: It is important to give yourself sufficient time to prepare the course materials for distribution.

Slide development

Using slides wisely can greatly enhance an audiographic teleconference. Like overheads in face-to-face presentations, well-designed slides are especially valuable when

1. they are closely tied to the main ideas presented in the study guide or
2. used to promote an activity.

Diagrams help to organize data or to demonstrate abstract relationships. They are most effective when partnered with teaching strategies that require students to pay attention to specific details.

Slides can also be used during an audiographic teleconference

- to establish structure
- to focus attention
- to provide instructions
- to introduce new ideas
- to enhance learning
- for brainstorming
- to record information
- for review

When using text, *less is more*. Each screen or slide should be used to introduce one topic or idea, written in plain language. Information should be organized in a logical and fluid manner, the overall effect being one of balance, harmony and consistency.

Well-prepared slides illustrate attention to spacing, margins, lines and contrast. Generous spacing enhances the information on-screen. The text should begin from the left margin rather than the centre. The text lines should be short and simple with ample space between. Using a high contrast helps to accentuate the focal point. Supporting points can be introduced with bullets.

Slides should reflect consistent use of colour, for continuity's sake. Similar or like colours are effective when used to link words or images. Light coloured type works well with a dark background -preferably dark blue or black. Colours like red on green or orange on blue are very difficult to read. They tend to bleed into the background, causing a fuzzy appearance. Best practice suggests that no more than four colours should be used per slide for text.

Plain font types are easier to read, with the font size indicating its place of importance in the overall slide. Apply the KISS. Principle generously when composing text. More than 25 words on five lines means that another slide should be considered.

* Keep It Simple, Sweetheart!

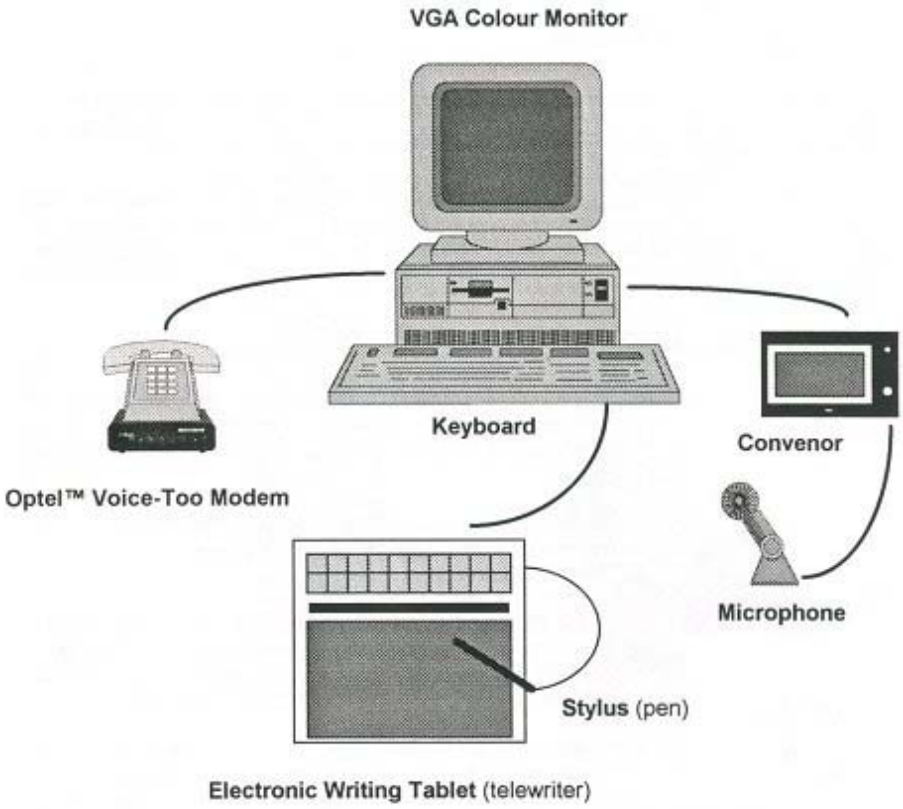
If an entire text is deemed really important, provide it in the printed study guide or as a handout. Summarize the main points only on the slide. Use partial lists, charts, graphs, diagrams or maps to encourage participation during the teleconference.

Use icons to augment the text as well as add a visual component. This helps focus attention to important details or linking ideas. It is important to remember that a picture can be worth a thousand words. Use simple graphics to highlight specific details. Scanned images of real people or objects help to demonstrate concrete ideas, while symbols can be useful to represent abstract concepts.

It is important to stress that copyright issues need to be addressed when importing graphic images from magazines, books or journals. Exercise caution, if unsure. Most images are available in graphics software that can be used freely.

Rule of Thumb:
Prepare 8-12 slides per each hour of instruction.

Audiographic Teleconferencing Components *



* Similar to illustration

Exploring audiographic teleconferencing

Making connections

It is best to determine whether or not the equipment at all participating sites will be ready for use prior to an audiographic teleconferencing session. This includes the telephone link and the equipment being used. Directions are included to get everything ready, *just in case*!

When several sites are participating, you are connected through a telephone or audio bridge. You will need to connect to the bridge by calling the number provided by the bridge operator or your local site facilitator. The bridge operator will connect you to the teleconference. Each facility ay use a slightly different protocol. **Please check with your local site facilitator before going on-line**.

Equipment readiness:

1. Make sure that all cable and wire connections are secure.
2. **All the equipment must be turned on in this order: power bar, telewriter, computer, monitor and convenor**. Do not turn on the modem at this time. The phone/convenor must be hung up property.
3. At the C:\prompt, type **TW** and strike the **<Enter>** key. This will activate the communication software, resulting in the appearance of the OPTEL® screen.
4. **Press F7 on the keyboard**. A menu will appear on the screen. Place the cursor on the appropriate directory names and press **<Enter>** at each. This will bring up the **opening screen** that will be used to identify the conference that is currently in session.
5. Check to make sure that the **OPTEL® Voice-Too modem** is on- line by looking for the red indicator light Press the white button to engage the modem *only if the light is not on*. The computer screen **On-Line** indicator tells you only that the modem is transmitting signals. It does not mean that the telewriter is receiving signals.

Connecting to the conference:

1. **Call the bridge operator** using the telephone number given to you prior to the session.
2. Follow instructions given after our connection with the network operator. You maybe placed on hold.
3. **If you have trouble connecting with the network**, please refer to the operator index provided by your site facilitator.
4. The network operator may do a quick check to make sure that all connections have been made and that the telewriter is ready. **Please follow his/her instructions**.

Using the microphone:

1. Press the microphone bar **firmly in the middle before speaking**.
2. **When speaking**, keep the microphone about 8" (inches) away from your mouth.
3. Do not press the microphone bar **unless you intend to speak**.

Using the telewriter and pen:

It is important to become familiar with the pen and telewriter prior to going on-line. The commands that control the pen are located at the top of the writing pad. These commands are activated by firmly touching the pen point to the desired command square.

1. Select a colour and a line width by pressing the pen to the appropriate square on the telewriter pad.
2. Press the pen firmly to the pad when you wish to write. A small **x** will show on-screen where the writing will begin.
3. Remove the pen from the pad when you are finished writing.

The following commands are the ones most frequently used to encourage active participation at each site. The other commands are particularly useful to the instructor. Practice off-line to gain confidence with the technology.

- **Line Width** - Changes the width of the freehand writing line.
- **Point** - Allows you to point to specific information on screen.
- **Write** - Allows you to write *freehand* on the screen with the pen. To use the pen, be sure to note where the cross hair appears on the screen and press the pen tip to the telewriter surface. The pen needs to be held in an upright position for best results.
- **Color** - Changes the colour of the writing line, both freehand and typing.
- **Type** - Allows you to type your message on-screen. Using the arrow keys, locate the cursor on-screen to the desired starting point and type your message.
- **Undo** - Clears writing or typing from the screen.

Reminder: As the telewriter can only be used by one person at a time, it is important to establish an on-line protocol to assure active participation. If the pen is left on the pad's surface after use, it will prevent other sites from using their telewriter.

The modem allows either voice or data to be transmitted separately. Data transmission will take precedence over voice.

Trouble-shooting

After all connections have been made, you still may encounter some glitches. The following suggestions have been included to assist you.

If you're having difficulty, it could mean:

1. **a poor telephone line**. Call the Network Operator trouble number. Do not disconnect and reconnect through a different connection number unless directed to do so.
2. **a poor connection** between the convenor, the phone, the microphones and/or the wall plugs. Be sure to double check.
3. **crossed signals**. If there are loud squeals on the line, turn the speaker away from the telephone receiver, then hang up the phone. **REMEMBER: Leave the convenor on**.

If the other participants can't hear you, it might mean:

1. someone at another site was speaking at the same time you were. Only one person can access the line at a time.

   Important note: The instructor should always acknowledge that (s)he heard a commentor question.
2. the microphone bar was not pressed down firmly when you spoke; consequently, no connection was made.
3. static is interfering with your transmission. If the instructor can't hear you but you can hear hear him, you might try for a better line. Refer to your operator index for help numbers.

If you can't hear the other participants, it could mean:

1. the convenor volume needs to be turned up.
2. that you've become disconnected from the network.

Long pauses on line could mean:

1. **everyone is thinking and not talking!** A periodic check can be made by the instructor or you can tell the instructor that you need more time.
2. **nobody is there - literally.** Someone forgot to inform the others that they were signing off.
3. **the instructor forgot to specify a name or site** and everyone is being polite!
4. **participants are ignoring the instructor!** *Note: If you need further explanation, a coffee break, etc. please let the instructor know.*
5. **there's trouble on line.** Refer to operator index.

Teleconferencing Protocols

The following protocols have been designed to make this an enjoyable experience:

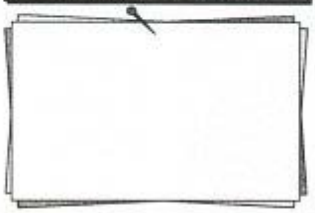
1. **When you speak**, identify yourself and/or your site. (Le. *This is Victoria Vermilion*.)
2. **When you are leaving the room or signing off**, let the other participants in the teleconference know.
3. **Direct your comments or questions** to specific persons or sites. (Le. *Marcia, I would like to know more about....*)
4. **If comments are directed to you or your site**, acknowledge that you heard.
5. **Start on time and end on time**. Others may be waiting for their class to go on the air.
6. **HAVE FUN!** Distance learning through audiographic teleconferencing is exciting. Be patient with one another as you learn the ropes.

Literacy Training Through
Audiographic Teleconferencing

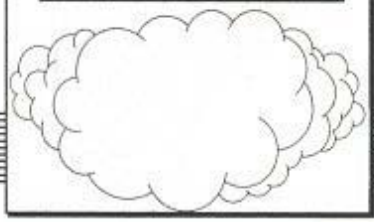
Welcome!

Your presenter today is

Today's participants



Visitors? Please sign in.



LEFT Brain / RIGHT Brain

Session I

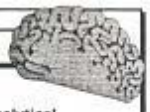
Today's goals

- to learn more about audiographic teleconferencing
- to explore attributes of the LEFT and RIGHT brain
- to discover our own preferences

Today's goals

- to apply what we have learned to everyday situations
- to evaluate the session

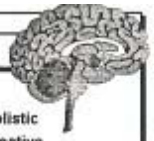
LEFT Brain



CONCRETE

- Detailed
- Sequential
- Conservative
- Logical
- Mathematical
- Rational
- Analytical
- Factual
- Quantitative
- Critical
- Technical
- Organized

RIGHT Brain

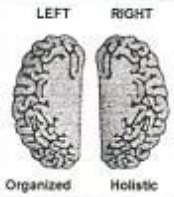


ABSTRACT

- Intuitive
- Symbolic
- Spiritual
- Emotional
- Spatial
- Simultaneous
- Holistic
- Creative
- Artistic
- Synthesized
- Conceptual
- Random

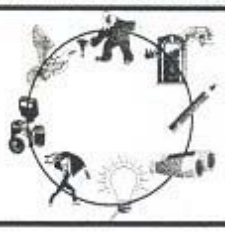
Discussion

Specializations of the LEFT and RIGHT Hemispheres



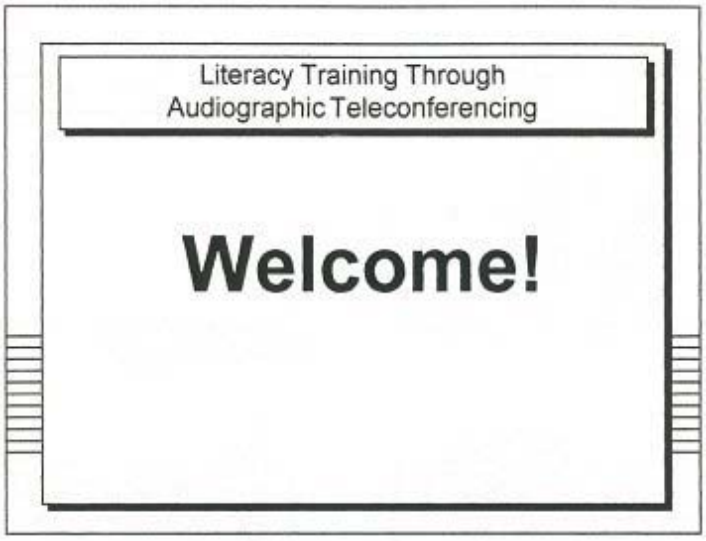
Questions?

RIGHT Brain activities



LEFT Brain Activities

Session review

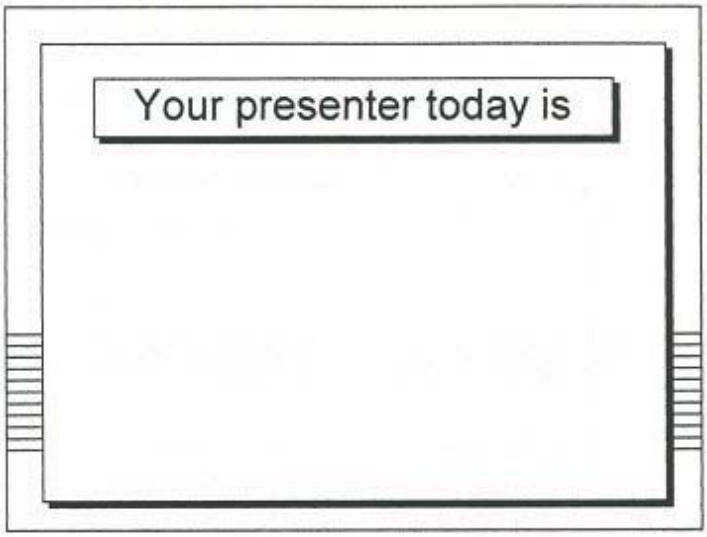


Orientation

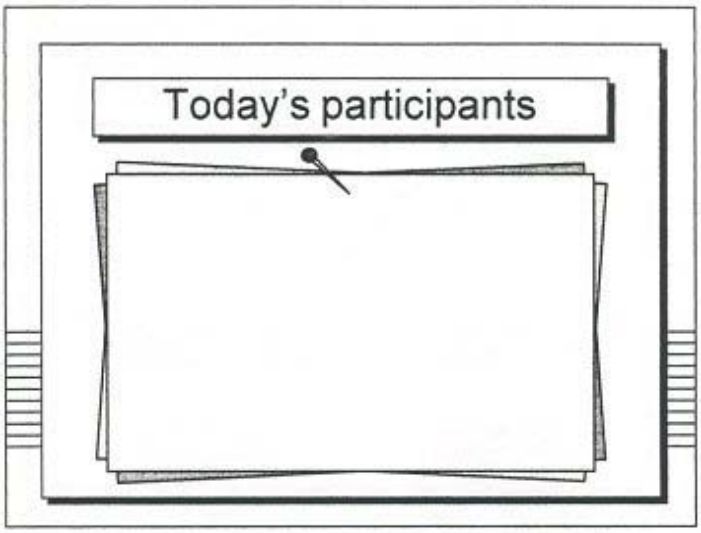
Date:

Length of session:

Welcome participants.



Introduce yourself and write or type in your name on slide.



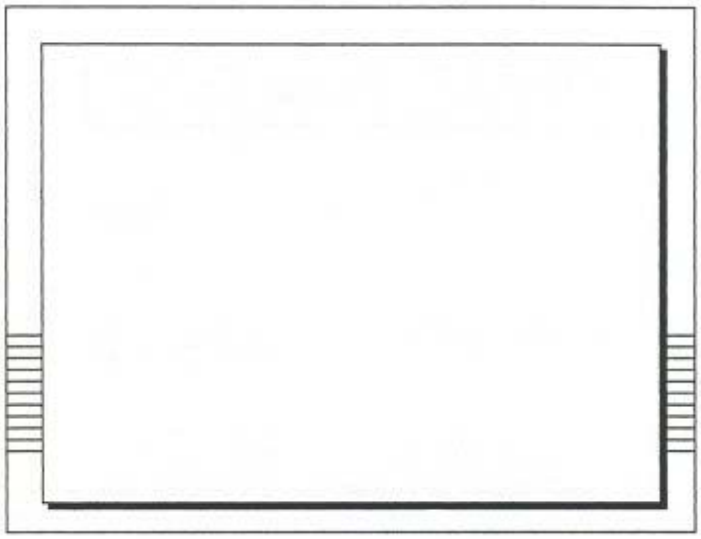
Name the regions or programs participating in the teleconference. Take roll call to identify participants and any observers. Visitors and observers can sign in on slide #4.

Briefly review protocols for the teleconference found on page 23.

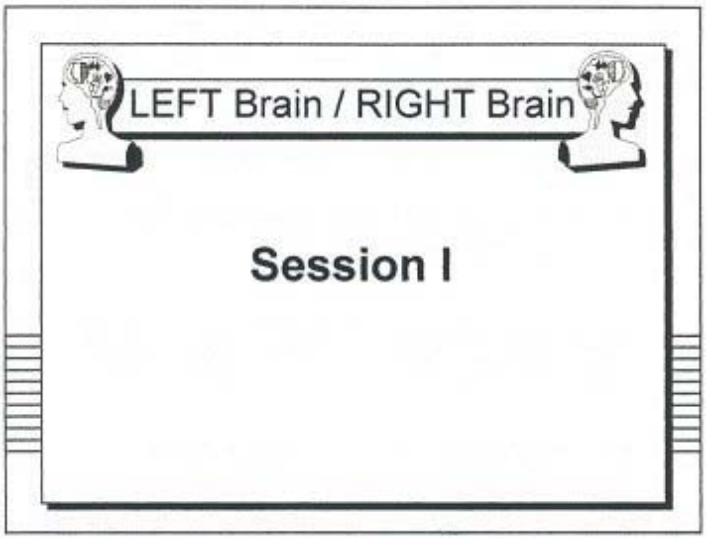
Ask participants to share their personal experiences with distance education and ask them how they feel about this new environment.

Introduce the audiographic teleconferencing equipment (page 19) and demonstrate how to use the telewriter and pen (page 21-22) and keyboard. Play tic-tac-toe or hangman on the next screen to make participants more at ease using the pen. Practice makes perfect!

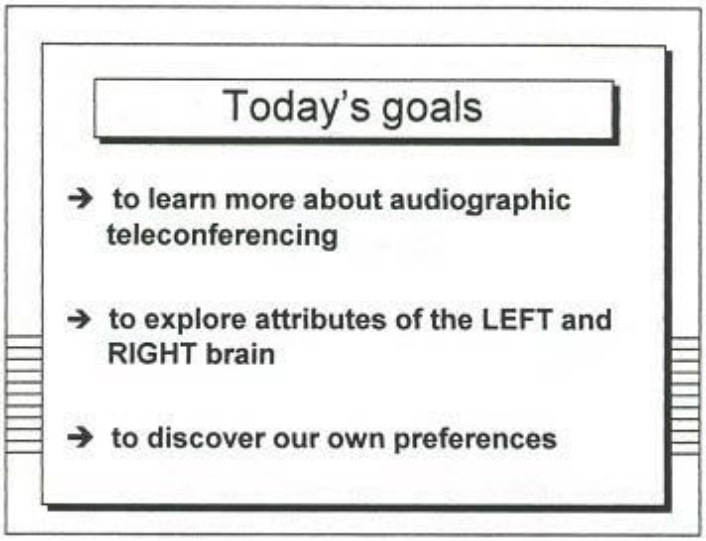
Allow time for participant's to raise questions, requesting frequent feedback about voice and slide transmission. Ask for individuals by name to ensure that everyone has an opportunity to be part of the discussion.



Reminder: The more participants you have on-line, the longer you'll need for all to practice.



The script on the following pages is provided to help guide you through through Session #1 of LEFT Brain/RIGHT Brain. Additional reference material is provided in the bibliography included at the back of the study guide.

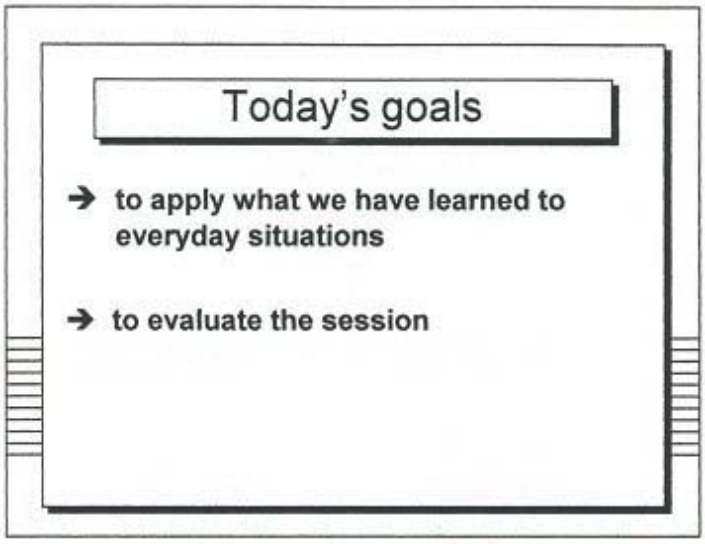


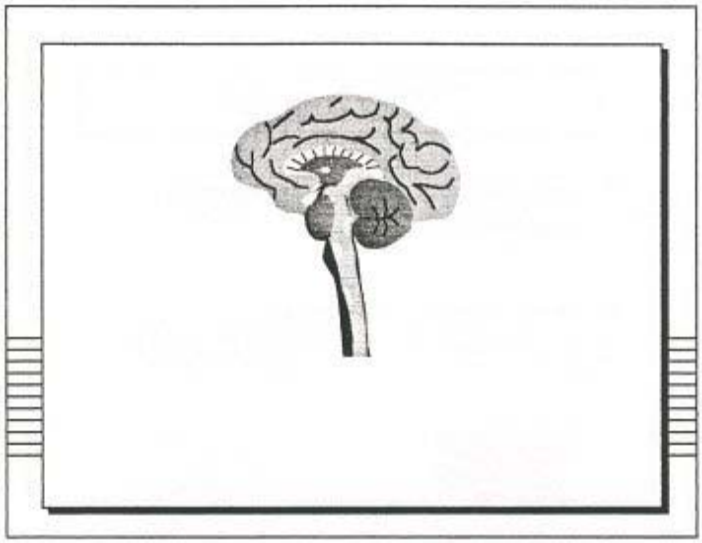
Practice script - **LEFT Brain / RIGHT Brain**

Read the session goals found on page 5 of the study guide.

Introduction:
What we know about the human brain is very recent. More progress has been made in the last 15years than in all previous human history. As late as the 18thcentury, there was general agreement that the brain was involved in thinking although how it functioned was not clear!

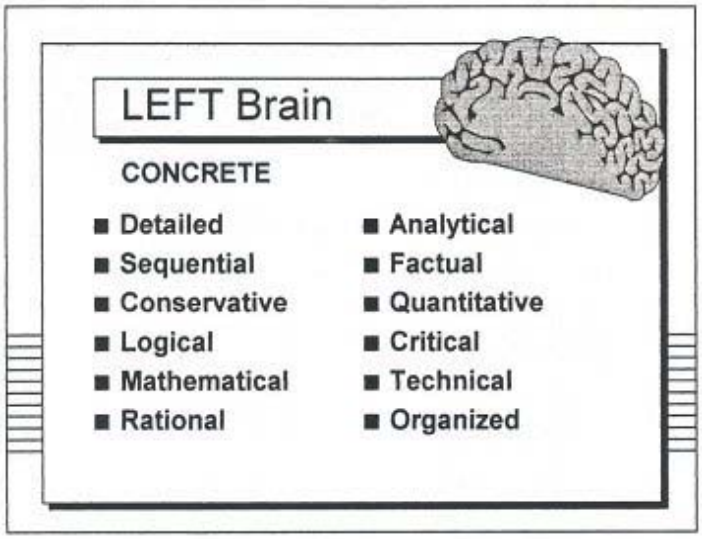
Today's scientists agree that we use both sides of our brain for most thinking and that each hemisphere or half does specialize in certain kinds of knowledge. Unless the brain is damaged, no one is completely left or right brained -rather, left and right brain are a metaphor for different kinds of thinking -disciplined or free.


Today's goals
→ to apply what we have learned to everyday situations
→ to evaluate the session



Highlight features of the brain using point (change colours) or circle areas of the brain using the pen (change colours).

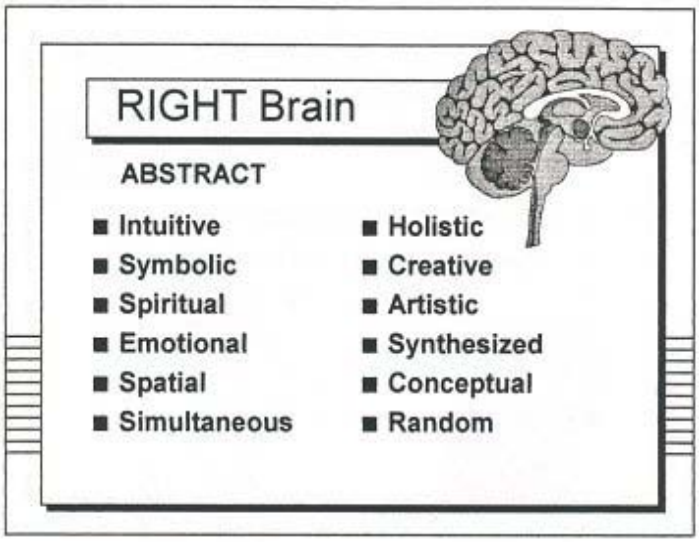
- *brain - the portion of the brain and spinal cord contained within the skull which is made up of the cerebrum, cerebellum, pons, medulla and mid brain*
- *cortex - the soft folds of tissue where the majority of activity is recorded. The folds increase the brain's surface area and therefore, the number of neurons = activity.*
- *cerebrum - the largest and uppermost segment of the brain which is divided into the left and right halves of the brain*
- *cerebellum - regulates movements; coordinates voluntary muscular activity as in walking and maintaining equilibrium*
- *corpus callosum - links the right and left hemispheres, enabling us to access information from both sides, e.g.. a person's face (left) with his/her name.*
- *thalamus - translates incoming sensory signals to appropriate areas of the cortex*
- *hypothalamus - part of the limbic system that activates, controls and integrates part of the nervous system, the endocrine processes, and many bodily functions such as temperature, sleep and appetite*
- *limbic system - group of related nervous system structures in the mid brain associated with various emotions and feelings*
- *medulla - a vital part of the brain that contains the heart, blood vessel and breathing centres of the brain*
- *midbrain - aids in sensory and motor functions*



LEFT Brain characteristics

Verbal:	*using words to describe and define*
Detailed:	*able to see fine points*
Sequential:	*able to see steps involved; task oriented*
Logical:	*one thing follows another in order*
Mathematical:	*able to grasp functions such as adding, counting (digital)*
Rational:	*drawing conclusions based on reason and facts*
Analytical:	*figuring things out part by part; step-by-step*
Factual:	*deals with issues, not feelings*
Quantitative:	*likes facts, measurable statistics*
Critical:	*able to see faults, improvements*
Technical:	*able to deal with practical, not theoretical*
Organized:	*able to proceed, step-by-step, detailed*

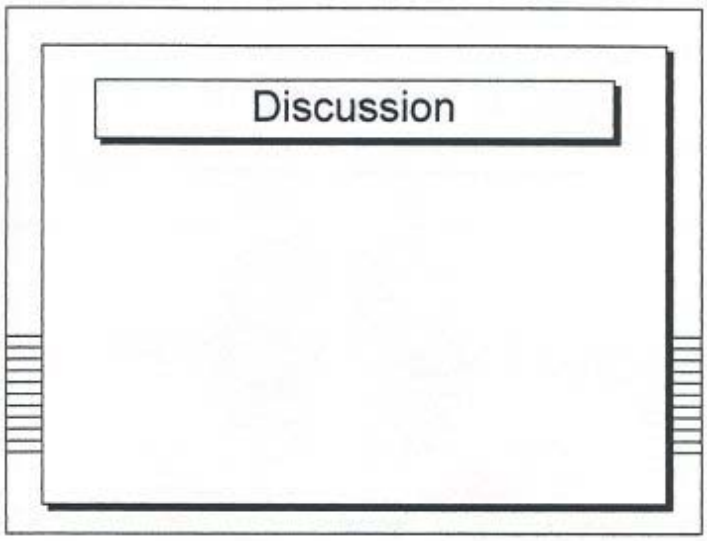
Note: The left hemisphere controls handwriting, language, reading, phonics, locating facts, talking, reciting, following directions, listening, auditory association, numbers



RIGHT Brain characteristics

Non-verbal:	*awareness of things but minimal connection with words*
Intuitive:	*making leaps of insight, often based on incomplete patterns, hunches, feelings or images*
Symbolic:	*especially the visual, able to remember the symbol(stop sign) better than the word*
Spiritual:	*in tune with deeper self*
Emotional:	*more likely to be honest about feelings*
Spatial:	*seeing where things and how parts go together to form awhole*
Simultaneous	*able to do two things at once; may have more than one project on the go, usually unfinished!*
Holistic:	*seeing things all at once; perceiving overall patterns and structures*
Creative:	*makes new associations*
Artistic:	*reproduces images, colours with accuracy*
Synthesized:	*puts things together to form whole; must have the whole before determining the parts*
Conceptual:	*able to draw conclusions, patterns, themes*
Random:	*works well if interested, but only as long as so*

Note: Spatial relationships, shapes, patterns, singing, music, art expression, visualization, emotions and colour sensitivity are strong points.



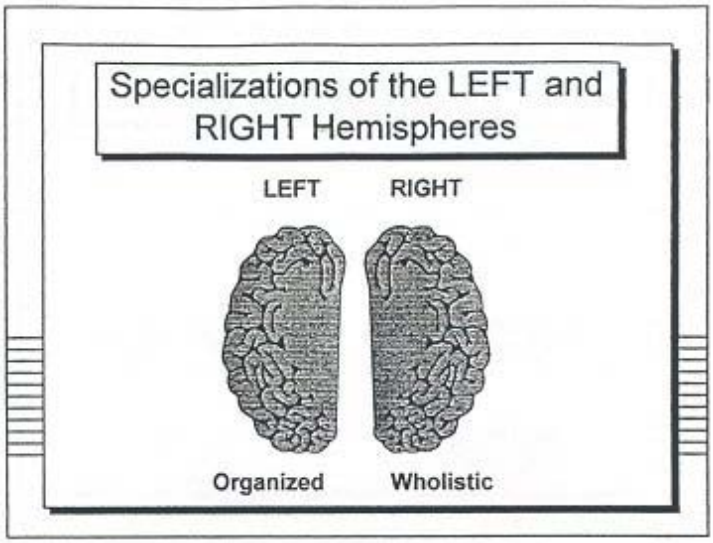
Ask participants to fill out the WHOLE Brain Inventory found on page 7 of the study guide. Allow 5-8 minutes.

Group discussion: Direct participants to answer the following questions with others at their receiving site off-line. Have each group designate a recorder (both on and off-line) and another to summarize discussion on- line.

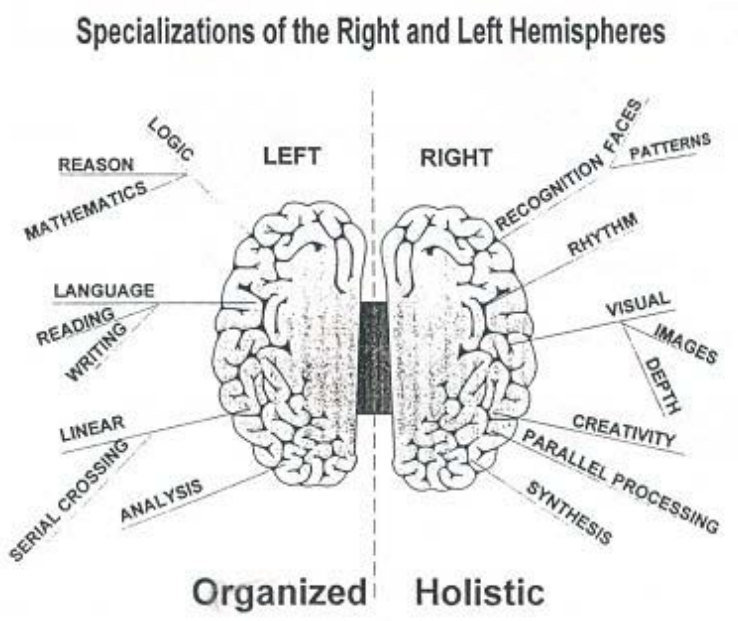
- *Do you agree with the outcomes of the brain inventory? Why or why not?*
- *Which characteristic(s) are most applicable to yourself? Give an example from your own experience to illustrate.*
- *Formulate a question or two for the facilitator to answer.*

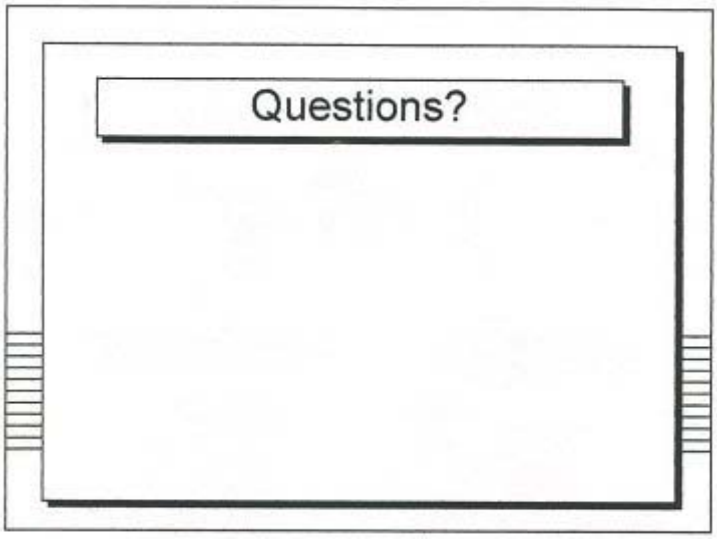
Allow 5 -10minutes discussion time.

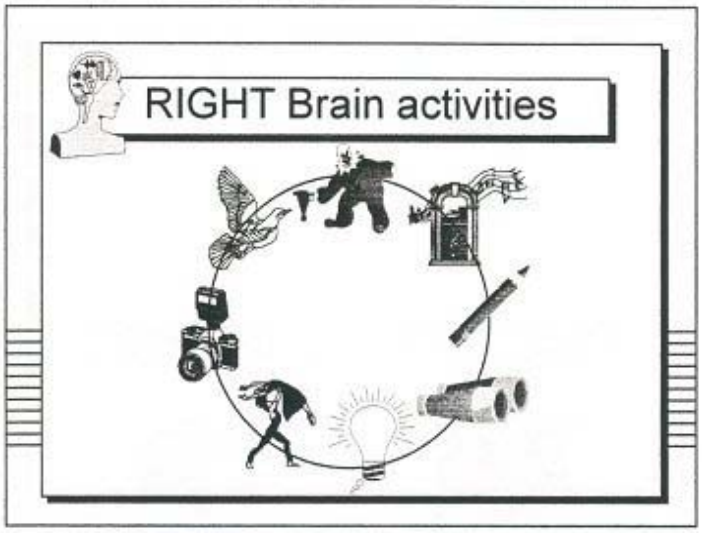
Share the group's observations. Have recorder write groups' question(s) on the slide.



Write or type the attributes of the LEFT/RIGHT Brain on the appropriate side. You may want to ask willing participants to do this while you read.



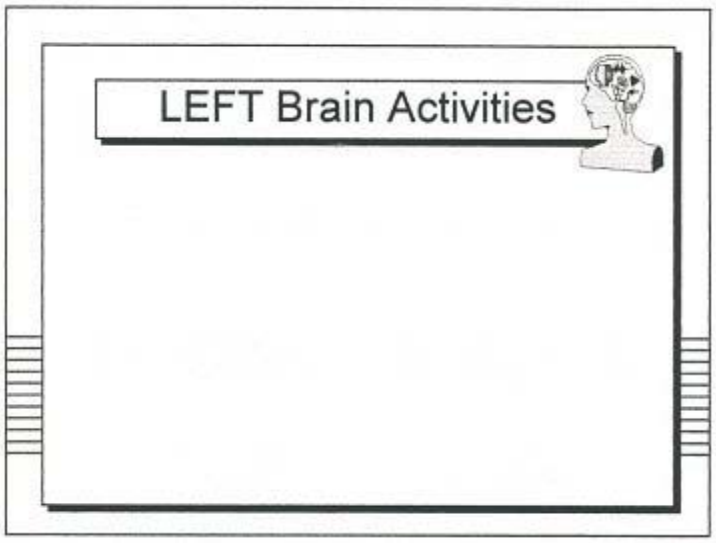

Questions?



For more effective learning and thinking, we should use the strengths that are found on both sides of the brain. We each have all the capabilities we have studied today. We just have developed some more than others. We can be factual and analytical as well as creative and artistic. We merely have to understand that we are capable and can develop our other characteristics. We can develop the lesser preferred half by doing some of the following:

Read poetry	*Write something imaginative*
Daydream	*Dance, e.g. aerobic*
Play music	*Learn photography*
Invent	*Go bird watching*
Watch people	*Do volunteer/church work*

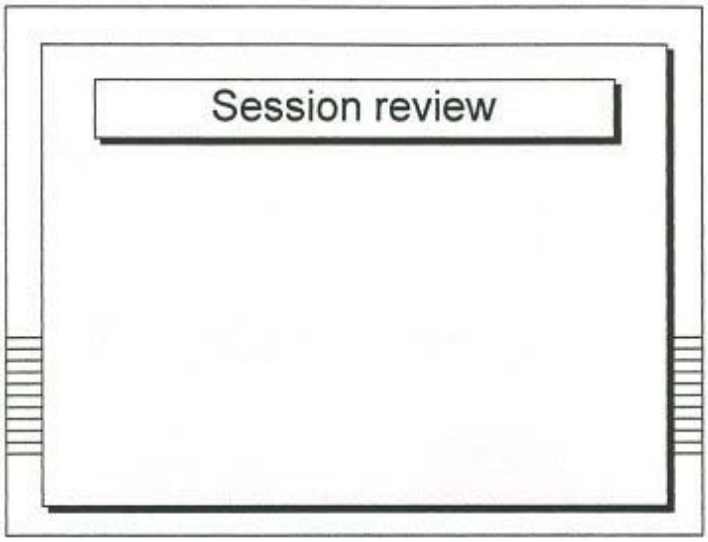
In general, those individuals who have left brain preference can more fully develop right brain characteristics by spending time focusing on people, emotions, movement, creativity - things they might consider frivolous.



RIGHT Brain: Individuals who display right brain preference can develop more left brain characteristics by exploring activities that are more focused on fact, logic and details.

Ask for suggestions. Refer to the following list for ideas. Write suggestions on slide.

Keeping team records
Developing/using a budget
Performing an activity that requires you to follow careful directions
Playing games of logic
Organizing a room, pictures, closet, etc.
Outlining material from a book
Following the stock market; calculating a stock's growth and/or decline
Building models
Using the computer
Playing games with strict rules



Are there any additional questions or comments?
How was today's session?
What did you like about it?
What would you like to change?

Before we leave today's session, let's look at the post-session activities on page 12of the study guide. Do you have any questions about the assignments? Next week, we will explore the teaching and tutoring implication of brain preference.

Thank you for your participation in today's audiographic teleconference.

Literacy Training Through Audiographic
Teleconferencing Project

LEFT Brain / RIGHT Brain

Project Coordinator:
Meredith Ottoson

for

Literacy Education And Reading Network
at Lakeland College -Vermilion
Alberta, Canada

About your Presenter

What we expect to accomplish

Upon completion of session #1, we will:

1. have increased our knowledge about what audiographic teleconferencing is and how it works;
2. have explored the topic of LEFT Brain and RIGHT Brain attributes;
3. be able to apply what we have learned to everyday situations;
4. be prepared to give feed back to the presenter regarding the relevance of the contents of this session in tutoring situations.

Today's session activities:

1. Review of teleconferencing protocols
2. Presentation of LEFT Brain/RIGHT Brain
3. Questions and Discussion
4. Activities:
    a. Identify your preferred brain hemisphere.
    b. Give an example, from personal experience, of a behaviour which demonstrates left or right brain thinking.
    c. Identify behaviour in others, i.e. literacy students, family member, which demonstrates LEFT or RIGHT brain thinking.

Today's session review:

1. Did we meet the session goals?
2. Adjournment

Notes

Brain Facts

- If we could build a computer today as complex as the human brain, that computer would be 100 stories tall and be big enough to cover the entire state of Texas.
- There has been more progress into brain research in the last 10 years than in all previous human history.
- The adult brain contains 100 billion neurons. Each of these neurons has thousands of dendrites.
- The single brain is capable of storing more information than all the libraries in the world.
- The corpus callosum connects the left and right halves of the brain.
- Almost all dyslexics have a dominant right brain.
- 50% of Olympic athletes are dyslexic.
- Hemispheric specialization is not an all-or-none phenomenon; it falls on a continuum.
- When people develop a mental area they consider weak, this development produces a synergetic effect. All areas improve.
- Our brains are capable of infinitely more complex tasks than have been thought.
- Because memory is a process which is based on linking and association, the fewer items there are in a recall store, the less will be the possibility for new items to be registered and connected. Memory process is like a rolling snowball - the bigger the ball becomes, the faster it moves.
- The brain weighs only three pounds.

WHOLE Brain Inventory

Directions: Circle either 'a' or 'b' in response to each question. Your answer should reflect which response is most like you,most of the time.

1. Which is more like you?
    a. I prefer to complete one project before starting another one.
    b. I like to have several projects going at once.

2. Which of the following statements is more like you.
    a. I worry about getting things right. I am a tense person.
    b. I'm relaxed and easy-going; you can't fight life.

3. Think of the music you like. Which is more important to you?
    a. the beat
    b. the melody

4. If you were at college, which of the following majors would you select?
    a. art
    b. math

5. How do you usually read magazines?
    a. I flip through the whole thing before going back to read articles.
    b. I read straight through, front to back.

6. When you start to do something new, how do you approach the project?
    a. I rely on my feelings to guide me.
    b. I set priorities or make a schedule for completion.

7. Which of these games would you rather play?
    a. Scrabble(word games)
    b. checkers

8. Do you often have hunches?
    a. Yes
    b. No

9. What would be your ideal job?
    a. one in which I could become best at one task
    b. one which was always presenting new things to learn and do

10. Which statement more accurately describes your behavior?
    a. When I want something, I often buy it even if I can't afford it. I'm an impulsive shopper.
    b. I think about something a long time before I buy it. I often talk myself out of things I thought I wanted.

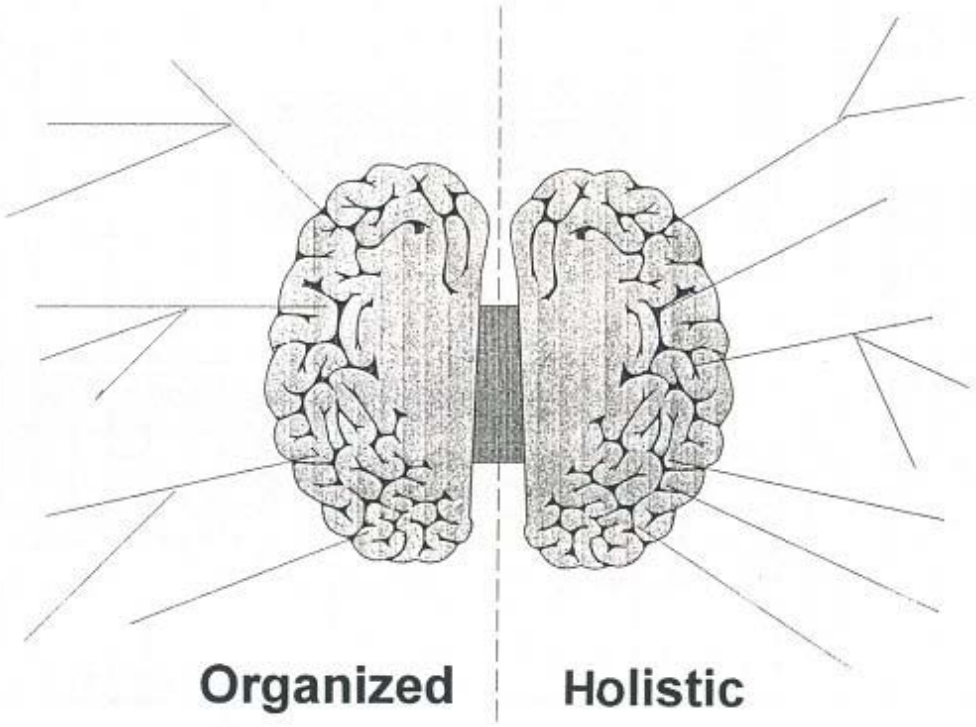
Scoring instructions

1. Circle the correct letter corresponding to the answers given in the **WHOLE BRAIN Inventory**. Count the number of circles in the left column. *It doesn't matter whether the circles are a's or b's, only that the circles are in the left column*. Record the total below. Graph your total in the **LEFT Brain** column.

2. Count the number of circles in the right column. Record the total below. Graph your total in the **RIGHT Brain** column.

	Left	Right		Left Brain	Right Brain
1.	a	b	20		
2.	a	b	19		
3.	b	a	18		
4.	b	a	17		
5.	a	b	16		
6.	b	a	15		
7.	a	b	14		
8.	b	a	13		
9.	a	b	12		
10.	b	b	11		
11.	b	a	10		
12.	a	b	09		
13.	b	a	08		
14.	b	a	07		
15.	b	a	06		
16.	b	a	05		
17.	a	b	04		
18.	b	a	03		
19.	a	b	02		
20.	b	a	01		
Total					

Specializations of the Right & Left Hemispheres



Preferences

If you prefer left hemisphere thinking and want to learn to draw upon the right hemisphere more, try some of the following activities:

- Read poetry, particularly emotional or inspirational poetry.
- Day dream or imagine yourself doing something different.
- Play music you like.
- Invent something.
- Watch people.
- Write something imaginative.
- Do aerobic dancing.
- Learn photography.
- Go bird watching.
- Do church or other volunteer work.

If you prefer right hemisphere thinking and want to learn to use the left hemisphere more, try some of these suggestions:

- Keep careful records of your favourite hockey, baseball or football team.
- Develop a personal budget and follow it.
- Perform an activity that requires you to follow careful directions.
- Play games of logic.
- Organize your room, pictures or CD disks.
- Outline material from a textbook.
- Follow the progress of a few stocks even if you can't afford to buy them; calculate their growth or decline.
- Build models.
- Learn to use a computer.
- Play games with strict rules.

Post - Session Activities

1. Over the next week, keep track of the times you find yourself using your left brain, your right brain or whole brain. Write down the context for at least one example of each. Were your strategies appropriate for the context?

2. Write a profile of the student you are working with. If you have not been matched, write a profile of a family member or friend. Include information about whether or not this individual prefers using gone side of his/her brain more than the other. Use as many examples as you can gather to support your observations.

At the end of week two, you will be able to identify strategies that will benefit this person.

What we expect to accomplish

Upon completion of this session, we will:

1. be able to demonstrate our ability to use the audiographic teleconferencing technology.
2. have identified the characteristics of LEFT and RIGHT brain preference.
3. have explored teaching strategies for LEFT and RIGHT brain preference.
4. have discussed and learned WHOLE brain teaching strategies.
5. be prepared to identify specific advantages and disadvantages of audiographic teleconferencing.

Today's session activities:

1. Presentation by _____ LEFT Brain/RIGHT Brain
2. Review of previous session's activities
3. Questions and Discussion
4. Activities as time permits
5. Completion of the Evaluation Form

Today's session review:

1. Did we meet the session goals.
2. Evaluation
3. Adjournment

Notes

Characteristics of

LEFT Brain Preference

- more interested in details than understanding the whole idea
- may be stalled by details - unable to move forward
- has difficulty with open - ended tasks
- reluctant to trust feelings
- more interested in ideas than people
- likes to be correct
- thorough and persistent
- overly critical of self - expects perfection

Teaching Strategies

- give a practical application for learning
- introduce new ideas in an orderly sequence
- establish safe routines
- break large concepts into smaller parts
- utilize check lists
- reveal predictable patterns whenever possible
- support ideas with as much detail as possible

Characteristics of

RIGHT Brain Preference

- maybe more interested in the whole idea than in details
- impatient with routine
- mercurial-bursts of energy or lethargy
- loses track of time
- can be unfocussed or scattered
- jumps to conclusions
- focuses on current interests
- has difficulty following through on ideas

Teaching Strategies

- become personal - emotional connections are important
- use active learning techniques
- present material in a variety of ways
- use games
- make flashcards
- colour code blends/digraphs/silent letter combinations
- incorporate or encourage movement while learning or reading
- trace letters and words

WHOLE Brain Teaching

1. Mentoring

   Guide your student's growth; promote autonomy and self respect.

2. Active learning techniques

   Listening, reading, discussion

3. Team learning

   Encourage work with a partner to share ideas and details.

4. Teach to both sides

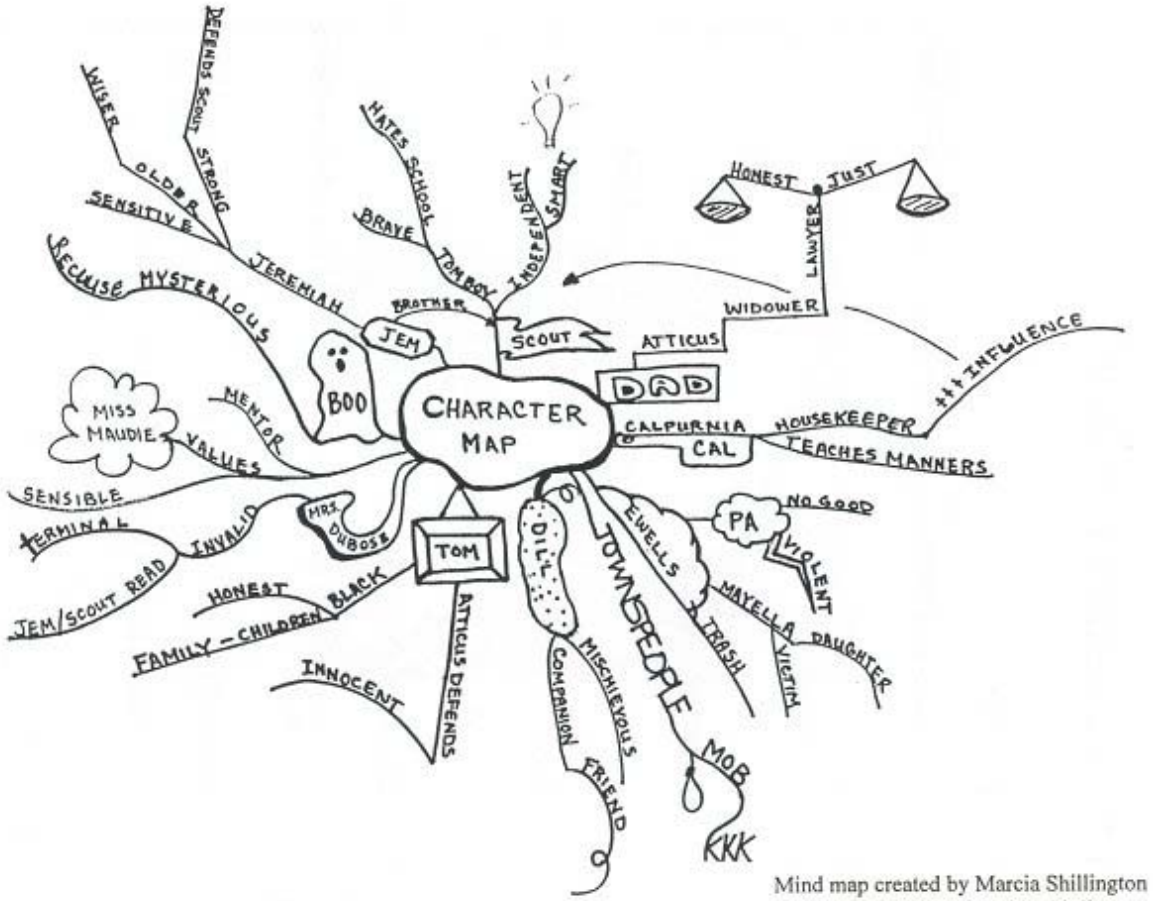
   Say it, write it, picture it, act it out....

5. Use mnemonics

   Share the ones you know and encourage your student to make up his/her own.

6. Use mind maps

   Present detailed, organized material in a colourful way.



Mind map created by Marcia Shillington
from 'To Kill A Mockingbird'

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Appendix

The project - At a glance

Participant summary

Sample evaluation

Sample needs assessment

Education Teleconference Network of Alberta

Cost estimate worksheet

Literacy Training Through Audiographic Teleconferencing Project -
At a glance

Training period	May 95 - January 96
Number of literacy programs involved	9
Distance of programs from Vermilion:	
Farthest - Valleyview	563 km
Nearest - Wainwright	58km
Total number of sessions	
For literacy coordinators	2
For tutors	5
Length of each training session:	
Introduction to Audiographic Teleconferencing(1)	1.5
LEFT Brain/RIGHT Brain (3)	1.5
Learning Styles and Strategies (3)	2.0
Average number of participants per session	
Tutor training only	27
Number of tutors who completed all sessions	8
Advantages of audiographic teleconferencing	. Available . Accessible . Flexible . Equipment easy to use with sufficient training
Disadvantages:	. Slower technology . Poor voice/slide transmission common . Has several pieces of equipment to operate . Requires audio-bridging, technical support . Time intensive in preparation and distribution of supplemental materials
Typical glitches encountered and possible causes:	
Poor voice transmission	. Half duplex teleconferencing equipment
Static	. Weather, wiring or audio-bridge connections
Damaged slide disk	. Improper handling, factory defect
No sound	. Improper connections, e.g. convenor not turned on
Slides out of sync	. Modem not transmitting data efficiently, instructor pacing too fast, participants experimenting
Unable use keyboard or telewriter	. Software incompatibility, improper connections
Uninstalled slides	. Technical support forgot or received materials too late

Literacy Training Through Audiographic Teleconferencing Project
Participation Summary - Page 1

Location	Introduction to Audiographic Teleconferencing 🕮 May 1. 1995	LEFT Brain / RIGHT Brain Practice Session 🕮 June 6. 1995	LEFT Brain / RIGHT Brain Tutor Training October 4. 1995	LEFT Brain / RIGHT Brain October 18. 1995
Slave Lake Smith East Prairie *Community Reading Project*	**Susan Armstrong**	🖊 💻 Rod Corbett	**Susan Armstrong**, Shannon Angie Gordon Rod Corbett	**Susan Armstrong**, Shannon Angie *Unable to connect*
High Prairie - *Prairie River Regional Literacy Project*	**Maria Collett**	**Maria Collett -** Moved	**Sonja Henderson**, Catherine, Patricia, Samantha	**Sonja Henderson**, Catherine, Patricia, Samantha
Valleyview - *VALID*	**Judy Smith**	**Judy Smith**	**Judy Smith**, Dorothy, Connie	**Judy Smith**, Dorothy,Connie, Julie,Brenda
Cold Lake - *LEARN*	**Iris English**	**Iris English**	**Iris English**, Pat, Teena, Charmaine, Ann	**Iris English**, Pat, Charmaine, Ann, Theresa
St Paul - *LEARN*	**Tamela Georgi**	**Tamela Georgi**	**Tamela Georgi**	**Tamela Georgi**, Lance
Vermilion - *LEARN*	✍ **Meredith Ottoson**	**Meredith Ottoson**	**Meredith Ottoson**, Yvonne, Laura, Shirley	**Meredith Ottoson**, Yvonne, Laura, Shirle Brenda, Barton
Wainwright - *LEARN*	**Louella Komadina**	**Louella Komadina**	**Louella Komadina**, Norma, Doreen Colleen Gulka, Bert	**Louella Komadina**, Norma, Doreen, Fern, Janet
Vegrevllle - *LEARN*		🖊 **Natalia Toroshenko**	**Natalia Toroshenko**, Judy, Lil 🖊 Peter Faid	**Natalia Toroshenko**, Judy, Lil
Ft. Kent - *LEARN*		Heather Rymut	Heather Rymut Val, Kim	
Lloydminster - *LEARN*	Kamolsri Hodgkinson 💻 Marcia Shillington Tamara Topolniski	Kamolsri Hodgkinson Tamara Topolniski		

KEY: 🕮 Literacy Coordinators Only 🖊 Evaluation Team Member ✍ Project Coordinator
Observers 💻 Instructor

Literacy Training Through Audiographic Teleconferencing Project
Participation Summary - Page2

Location	Learning Styles and Strategies January 10,1996	Learning Styles and Strategies January 17, 1996	Learning Styles and Strategies January 24, 1996
Slave Lake **Smith** **High Prairie** *Community Reading Project*	**Shannon** Unable to connect Unable to connect	**Susan Armstrong**, Shannon Unable to connect Unable to connect Rod Corbett	**Susan Armstrong**, Shannon Unable to connect Unable to connect Rod Corbett
High Prairie - *Prairie River Regional Literacy Project*	**Sonja Henderson**, Samantha	**Sonja Henderson**, Samantha, Rebekkah	**Sonja Henderson**, Samantha Rebekkah
Valleyview - *VALID*	**Judy Smith**, Dorothy, Susan	*Cancelled due to cold weather*	**Judy Smith**, Dorothy, Susan
Cold Lake - LEARN	**Iris English**, Pat Teena, Charmaine Theresa	**Iris English**, Pat Charmaine, Theresa	**Iris English**, Pat Teena Charmaine, Theresa Petra
St. Paul - *LEARN*	*Literacy coordinator moved*		
Vermilion - *LEARN*	**Meredith Ottoson**, Yvonne, Laura, Lorraine, Jeannine, Juliette, Barton Mary, Joan, Anne,Gill	**Meredith Ottoson**, Laura, Lorraine, Jeannine, Juliette, Peter Mary	**Meredith Ottoson**, Yvonne, Laura, Jeannine, Peter Mary, Opal
Wainwright - *LEARN*	**Louella Komadina**, Norma, Doreen, Louise	**Louella Komadina**, Norma, Louise, Juanita	**Louella Komadina**, Norma, Juanita Gale
Vegreville - *LEARN*	**Natalia Toroshenko**, Judy, Lil	**Natalia Toroshenko**, Lil, Ken	**Natalia Toroshenko**, Judy, Lil, Louise, Ken, Karen Peter Faid
Ft. Kent - *LEARN*	**Heather Rymut**, Kim	**Heather Rymut**, Shannon, Shelley	**Heather Rymut**, Shannon, Shelley

Literacy Training Through Audiographic Teleconferencing Project

Evaluation for LEFT Brain/RIGHT Brain

Thank you for taking the time to complete this evaluation. Your feedback will help us to ensure that the audiographic teleconferencing experience is rewarding to you and future users of this training technology; A rating scale of 1 (poor) -5 (excellent) has been established to score each category. Your additional comments are both welcome and encouraged.

AUDIOGRAPHIC TELECONFERENCING USER'S HANDBOOK

	Poor Excellent
1. What was your overall impression of the user's handbook?	1 2 3 4 5
2. Did you find the information useful?	1 2 3 4 5
3. Was the layout helpful?	1 2 3 4 5
4. Did you use the procedures? Circle one: **Yes No** If yes, what happened?	1 2 3 4 5

STUDY GUIDE

1. What was your overall impression of the study guide?	1 2 3 4 5
2. Were the goals and objectives of the subject clearly defined?	1 2 3 4 5
3. Did you like the layout?	1 2 3 4 5
4. Did you find the content interesting?	1 2 3 4 5
5. Did you find the content useful?	1 2 3 4 5
6. Do you believe that this study guide will be a useful tutoring tool?	1 2 3 4 5
7. Was the content supportive of the slide presentation?	1 2 3 4 5

THE AUDIOGRAPHIC TELECONFERENCE

1. What was your overall impression of this audiographic teleconference?	1 2 3 4 5
2. What was your overall impression of the coordination of this audiographic teleconference?	1 2 3 4 5
3. Did you find the topic/content relevant to your needs as a volunteer literacy tutor?	1 2 3 4 5

		Poor	Excellent
4.	Was the presenter's voice clear and friendly?	1 2 3 4 5	
5.	Was the presentation well organized?	1 2 3 4 5	
6.	Was the pace too fast? _____ too slow? _____ appropriate? _____		
7.	Was there sufficient time to ask questions/clarify/share ideas?	1 2 3 4 5	
8.	Was the level of instruction too difficult? too easy? _____ appropriate? _____		
9.	Did you find this to be an appropriate medium for tutor training?	1 2 3 4 5	
10.	Were your expectations of this type of delivery met?	1 2 3 4 5	
11.	Were the arrangements at your local site appropriate?	1 2 3 4 5	

Additional comments/suggestions:

_____

_____

_____

_____

_____

_____

_____

ADVANCE NOTICE/PUBLICITY

1. What was your overall impression of the advance information?
2. Was the intent clearly stated?
3. Were you given sufficient notice of this tutor training?

Your Name or Program Name: _____

Date: _____ **Telephone #:** _____

Needs Assessment:

Literacy Training Through Audiographic Teleconferencing Project

We have between 9 and 12 hours for delivery of this portion of the audiographic teleconferencing project. I would like the content of this course to be as useful to you as learning the new technology. Therefore, I am asking you to select the topic you would like covered in this series. If you have specific questions or information you would like included, please add your requests to the Needs Assessment.

For purposes of this literacy training project, only one option can be chosen for presentation. However, future tutor training sessions can include those options not chosen.

Option #1: Learning Styles and Learning Strategies - Looking at affective, cognitive and cultural learning styles through examining our own styles and matching these to a range of applications in reading and writing.

Expected outcomes:

- **participants will understand the difference between affective, physical and cognitive learning styles**
- **participants will Identify their own learning style through the use of the Myers-Briggs, Gregorc and other learning style Inventories**
- **participants will be able to manipulate materials to meet the learning style needs of their students**

Option #2: Learning Disabilities - Informal diagnosis, matching strategies to style and program planning; looking at case studies of students and honing your skills as an interviewer and tutor with this group.

Expected outcomes:

- **participants will understand the use of miscue analysis in reading and writing to identify specific learning difficulties in their students**
- **participants will practice and discuss the role of psycholinguistics in analyzing specific reading and spelling difficulties in their students**
- **participants will develop better questioning techniques for interviewing students about their difficulties**
- **participants will understand the range of teaching approaches needed to facilitate learning in students with specific learning difficulties**

Option #3: Meta cognition, critical thinking and motivation - This course would focus on developing understanding of the cognitive strategies that students may or may not possess. We will look at reading and writing strategies that help students transfer learning from one situation to another.

Expected outcomes:

- **participants will be able to define meta cognition and understand its context within the framework of reading, writing and numeracy**
- **participants will experience and develop strategies which enable students to transfer learning processes from one learning situation to another. Included will be such topics as modeling, scaffolding, think alouds, anticipation guides, summary writing, etc.**
- **participants will learn to do text analysis and understand how this ability can help students develop better comprehension skills**

Thank you for taking the time to respond. I look forward to working with you in January.

Robin Millar
Literacy & Continuing Education
Winnipeg, Manitoba

RESPONSE FORM
Needs Assessment: Literacy Training Through Audiographic Teleconferencing Project

Name: _____

Program: _____

Please choose **one option only** for your responses. Check one of the following:

- ○ I would prefer Option#1 - Learning Styles and Learning Strategies
- ○ I would prefer Option#2 - Learning Disabilities
- ○ I would prefer Option#3 - Meta cognition, Critical Thinking & Motivation

Now complete the attached questionnaire. **Only fill out the portion for the option you have chosen.** You may use the back of the page to expand on an answer.

Option #1: Learning Styles and Learning Strategies

1. What inventories/surveys have you taken to determine your own learning style? (Examples: Myers-Briggs, Gregorc, Kolb, etc.)

2. What kind of learner do you think you are?

3. What role do you think learning style plays in how effectively people learn?

4. What strategies have you used to help your student identify his/her own learning style?

5. What problems do students have that you think might be relevant to the issue of learning style?

Option #2: Working with the learning disabled student

1. What is your back ground in working with students with learning disabilities?

2. What courses in learning disabilities have you taken prior to this course?

3. Have you ever been paired with a student who has learning disabilities?

4. Was an assessment done to determine what kind of learning disabilities?

5. What materials have you found useful in working with students with learning disabilities?

6. What areas does your student have the most difficulty with?

    - reading comprehension
    - spelling
    - writing compositions (especially organizing writing)
    - memory tasks
    - numeracy

7. How do you hope to use this information with your student? (E.g. indirect tutoring, etc.)

Option #3: Meta cognition, Critical Thinking and Motivation

1. What problems do you think students have with "learning how to learn?"

2. How do help your student transfer learning from one situation to another?

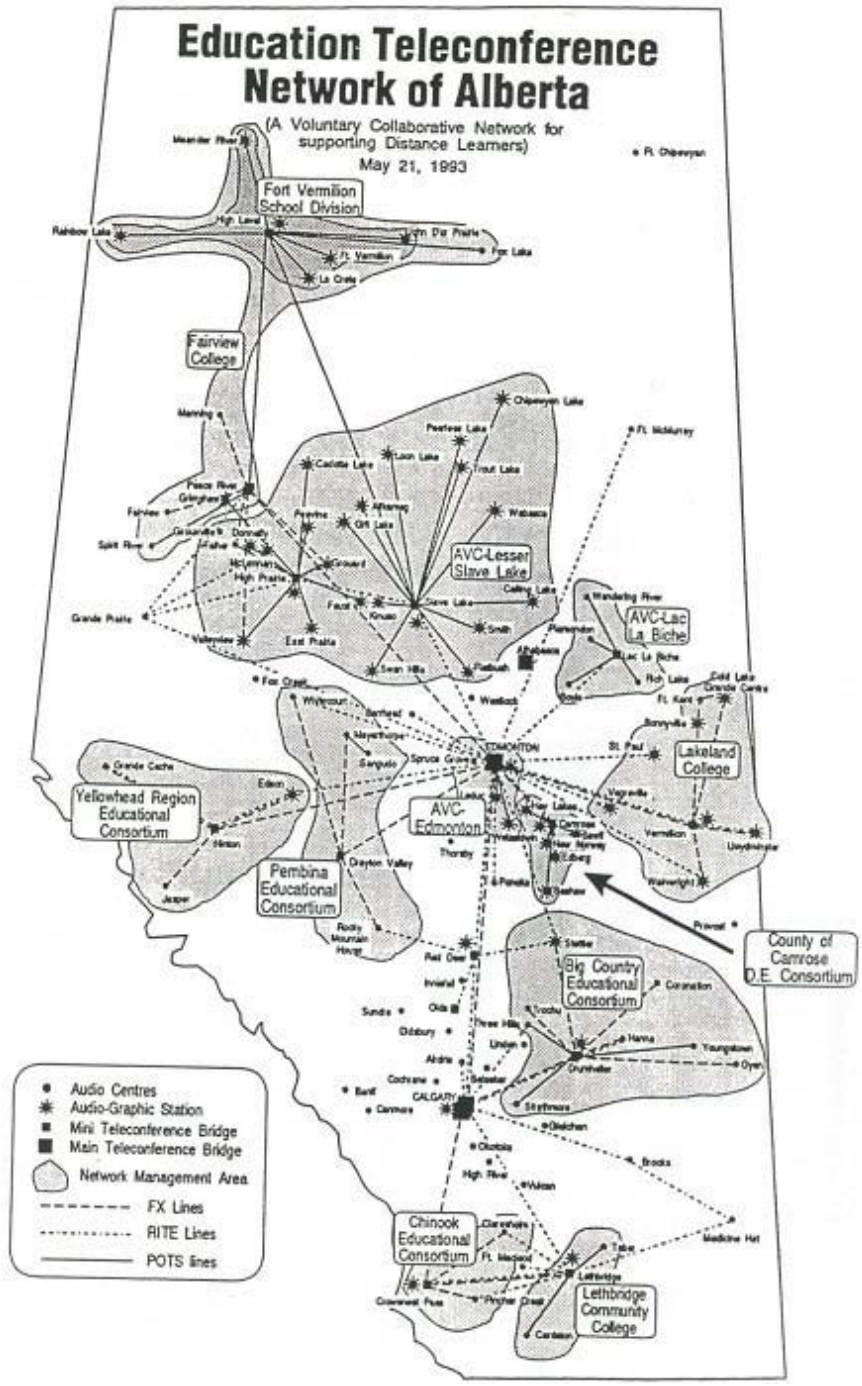
3. What method of student self-evaluation and self-reflection do you use while tutoring?

4. What activities in the development of critical thinking do you do with your student?

5. What role do you think a student's attitudes/beliefs about learning play in his/her success in literacy development?

6. In what ways do you think learning more about meta cognition, critical thinking and motivation help you as a literacy tutor?

SKETCH 2


Education Teleconference Network of Alberta
(A Voluntary Collaborative Network for supporting Distance Learners)
May 21, 1993
Fort Vermilion School Division
Fairview College
AVC-Lesser Slave Lake
AVC-Lac La Biche
AVC-Edmonton
Lakeland College
Yellowhead Region Educational Consortium
Pembina Educational Consortium
Big Country Educational Consortium
County of Camrose D.E. Consortium
Chinook Educational Consortium
Lethbridge Community College
Audio Centres
Audio-Graphic Station
Mini Teleconference Bridge
Main Teleconference Bridge
Network Management Area
FX Lines
RITE Lines
POTS lines

Costing Worksheet

Please Note: The dollar amounts given *are guidelines only* to help in your planning.

Audiographic Teleconferencing	**Estimate Rates per site x # of sessions**	**Actual**	**Face-to-face Instruction**	**Estimate # days x # participants**	**Actual**
long distance charges @ .381 min.			Hotel rates @ $60.00/night		
Technician time @ $14.00/hour			Meals @ $26.00/day		
Bridge time @ $6.00/hour			Travel @ .25/km		
Studio time @ $15.00/session			Wages @ #100.00/day		
Telewriter @ $50.00/session					
Administration @ 10 -15%					
Additional costs:			Additional costs:		
Instructor @ $50.00/hour x # of sessions			Instructor @ $50.00/hour x # of hours Hotel @ $60.00/night Meals @ $26.00/day Travel: Auto @ .25/km Airfare		
Course development @ $35.00/ hour			Course development @ $35.00 / hour		
Clerical @ $15.00/ hour			Clerical @ $15.00 /hour		
Printing/postage/courier			Printing/postage/courier		
AudioTapes $5.00 / each			Meeting Room @ $100.00/ day x # of days		
VideoTapes @ $6.50/ each			AV Equipment @ $50.00 /day x # of days		
			Daycare		
TOTAL			**TOTAL**		