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First Nations communities across Canada have consistently expressed their commitment to maintaining and revitalizing their languages, and widespread efforts are underway to reach that goal. First Nations generally are striving to preserve the language base that exists by recording the invaluable language and cultural knowledge of First Nations Elders. At the same time, First Nations are working to teach the language to new generations of speakers.

The First Nations Education Steering Committee (FNESC) has been working to assist First Nations with their critical efforts to promote their languages. To direct FNESC’s work, First Nations representatives from throughout British Columbia have come together to recommend and design a range of initiatives, including conferences, workshops, training programs, and research projects.

One of the key projects undertaken by FNESC was the creation of an Aboriginal Language Program Planning Handbook (Ignace, 1999), as well as an accompanying Aboriginal Language Program Planning Workbook (Kavanagh, 2000). Those documents outline a broad range of activities that can be undertaken as part of a comprehensive language revitalization effort. The resources also highlight a framework designed by Joshua Fishman, which is intended to be used as a basis for the language revitalization efforts.

Fishman (cited in Ignace, 1999) proposed eight stages for language planning, with stage eight involving the reconstruction of the language.

Introduction

young people respond quite favourably to technology as a teaching tool, and recordings of First Nations languages can provide an excellent foundation for the creation of a variety of multimedia resources and materials for learning

As the Aboriginal Language Program Planning Handbook notes: Especially for languages that are not well documented, [language reconstruction] means the recording and compiling of as much knowledge of the language from Elders/fluent speakers as is possible, before it becomes impossible to collect such information. Reconstruction can involve the recording and compiling of vocabulary and expressions in dictionaries. It includes the recording, analysis and presenting of stories and legends, of life histories, of songs, proverbs, and all other kinds of knowledge of the language in taped and written form. It must also involve the documentation of the sound system (phonology) and grammar of the language.
First Nations representatives have responded very favourably to the suggestions included in the previous language planning resources, including the references to language maintenance and preservation through the recording of Elders’ knowledge. In addition, the link between the recording of languages and teaching has been highlighted; young people respond quite favourably to technology as a teaching tool, and recordings of First Nations languages can provide an excellent foundation for the creation of a variety of multimedia resources and materials for learning.

While there is significant agreement about the importance of technology use, however, several people have also indicated a need for more information about how to effectively record and preserve existing language knowledge. This resource was created in response to that expressed need. It is intended to complement the previous resources created by FNESC, providing a basic overview of video and audio recording techniques as they relate to Aboriginal languages. It includes specific suggestions for achieving high quality sound and video at a reasonable price, as well as tips for ensuring that the resources can be maintained and used over time.

This handbook has been written for people who do not have extensive technical expertise, including language teachers, community members, and anyone else who is interested in supporting language programs. FNESC hopes that it proves useful to anyone who is committed to preserving the knowledge of First Nations Elders and language speakers so that this precious resource can be shared with the generations to come.

Making a Recording … Some Basic Technical Advice

1.1 General Suggestions for Making Recordings

When making any recordings, whether video or audio, there are several critical aspects to consider from the outset.

1 Plan ahead. Think about what you are going to record and the sequence of events that will be required. Understand that considerable time and effort are required to make a quality recording, and be realistic about the task ahead of you. Be prepared to take the recording process very seriously so that the people you are working with have a positive experience and so you are proud of your product.

2 Make adequate preparations. Make sure you have enough batteries and tape, and ensure that the space in which you are recording will be available for as long as you need it. Remember – making high quality recording always takes longer than you think! Visit the location prior to the day of recording and see if it is appropriate for your needs. Ensure there is no excessive noise, like an air-conditioner or generator. If there is loud equipment, make sure you arrange to have it turned off on the day of recording. Also check to see if there is a comfortable place for the people being recorded, and adequate room to set up your equipment with a convenient power plug.

3 Check out your location on the day of the recording. Arrive early and make sure everything is ready. Was the air conditioning turned off as you asked? Does the power still work? Are comfortable chairs and water available for the Elders? Stand in the room and listen. Make sure there is nothing too noisy that will ruin your recording. If you hear people talking nearby, go and investigate. Tell people when you are recording, explain the importance of your task, and ask everyone to be as quiet as possible when the actual recording is taking place.

4 Check your equipment. Equipment failure is the most common reason for recording difficulties. Even professionals experience problems with equipment; that is why they often carry extra gear. For non-professionals, the most important way to avoid problems is to set up equipment ahead of time (up to an hour or two early) and test it. That way, if there are any problems, there is an opportunity to troubleshoot and address any problems before your recording subject arrives. There is nothing that destroys confidence more quickly than seeing someone fumbling around and muttering about rotten equipment! Avoid this situation by very carefully testing everything ahead of time.

5 Check your equipment. Did we mention that? Re-check your equipment again by making a test recording and playing it back. Many times, people think they have made an excellent recording, only to discover later that nothing was recorded! Don’t be disappointed by allowing that to happen to you.

6 Practice, practice, practice. Practicing your recording in the privacy of your own home before working with an Elder or fluent
Making a Recording … Some Basic Technical Advice

### TIP
An important note about copyright
Although this Handbook is not intended to specifically address the issue of copyright, this is an extremely important topic. Anyone interested in recording First Nations languages must consider copyright carefully before proceeding. It is critical that the copyright for language materials remain with the relevant First Nation, language group, or other agency determined to be appropriate by the First Nation.

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**Making a "master"**
When making a recording – either video or audio – it is important to consider the creation of a "master" tape. Usually, a master refers to the recording from which all other copies are made. The master tape will have the highest quality, as it is the original and therefore contains the greatest amount of information. This aspect makes the master key. If the quality of the master is poor, the recording will not be of much use. In fact, this is the most important aspect of recording – trying to make the best possible master tape given the circumstances in which you are working, including your equipment and surroundings, as well as your recording subject.

When you are making a master recording, remember that you are recording not only what you need today; you are also capturing information that may be used in a variety of ways in the future. What is done with your master tape will depend upon the needs for your language group. People generally use master tapes to develop dictionaries, to create multimedia CDROMs, to edit and produce videos of Elders speaking, and for many other purposes.

The master is the complete recording. To think about what this means, compare your recording process to something you see on television, such as a story on the evening news. The story you watch has been edited. That means that specific portions of the information were selected to present the story in a clear way. All of the original recording did not end up in the story as it is finally presented. But the footage that you did not see would have created a different story. Maybe someone else could have used the information in a different way to show something quite different.

In the same way, what you record now may be used in the future in ways you may not be able to predict. You can allow future editors another chance to use the information you record by taking care of your master tapes and ensuring that they are not erased. This is especially relevant when you are recording the knowledge of Elders who may not be able to contribute to projects and language teaching initiatives undertaken in the years ahead. You can never know what future generations might be looking for in your recordings, so preserve them carefully!

### 1.3 Considering digital versus analogue recordings
One of the most important concepts to understand before embarking on a recording project is the difference between analogue and digital. In this handbook, the terms digital and analogue are used to refer to possible kinds of recordings.

**Analogue** is an older method of recording, which involves using an analogue – or copy – of a physical sound on magnetic tape.

**Digital** recording also involves using a kind of a copy, but it is more accurate; it makes a "clone" of a sound, converting it into bits and bytes (sometimes also on magnetic tape).

The major difference between analogue and digital recording is in the conversion of the sound to tape. In this way, digital is much superior to analogue.

Analogue recording can be thought of like a fax; it looks like the original, but it can be a bit blurry and sometimes it can be difficult to read. Also, imagine trying to fax a fax, and then fax that copy again. Would you be able to read the document now? Probably not, because every time it is copied, the process only captures the highlights and it loses the detail. After only a few generations it is unreadable. Another way to think about analogue is to compare it to recording a phonograph album onto an audiotape. On most old tape decks, the copy always sounded "hissy." If the recording was copied onto another audiotape, the sound...
Making a Recording … Some Basic Technical Advice

Digital recording, on the other hand, preserves all of the details. Digital recordings also can be copied endlessly. Think about passing a digital file around on a computer disk. You can copy it many, many times. Of course, certain kinds of digital files, like those found on CD or DVD, can be protected so that it is difficult to make copies. Adding that protection is a choice made by the manufacturer.

Another great aspect of digital recordings is that they can be easily imported into the computer. That makes it easy to edit the recordings, as described in the section below.

Of course, there are exceptions to the overall benefits of digital sound. For example, one important limit of digital recording is the level of digitization. There is a trade-off between file size and the quality of sound; the higher the quality of sound, the larger the file size. Why? Because higher quality digital files capture more information than lower quality files. Sometimes it may be difficult to deal with very large digital files, but the sound quality you acquire often makes any inconvenience worthwhile. That is a choice you can make when planning your project.

Overall, it is usually best to use digital recording whenever possible. Fortunately, doing so has become much easier due to the increase of digital recording devices now available. Examples such as DVDs, miniDisc players, digital audio tape players, and digital video cameras can be found in many stores and/or through the internet, allowing most people to take advantage of the high quality that digital recording can provide.

1.4 Selecting digital formats

To use digital recordings, many different formats are available. The challenge is determining what the formats are and what they mean. It is possible to choose one format, or to convert from one format to another.

Some formats are “compressed,” meaning that they use less tape or disk space. However, compression can sometimes result in a loss of quality. Because storage of digital information is relatively inexpensive—think of the cost of hard drives today compared to the cost five years ago—it is often better to use uncompressed formats if possible.

You can also choose to record in stereo or in mono. Many times, when recording voice a mono format is sufficient, and it results in a smaller file size. That can make it easier to store and manage your files. Stereo is more important when music is being recorded.

The following is a list of specific formats that can be considered.

1. **MP3** The MP3 format is a type of MPEG compression that offers “near-CD” quality audio using about 10% of the storage space of a CD-Audio file. Many people choose this format for recording music so that they can share or use it on portable listening devices. This format is not the best for the purpose of recording Elders in audio because it tends to be compressed and therefore has less than CD-quality sound. However, it is becoming a very popular format and there are many programs available to edit, record, and distribute MP3 audio.

2. **AIFF** The AIFF (Audio Interchange File Format) was developed primarily for use on Macintosh computers. Mac-based professional digital audio recording systems and multimedia applications such as Adobe Premiere and Movie Player allow importing and exporting of AIFF files. Many professionals use this format but it does form larger file sizes. For many purposes, this is a preferable format.

3. **WAV** The WAV format was developed by Microsoft for use on Intel-based computers. Professional PC-based digital audio recording and editing systems use WAV files as their standard, and it is expanding into the Mac world. This is very popular on Windows-PC computers and at a good quality the files can be large. For many purposes, this is a preferable format.

4. **AVI** This is a video format, with AVI standing for “Audio-video interleave.” An audio-video standard designed by Microsoft, this is a proprietary format and Microsoft Windows-specific. Many videos are in this format—for example if you import your video from your digital camera, chances are it will be in AVI. If you want to stick to Windows-PC only, this is a good choice, however, Quicktime (.mov) is a more universal format now. You can always convert AVI to Quicktime.

5. **ATRAC3** This is an audio compression algorithm, introduced by Sony specifically for its Mini Disc. It only applies when using Mini Disc.

6. **WMF, WMA, ASF** Meaning Window Media Format or Windows Media Audio (ASF is the old acronym for WMF), this is a proprietary format designed by Microsoft for Windows-based computers. It is a compressed format, which means it is not always great quality. This is used more for delivery of your video on the web. Another web format is RealVideo, or .RA files. Both are great for putting video online, but not so great for quality.

7. **Quicktime (QT or .mov)** Apple developed the QuickTime architecture primarily to deliver cross-platform video, but QuickTime movies are also a convenient way to deliver audio without the video. This can be used on Mac and Windows-based computers. This format is a great way to deliver high quality video. You can also scale down for delivery on the web as well. A great all around format.

1.5 Editing Digital Formats

One of the most important reasons to use a digital format is the ease with which it allows you to edit your recording.

Once you have made a recording, it is likely that you will want to reduce the amount of information you have gathered so that it is manageable and relates to a particular purpose. This reduction of the master tape to a shorter version is referred to as "editing," and the new version is usually referred to as the “edited master.”

For editing purposes, most digital recordings are imported to a computer. This can be done in a variety of different ways.

For video, the most common digital input and output is known as “Firewire” or IEEE-1394. This is a special kind of digital input. Usually, you need a firewire card in your computer to import this form of recording. Many Macintosh computers come with a firewire built-in, as do many newer Windows laptop computers. You can always add a Firewire card later to your desktop PC for about $100.

For audio, the most common way to import a recording is through a mini stereo input jack in the audio card of a computer. However, while this method of inputting information is usually fine, it is not actually the best method, as it turns the signal from digital to analogue, and then...
back to digital again. This somewhat reduces the sound quality, which can be an important consideration when you are recording the invaluable knowledge of Elders and speakers.

The better method for inputting audio recordings is to use an SP/DIF connection, which is a professional digital format. The audio connector used for this type of circuit is a small “phono” plug, or “RCA” plug. That is the same plug as the one commonly used in home stereos to interconnect components.

However the recording is input, once it is in the computer it can be quite easily edited using any of the many computer programs designed for that purpose. For audio information, many inexpensive programs can be used, such as Cooledit. For video, both PC and Windows computers come with free editing programs. Check your computer for iMovie (Macintosh) or Windows Movie Maker for Windows-based PCs. Note, however, that these programs were not provided with computers purchased more than a few years ago.

With computer programs, including those named above, editing either video or audio recordings is a fairly straightforward process. A representation of your video or audio signal will be visible on the computer screen, and the different sections of your recording will be clear. It will be possible to move different sections of your recording into the order you would like.

1 http://www.cit.cornell.edu/atc/materials/dig/audioformats.shtml
2 as above

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Given the background information highlighted above, the next choice is what technology to use. There is a tremendous range of technological choices, each relevant for different purposes. The key to making the best choice is considering your own unique situation, and determining the appropriate balance between quality and cost.

2.1 Outsource versus in-house

The purpose of this handbook is to assist people who are interested in making recordings themselves, or doing it “in-house.” Creating recording resources yourself is usually the most inexpensive approach, and the more widespread availability of recording devices and computer programs is making this option more and more convenient. Although it may be costly to purchase the equipment necessary for an initial recording project, buying the equipment means that it will be available for future projects, as well.

Clearly, however, “in-house” projects are not the only choice. It is also possible to "out-source" or hire a third party to make a recording. You can hire an engineer in a sound studio or an independent producer to create your audio or video recording. This approach will provide a professional quality recording and will likely provide excellent results. However, even this option is not without challenges.

It is critical that you ensure that the people you hire are competent and able to understand your needs. Anyone choosing to out-source a recording project should carefully check references. Any professionals you are considering for a project should provide you a written description of what they will do, what it will cost, and anything that will cost extra. The day of the shoot, you don’t want any surprises, such as discovering that the lights for your video shoot will double your costs!

All good professionals plan for problems, and anyone you hire should demonstrate that they understand this fact. Inquire about common problems and issues that have arisen in the past, and ask how those challenges were addressed. No one can plan for every problem, but a professional should clearly have the capacity to work around any difficulties that suddenly arise.

Finally, if you choose to hire a professional...
make sure that there is clear agreement about what you will be provided at the end of the process. Will you receive just the original tape from the recording session or a fully edited version? Editing costs more money, so be prepared for this expense if you do not have a clear agreement about this aspect of the project before you begin the recording process.

Some studios prefer to keep tapes, but you should always have control of them. It is important that you also clarify this issue prior to finalizing your agreement. Before you pay for any recording services, you should have the master tapes in your possession. Some studios offer to keep master tapes on their premises so that they can be kept in a room protected for temperature and humidity. Remember ... that service will likely cost a small fee, so ask about storage before finalizing an agreement. In the end, where to store the master tapes is entirely your decision.

2.2 Video versus audio

It may seem obvious, but it is useful to think about whether to make a video or audio recording. Both formats are useful for different objectives. However, it is important to note that buying a digital videocamera is like getting a digital audio recorder for free, because videocameras can be used as audio recorders, as well! With digital videocameras widely available, often at reasonable prices, they may be a useful choice.

2.3 Technology choices based on the recording process

<table>
<thead>
<tr>
<th>Audio</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analogue Tape recorder</strong></td>
<td><strong>Regular Camcorder</strong></td>
</tr>
<tr>
<td>Rating: poor</td>
<td>Rating: poor</td>
</tr>
<tr>
<td>Pros: Cheap and transportable</td>
<td>Pros: Cheap</td>
</tr>
<tr>
<td>Cons: The quality is poor unless you buy an expensive version</td>
<td>Cons: Not good quality</td>
</tr>
<tr>
<td>Cost: $20-100</td>
<td>Cost: $100-400</td>
</tr>
</tbody>
</table>

| **Digital Audio Tape (DAT) Recorder** | **Digital Camcorder** |
| Rating: *** | Rating: *** |
| Pros: CD-Quality sound; the professionals’ choice | Pros: Incredible quality video and audio |
| Cons: Relatively expensive; portable models cost more money; tapes are not always easy to find and degrade faster than expected | Cons: More expensive to buy and tapes are costly |
| Cost: $500-1000 | Cost: $700-1500 |

| **Mini Disc** | **MiniDV Camcorder** |
| Rating: ** | Rating: *** |
| Pros: Excellent quality and portable; many formats to record | Pros: Can play Hi8 tapes as well |
| Cons: Can be hard to use, Not best archival quality. Due to electronic copyright, cannot import files digitally unless buy expensive model. | Cons: Tapes are short (1 hour) |
| Cost: $800-1500 | Cost: $800-1000 |

| **MP3 Recorder** | **Digital-8 Camcorder** |
| Rating: * | Rating: *** |
| Pros: Good quality; near CD-sound. Many MP3 players are available and more are coming. | Pros: Can play H8 tapes as well |
| Cons: Not CD quality. | Cons: Tapes are short (1 hour) |
| Cost: $300-500 | Cost: $800-1000 |

| **CD-R Recorder** | **DVCam/DVPRO** |
| Rating: **** | Rating: *** |
| Pros: Inexpensive media in common usage and playable on standard equipment | Pros: Better archival quality, little compression, uses consumer or pro tape stock |
| Cons: Standalone recorder is expensive | Cons: Expensive professional gear |
| Cost: $2-3,000 | Cost: $800-1000 |
NOTES

Project Planning

3.1 Cost
Purchasing the necessary recording materials and equipment can be expensive. Choosing the right equipment requires balancing your needs with your budget. Try to stick to a reasonable choice.

It may also be useful to speak with others in your community about their recording needs. It may be possible to find a piece of equipment that will meet a range of needs, and you may be able to negotiate a cost-sharing agreement with a number of other community agencies. Borrowing the necessary equipment is also a possibility worth investigating. For example, FNESC has a portable language lab that is available on loan. Anyone interested is welcome to call the FNESC office for more information.

3.2 Storyboarding
“Storyboarding” is a key aspect of planning for a recording session. Essentially, storyboards contain the sequence of events to be included in the recording. In other words, it is a “roadmap,” showing all of the shots and pieces that will be evident in the final product. This plan is very important, because the actual recording process can be quite confusing and it can be difficult to remember everything while it is taking place. Having a written storyboard at hand is an excellent reminder of your plans.

3.3 Respecting language dialects and differences amongst speakers
Anyone recording Aboriginal languages must recognize that there can be many different interpretations regarding pronunciation and spelling. There are also a number of differences between language dialects.

TIP
Storyboards are probably one of the most effective tools for a Film Director. Hopefully, the Director already has the movie in her head before she even gets on the set. However, it is very difficult to keep hundreds of setups and angles in mind while everyone on the set is running around and asking questions. Usually during pre-production, the Director (or someone who is paid for this role) will draw a series of pictures illustrating the camera angles, movements, and other relevant information (lighting tips, elaborate sets, etc.). Some Directors will only draw storyboards for sequences that are very elaborate and action oriented; they may be the best way to communicate with the production crew. The action sequence storyboards for ‘Raiders of the Lost Ark’ are a good example. They appear like a full-color comic book. Other Directors will storyboard every single shot of the movie; Martin Scorsese is famous for this practice. Even ‘Raging Bull,’ with all of its quick editing and hyperkinetic fight sequences, was entirely storyboarded before anything else was done. Each Director determines the extent of the preparation required. Various brands of storyboard software are now available online and can be mastered with ease. Another great tool is photo storyboards, which involves using a Polaroid or hand-held camera. Most Directors with limited funding create the drawings themselves, which may involve nothing more than stick-figures and rudimentary backgrounds. What is important is that the storyboard serves the purpose as a visual reflection of the movie in their head.¹
The way in which these differences are resolved will vary for different communities and language groups. Chief and Council should always be fully advised about any planned recording project, and their permission for the recording, use, and storage of the language resource is critical. They may also be able to provide advice regarding the challenge of language differences.

If a recognized language advisory committee exists in your community, consultation with and approval from this group should also be an integral part of the planning process, and the language advisory members can be an invaluable resource and source of guidance.

Elders and language teachers may also help to resolve any differences in interpretation. Finally, it may be useful in some instances to present a range of pronunciations and spellings and make it clear in your recording that the community is still considering the final resolution of the different interpretations. Documenting the evolution of any language differences can be an exciting, very meaningful aspect of your project.

NOTES


Additional Suggestions

4.1 Interview Hints
1. Know what you want to get out of your interview.
2. Think about the questions you will ask ahead of time and plan them carefully.
3. Provide your list of questions and/or tell the people who will be recorded what areas you will be covering during the interview.
4. Don’t be intimidated, but be respectful.
5. Listen and be ready to follow up with additional questions to clarify the answers you are getting. But keep your follow-up questions brief, and make sure you do not dominate the session by speaking more than the people you are recording!
6. If you are nervous, bring someone with you who can help and keep you calm... as long as you have asked the people to be interviewed if they are comfortable with additional people being present.
7. Have water available for the people being interviewed and for yourself.
8. Rehearse prior to the recording session.
9. One tip that may help is to hold up your hand with five fingers out as a cue to start talking. Count down “five, four” then press your recording button ON. Continue counting silently by mouthing “three, two, one, GO!” That way, the person being recorded has an opportunity to feel prepared for the recording. Also, this allows for the moment required for the tape to get ready.

4.2 Using microphones

The choice of microphone is key to the recording process. There are many different types and brands of microphones available. Budget considerations may be central to your choice, as microphones can be very expensive. Some microphones also require a mixer, which will have budget implications.

Typically, there are two different types of microphones – dynamic and condenser. Condenser microphones need their own source of power, and they are typically powered by a battery. When recording voices, condenser microphones are generally better than the other types, which are primarily used in amplifying bands on stage.

There are many different brands of microphones that you can use. If you are videotaping, ideally you will not use the microphone attached to the camera. External microphones are preferable, and therefore whether a video camera can accept an external microphone is an important consideration when it is being purchased.

One of the most convenient microphones for interview situations is a Lavalier microphone. This is a small, button-type of microphone that is usually clipped onto a shirt near the neck. The Lavalier is a unidirectional microphone that will reduce the recording of background noise, although its placement is critical because it can pick up the rustling of clothing if the person wearing it moves around too much. Lavalier microphones can also be plugged into video cameras.
Alternatively, you could hold the microphone either use a Lavalier microphone and pin or to address the challenge of reverb, you can the echo effect once it has been recorded. It is extremely difficult to remove “reverb,” before or while the recording session that you minimize this effect, which is called creates echoes, it will sound like the speaker will be a strong voice signal without a lot of noise. In recording language speakers, this and the least interference from background equipment where you get the most signal 4.2.1 Proper microphone technique

The best microphone technique is to place the equipment where you get the most signal and the least interference from background noise. In recording language speakers, this means placing the microphone where there will be a strong voice signal without a lot of room reverberation. Remember, if the room creates echoes, it will sound like the speaker is in a large room. In general, it is important that you minimize this effect, which is called “reverb.” before or while the recording session is happening. It is extremely difficult to remove the echo effect once it has been recorded.

To address the challenge of reverb, you can either use a Lavalier microphone and pin or clip it to the shirt collar or just below the first button, or you can use a microphone on the table with a small stand.

Alternatively, you could hold the microphone in front of the speaker, which will allow you to use the same microphone if you want your questions recorded, as well. However, this technique can become very awkward and tiresome in an interview process.

Another appropriate microphone for this purpose is a PZM Mic, which can record more than one person. However, that equipment has the disadvantage of also recording background noise, and so it is only useful if the interview setting is quiet enough.

If more than one person will be involved in a recording session, you might need a mixer. A mixer can receive input from more than one microphone, combine the signals into 1, and then plug the mixed signal back into your tape deck or camera. For a 2-microphone scenario (1 for you and 1 for the person being interviewed), typically the first and second microphones are fit into the first available input ports on a mixer (which you can rent fairly inexpensively). The mixer then combines the output from both microphones into a “main” output, which you plug into your camera or tape deck.

4.3 Clothing and environment

One of the most significant difficulties in video and audio recording relates to trying to record in the “wrong” place. What’s the wrong place? Anywhere that is noisy or creates echoes. When recording Elders or any other speakers, it is essential to be located in a quiet room with little or no echo. If you are recording outdoors there are many factors to consider, such as wind and sun, so it is usually best to record indoors where control is maximized.

Once you have chosen the appropriate location, stand in the middle of the room and listen. Is it really as quiet as you thought it would be? Are there strange humming sounds or buzzing sounds from air conditioners, heaters, or vents? If so, these should be turned off, blocked, or somehow turned down.

When you are actually recording people, listen carefully to anything they are doing that might make noise. It is best to ask people to wear clothes and jewelry that do not make a lot of noise when they move. While the noise may not seem intrusive while the recording is being made, clinking jewelry and rustling clothing can be surprisingly loud when the recording is replayed later. To avoid creating any offense, clearly explain the reasons for your requests for quiet clothes and limited jewelry. Most people who have committed the time and effort to a recording session want the final product to be useful and would prefer to accommodate the recording needs rather than to be asked to repeat a recording because of poor sound quality.

4.4 Videotape Checklist

Videotape is a great way to capture and record Elders speaking. If videotaping is your recording method of choice, the following are a few of the things you will need. 1. Camcorder 2. Camcorder case 3. Tripod 4. Battery (or batteries) - is it charged? 5. Battery charger 6. AC power adapter (that plugs into the wall from the camera)
4.5.4 Other Lighting Tricks

- Buy a piece of foamcore at your art supply store or office supply store. White foamcore can be used to bounce the key light back onto the subject. The foamcore board should be positioned at about the same place as the fill light in the above diagram.

- White balance your camera if it does not white balance automatically. This is done with the foamcore board or a piece of paper to indicate to your camera what “true white” should be.

- Use a light spectrometer if you are really concerned about picture quality and if your budget will allow you to purchase this equipment. This instrument will help you to accurately determine your current level of light.

- Keep trying and experimenting until you get the right lighting setup for your situation. Have a friend or colleague sit in the place of the Elder or other person you are going to record so that everything is ready ahead of time and the Elders experience as little inconvenience as possible.

4.6 Other videotaping helpful hints

- Use a tripod. Besides the camera, a tripod is the single most important piece of equipment you can use. A steady camera is vital to a quality product. They are cheap, easy to set-up, and, most importantly, steady. If you can’t use a tripod, steady the camera against any solid object such as a tree, a pole, a desk, or the ground. Using a tripod with a “fluid head” will create the smoothest motion for your recording.

- Focus. Many digital video cameras have the option of either a manual or automatic focus. For most taping, auto focus will be adequate. However, if there is another object between you and your subject it may require a manual focus of the camera.

- Use tight close-ups whenever possible. A close-up of a face reveals much, much more information than a shot taken from a significant distance.

- Use quality materials. There is a difference: use brand-name tapes, good cables, and a decent auxiliary microphone and headphones.

- Pay close attention to your backgrounds. Pick backgrounds that aren’t too busy or too similar to your subject. Also, be mindful of the background you are shooting against; otherwise you may unintentionally create the illusion of a plant growing out of a person’s head! Those types of mishaps can tarnish an otherwise excellent recording.

- Frame your shots intelligently. It is always good to leave a little bit of space, or “breathing room,” around your subject. But be careful! Amateurs tend to err on the side of too much space, and their recording subject ends up looking like a shrunken head floating in a sea of background.

- Don’t move the camera too fast. In fact, move the camera very, very slowly. By the time your footage makes its way to the viewer, fast camera movements, “artistic effects,” and zooms are just confusing and distracting.

- Don’t fall into the bad habit of jump cuts. In fact, avoid jump cuts altogether, which are edits from one place to another. If your recording is of a subject inside and suddenly the recording jumps to the outside or another room, it can be disorienting for the viewer. To avoid that, storyboard (or sketch out each shot in the sequence, as described above) ahead of time.

Additional Suggestions

4.7 Checking your work

Always test your recording equipment and listen/view your test before your subjects come into the room. Then check your equipment again when everyone sits down. This will ensure that the time your interview subjects spend actually recording will not be a waste. Sometimes simple things, such as a microphone becoming accidentally unplugged as someone sits down, can ruin a recording session.

Using headphones is very useful, because they allow you to effectively monitor the quality of the recording during a shoot. Headphones make it possible for you to hear what is actually being recorded as it is happening, allowing you to check for background sounds and other potential problems.
Using Your Recording

Once you have completed your recording, you have many options of what to do with your materials. Documenting the voices and knowledge of Elders and language speakers is a worthy goal in itself. As noted above, it is impossible to guess all of the things that can be done later using a high quality, well maintained recording.

You can also create a variety of useful resources with the information you have archived. Using the master tape created from your audio or video recording, you can create many projects, from online dictionaries to multimedia CDROMs. Just a few ideas are highlighted below. This topic may also be explored further in future handbooks.

5.1 Using multimedia software for Aboriginal language programming

Using multimedia software is an important aspect of efforts to create resources for language revitalization and teaching. Using computer software packages can be very complex, but the following information highlights some of the packages that are available and how they might be relevant to language initiatives.

Animation (Flash) Flash has become one of the most popular computer multimedia programs. This is partly due to the fact that it has a great animation engine, which can create stunning graphics and text. Lately, it has been paired up with sound and video for some excellent results. However, its chief function is still to create animation, which can be a great way to illustrate language training resources or vocabulary texts.

CDROMs Essentially, CDROMs are just an easy way to move around a computer program. In fact, CDROMs can be thought of as small, portable hard drives; anything that runs on a computer can be transferred to a CDROM and run from there. This means you can create an application such as a FLASH animation, a DIRECTOR, or an AUTHORWARE game and then save it to CDROM for distribution. CDROMs are both portable and durable, and because they can carry about 600MBs worth of material, they are sometimes much more practical than asking people to download an application from the web or from a series of floppy disks. A series of audio files can also be created and saved to a CDROM in a CD AUDIO format, allowing it to be played in a regular CD player. This is a great way to save and play language files or to preserve songs and play them to children in class.

DVDs DVDs are really just larger and faster versions of CDROMs. The uses relevant to Aboriginal languages are primarily as a larger CDROM, or as a way to store video recordings. Computers such as the Macintosh can actually save video to a DVD, which can then be played back in a regular DVD player. For example, if you record Elders using a digital video player, you can edit and record your final video onto DVD using a Macintosh computer. This is an easy process, and it is possible on a Windows-based machine, as well.

Websites Websites are a fast and easy way of sharing information quickly with a large number of people. It is very easy to publish a web page containing information about your language that you would like other people to see. A good example is www.firstvoices.com. You can also protect your webpages so that you control who can see them.
5.2 Orthography and Fonts
Some people may choose to transcribe their audio or video recordings. Documenting First Nations languages in writing is a complicated undertaking which will involve working closely with Elders who speak the language, and possibly will also require assistance from a linguist who is familiar with your language.

In the past, it has been difficult to write in many BC aboriginal languages using a keyboard, as many of the commonly available fonts have not accommodated the unique characters included in many languages. Fortunately, that challenge is gradually being addressed. Many language groups have begun to develop appropriate fonts that can be used in word-processing programs, such as MS Word. More information about this issue can be accessed from the First Peoples’ Cultural Foundation, on the web at www.fpfc.ca.

3.5 Using Aboriginal Fonts on the Computer
Although many challenges face aboriginal communities trying to preserve their languages, computer technology is developing to assist them in their goal. One of the biggest challenges is representing an aboriginal language on the computer. However, some solutions have been created. Here is some basic information on how to display and write aboriginal languages on your computer.

What is a font?
First of all, fonts are considered to be a representation of a letter, or “character”, as it can be a number or symbol, displayed on the computer screen. However, to display a “character” on a computer screen, a number of systems come into play.

In the simplest sense:
a) the operating system must have a font installed that can represent the character on the screen;
b) the character must be input with a keyboard that has a key, or combination of keystrokes, that are mapped to create the specific character;
c) and lastly you must be using a program that can read and understand the font, such as Microsoft Word.

With the three systems working together, it is literally possible to represent thousands of different languages, for example, fonts for syllabics. While there isn’t a simple way to get one overall “system” that replaces all three, there has been a significant jump forward in computer typography, and it is called “Unicode.” This font system lets many of the Aboriginal fonts be displayed properly. To understand this, let’s understand what most fonts do and how we use them normally.

Typically, in our computer today, there are fonts installed that came with the computer. However, these are mostly fonts that are designed for a Roman orthography, such as “Times-Roman” or “Helvetica”. This represents the alphabet from A-Z as we know it and the various symbols that we use, such as “$” or “&”. Yet many languages such as Aboriginal languages contain diacritical marks, or accents, such as “á”. Some languages have symbols that have no way to be represented with the standard alphabet, such as “ñ”. While some of the world’s languages, such as Spanish or French can be represented on the standard keyboard by typing a key combination, such as the alternate accent (“á”) this does not meet the needs of aboriginal languages.

Unicode – a simpler approach
A more recent innovation was to realize that while it was convenient to have a font for each language, maybe another way was to have one font for all languages. This resulted in the “Unicode” experiment in 1986-87, where scientists attempted to create a single font with Chinese and Japanese represented. Since then, much progress has been made.

This started the concept that a single font could represent multiple languages. In essence, every character (which also refers to special symbols) is assigned a number. There is a group that organizes everyone’s requests for new characters and issues new versions of the font every once in a while. Therefore, Unicode is not complete, which is a problem, but still many aboriginal languages are represented. Currently, Unicode 4.0 has localized versions of English, Japanese, French, German, Spanish, Italian, Dutch, Swedish, Danish, Norwegian, Finnish, Traditional Chinese, Simplified Chinese, Korean, Brazilian Portuguese and includes broad support for many additional languages, including Thai, Korean, Arabic, Hebrew, Cherokee, Hawaiian, Canadian Aboriginal Syllabics, Armenian, Russian and Greek.

Due to the diligent work of people and organizations like First Voices (John Elliot, Peter Brand, Ken Foster), languagegeek.com founder Christopher Harvey, and of course the communities and language authorities across Canada, many of the Aboriginal languages are being represented.

Here is a partial list of some of the languages now available in Unicode:
Athapaskan:
Gwich’in/Dení Zuhu’ (Kutchin), Hän, Northern Tutchone, Southern Tutchone, Upper Tanana, Tłı̨chǫ (Tagish), Dnae Dzaage (Kaska), Northern Slavey (Syllabics) (Roman), Dene Tha (Southern Slavey) (Syllabics) (Roman), Tłı̨chǫ (Dogrib), Denesų̨į̨ne (Chieveyan) (Syllabics) (Roman), Tłı̨kt̤ʼana (Tanait), Tse’ek’ene (Selkwa), Dakelel (Central Carrier) (Syllabics), Na’t̤ı̨ł (Babine) (Syllabics), Wet’suwet’en (South Carrier) (Syllabics), Dunne-za (Beaver), Tsilhq̓ o’pin̓ (Chilcotin), Tsut’ina (Sarcee)
Haida:
Haida (Haida)
Kutenai:
Ktunaxa (Kutenai)
Salishan:
Nuax̱kwil’xw (Bella Coola), Saluhtxw – Éy’atljuhtew (Slaimmon - Comox), Shashihsalhel (Sechelt), Snichim/Skwu’uw7mis (Squamish), Halq’eméylem, Hun’qumxn’um”, Hulq’umxn’um”), SENĆOŦEN (Strait Salish), Nlaka’pamuxin (Thompson), Nisikc̓in (Okanagan), Secwepemc (Shuswap), S̱l̓ali’ali̓ (Lillooet)
Tlingit:
Tlingit
Tsimshian:
Nisg̱a’a (Nisg̱a’a), Gitxsan (Gitksan), Sn’al’gaax (‘Tsimshian’), Skx̱wx (South Tsimshian)
Wakashan:
Xa’ła̱k’ala (Haisla), Halihq̱zqvil’ (Heitsuk), ʔuwił’k’ala (Oweek’a), Kwak’wala (Kwakiutl), Nuuchunulth (Nootka), Ditida7’aa7’tx (Ditida7’aa7’tx)

a) How to display aboriginal fonts on your computer
So, to have fonts display on your computer, you must first have a font for your language. If your language has been encoded into Unicode, then you only need a modern computer. For
example, Mac OS X 10.3 ships with Unicode 4.0. If it is not encoded into Unicode, then you need to download the font.

As a shortcut, you may download a special Open Text font that is Unicode-friendly that has many Canadian Aboriginal languages encoded into it. This was done before the officials that control Unicode have added all these languages to Unicode.

Please download and install this font from: http://www.languagegeek.com/font/fontdownload.html

Once you have downloaded this font and installed it into your computer, you will be able to see many Canadian Aboriginal languages.

From languagegeek.com, here is an example: L̀ákas, l̀ákas I qì Xág“at’alasáxì, dúqa’alaya?
Dólíus xínomac gas xìxa qi, xìxa’alas qì Xékmìs qì Xág“at’alasáxì, “hànncalàs wákílasíids xhíga! Ya’sa’dácìc.

b) How to write Aboriginal Languages on your computer

To write an Aboriginal language on your computer, you must have not only the correct font installed as detailed above, but also you must have the instructions to “map” the character you would like to see in your document.

PC: To do this on the PC, you require a free program called “Keyman” which enables different keyboard mapping and the map of the language itself. Currently, there are many keyboard maps for Aboriginal languages. For example, Nuuchahnulth, Ditidaht, and Halkomelem all have keyboard mappings provided by Christopher Harvey.

- Keyboard mappings are available here: http://www.languagegeek.com/keyboard_general/all_keyboards.html

Macintosh: To map a keyboard, Apple provides a free utility called “Character Palette” which creates a character map from a particular font. Many keyboard maps are available, so check with your language authority or with First Peoples Cultural Foundation.

Once you have a keyboard map installed, you can use various key combinations to create characters that you would use. Another useful utility that is both PC and MAC compatible, is called “POPCHAR” which pops up a window that displays all of the characters available, so you can click on one and it will appear in your document. http://www.macility.com/downloads/

Another important aspect is whether the application that you are using supports Unicode and many of the potential problems that exist are around the fact that most software programs are designed to support the Roman orthography and are not multilingual. This can create problems if you are trying to write an Aboriginal language in a program that doesn’t support Unicode. For example, Microsoft Office 2003 for Windows and Office 2004 for Macintosh have full Unicode support but other word processors do not. Most web browsers also support Unicode. However, some programs do not, so if you encounter a problem displaying your font, this might well be the issue.

Developing your own Font

What can you do if your own language does not have a font yet for your language? Working with your language authority, make one yourself! There are several organizations and people that can help with this. One to contact in BC is First Peoples Cultural Foundation. They can quickly produce a user-friendly software keyboard solution for a typical Aboriginal language.

Resources

As the issue of fonts is fairly complex, there are additional resources to read and learn more about them.

- http://www.fp.cf.ca/ Provides advice and instruction in Aboriginal Language and technology.
- http://www.unicode.org/ - Provides background and information on Unicode.
- http://www.alanwood.net/unicode/ - Another excellent primer on Unicode, including information on multilingual application support.
- http://www.unicode.org/char/s/ - A complete list of font foundries and links to them.
The people who are committing their time and effort to recording the critical language and cultural knowledge of Elders and other fluent speakers should be commended. Preserving that information is a critical aspect of language revitalization efforts; once it has been documented, it can be used for a variety of teaching initiatives.

FNESC hopes that this resource will provide some assistance to people who are working with the Elders and speakers in their communities. Our intention is to provide additional resources related to the use of technology to support language programming.

Summary