

Switched on: learning through audio

Learning is easier when you can hear yourself think. You just need to have the Audacity. Simon Goodrich explains.

It is a well-known fact that engagement in the classroom is one of the biggest issues in teaching. Even in 2004, we are still shaped by 19th- century-based pedagogies of teaching, focusing on written outcomes and assessment. However, we now live in a time when all of us need to become more literate in many different mediums. Technology and its associated communication devices have gone from the periphery to core principles of interaction in 21st century society. We need to value mass media communication—web, television, video games and radio—as it plays such an important role in shaping our lives and opinions, and integrate these into relevant teaching practices within the classroom.

For many years we have coexisted with these non-written media purely as consumers. The ability for people to create media and be creative in media has been beyond the grasp of the vast majority. However, with the advent of technology and a re-interoperation of the media, things are beginning to change. People are becoming creators of this media, especially those (youth, CALD communities, disadvantaged groups) who have had limited access before. These creations are also becoming recognised within a learning context, and are re-engaging people with learning by providing a platform or publication culture where people can get their work out to a greater audience. It is not about linking the curriculum to media, it's about linking the media to the curriculum, especially to the core principle of literacy.

Ten years ago you would have needed a six-figure sum to even attempt to make some television. Now, the highest rating community television show in the country (SYN TV [Channel 31 Melbourne] has over 100,000 viewers a week) was set up on no budget with a borrowed \$2000 camera. Times have changed, and will continue to do so, as the means of production becomes cheaper. Increasingly, it is becoming possible to create professional standard media on conventional computer equipment.

Where things have most progressed is in radio, which people consider to be one of the oldest of the technologies. Even though it has been in existence for 80 years, recent advances have made it a great tool to engage people within a learning context.

Consider the teaching and learning outcomes

Literacy teachers could ask their learners to produce a written piece on the history of migration to Australia, or students could make an audio documentary. They could:

- use music and sound effects to set the scene, recording the sounds around Station Pier, or
- interview a recently arrived immigrant and someone who came to Australia just after World War II, contrasting their experiences.

The student would still need to do research for the piece and set out a script, writing questions for the interviews, developing narrations between the sections. This all involves the core basis of old-style pedagogy (reading and writing), but incorporates other elements like oral communication or presentation and working within groups. Furthermore, if students knew that their work could be played on radio for others to hear, it would encourage them to work harder than if they were creating a written piece that would be read by the teacher, given back and forgotten about. Everyone likes to see their work rewarded, and what better way than getting your family and friends to listen to it. What makes it even better is that this can now be done with minimal or no cost at all.

The other reason why audio is such an engaging tool is the amount of publication points where it can be used. Any computer with a CD burner can produce an audio CD that can be played on any hi-fi system from your car to Triple J. Community radio is an ideal output for the work created. Victoria alone has over 40 stations, most of which are in regional areas. The best community radio example has been Student Youth Network (90.7 SYN FM) in Melbourne. Since the station started broadcasting in January 2003, over 1800 students from 100 education providers have broadcast live-to-air, many creating audio pieces on their schools' computers. The 290 community radio stations throughout Victoria and Australia are now seeing these broadcast partnerships as a way to connect to their community and provide learning opportunities for local students.

Many of the common devices you use in your everyday life can help you to get your message across with audio. All computers built since 1995 come with their own inbuilt

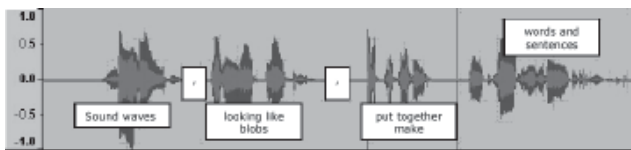
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sound card, allowing you to record and edit your work. If you have access to a microphone, you can get a conversion lead to use it with your computer. You can also record audio using mini discs, MP3 players and cassette tapes. These can all be transferred onto your computer for cheap and easy editing.

Audio editing freeware

The increase in audio technologies has also been matched with the increase in freeware programs. Freeware programs differ from software as they are based upon a general public licence agreement and open source language, which means that the program is totally free, and the code that makes it is readily available so interested parties all around the world can add to it. Over the last ten years, freeware programs have been developed by computer programmers who believe that all software should be free. So now you can get a whole suite of programs, such as Linux, which serve the same purpose as Microsoft Office except that it's free. Audio editing freeware programs are now also available, the most prominent being Audacity.

Audacity allows you to record in voice, music or sound effects, edit them and output them to a file to be burned to CD. Since its release in March 2003, the program has had three upgrades and is being continually developed. Even after such a short time there is little difference between Audacity and a purchased audio editing program. Previously a school might have had to pay \$600 per computer for a licence to edit audio, but now there is no cost at all. This has caused a revolution in the radio education field, and opened it up to anyone with a standard computer. Editing voice is similar to editing a written text onscreen, and anyone who has used a word processing program will be able to pick up the basic audio editing tools.



The skills learned in a program like Audacity are transferable to other editing programs, and provide an engaging and enjoyable experience for students. Even if learners have no desire to work in the media, getting their story out there is a great boost to their self-confidence and abilities. Of the 100 educational providers on SYN, only three have been through media classes. The vast majority of those involved in SYN have been VCAL students, many of whom plan to do apprenticeships. But the skills they learnt during their SYN projects have proved to be valuable life skills.

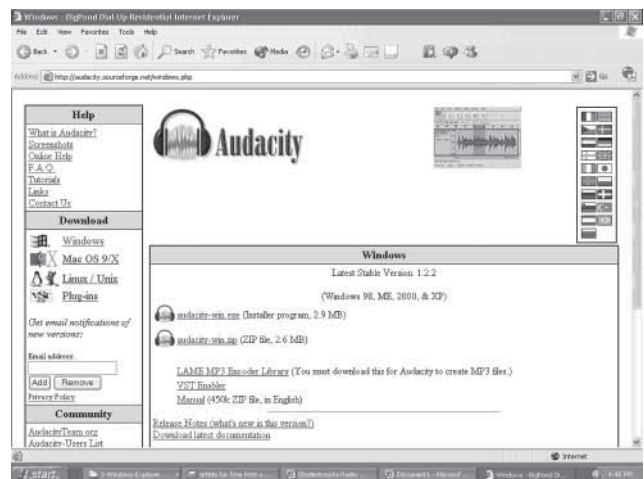
Getting started

1 Download Audacity

It can be found at audacity.sourceforge.net (NB: there is no *www* in the URL). The program is regularly updated and the newest version is 1.2.2. It is a tri-platform program and can be run with Windows (PC), Mac OS and Linux/Unix.

The program itself is quite small (2.9MB) and even if you have a dialup internet account, it shouldn't take more than ten minutes to download. If you are using a school network internet connection it could take less than a minute.

You will then need to unpack the program, which can be done by opening the file. The program takes about 45 seconds to install, so you could go from loading the website to using the program in no time at all!



Screen shot of Audacity website

2 Download LAME MP3 Encoder Library

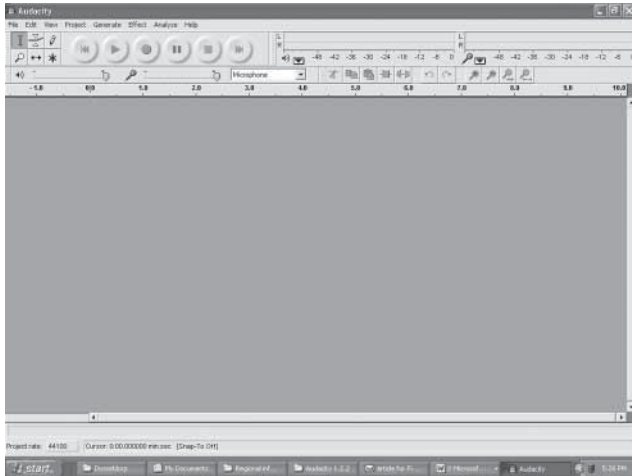
On the same web page you will find LAME MP3 Encoder Library. Download this file and unpack it. The Encoder Library is needed so you can save your files in MP3 format, the most common audio file type on the internet. It is recommended that you save the files as MP3s because they are compressed in size and won't be demanding on your computer or network. Compare this—a regular audio file (WAV) size is 10 MB for one minute; an MP3 file size is 1MB for one minute.

Saving audio files as MP3s would be infringing copyright laws, but having the LAME MP3 encoder allows you to get through this legal loophole. The first time you save your files as an MP3, Audacity will prompt you to find the file 'lame_enc.dll', which is packed into the file you downloaded from the site. After this anyone who uses the program on that computer will be able to save the audio files as MP3s.

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3 Have fun with it

What to do now? The short answer is anything you want. The layout might take a little time to get accustomed to, but the concepts are similar to what you are used to in word processing programs like Microsoft Word. Cut, Copy and Paste all serve the same purpose as in Word. Instead of selecting text, you select audio, and instead of making a word bold or italic, you can use some effects.



The two ways you manipulate audio in the program are 'Record in your voice' and 'Import Audio'.

Record in your voice

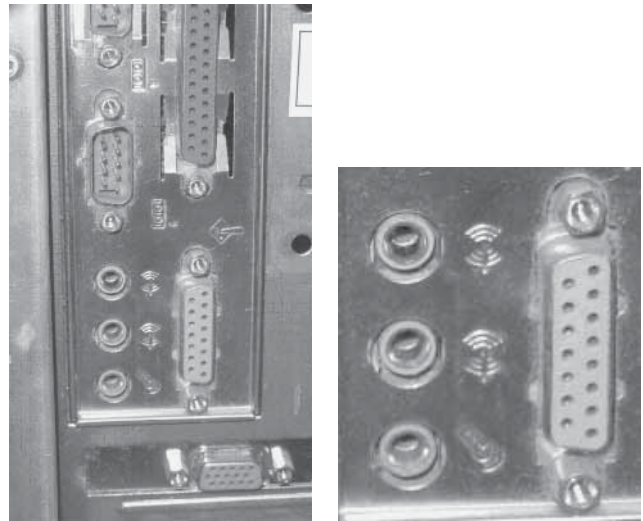
You will need a microphone. Some computers, especially laptops, come with inbuilt microphones. It is recommended that you use an external microphone for better sound quality. These can be purchased for as little as \$15 from electronics stores. A microphone/headphone set is recommended for classrooms as students can work side by side.




The Verbatim Multimedia headset with microphone—a good start at \$14.95

The microphone and headphones will plug into your computer. All computers, including laptops, come with input jacks for microphones and headphones. This can be found at the back of your machine and sometimes at the front.

The headphone jack is traditionally color-coded green and might have a headphone symbol next to it. The microphone jack is usually red and has an insignia of a microphone.



What the back of your computer might look like

Once you have this plugged in, you can check them by using Audacity. Simply press record . Then press stop, and listen back to see how it sounds. If it sounds distorted, it might be because you have recorded with the microphone level too high. You can monitor this by checking your recording levels. You can also reduce your microphone level by reducing the microphone level.



Recording in Audacity

Import audio

Audacity allows you to import audio through Project > Import Audio. This could be any sound file you have on your computer or find on the internet. However, the program will not recognize the WMA files used by Windows Media Player, due to copyright.

You can obtain audio from any stereo CDs you have by 'ripping' them onto your computer. You can do this by using another freeware program, CDex (www.cdex.n3.net), which allows you to create MP3 files from normal CDs.

However, do be aware of copyright. Although this is an emerging industry, treat it the same as you would when photocopying books—not more than ten per cent. All audio you use from artists must be noted if it is to be played on radio, similar to a bibliography for an essay. In the case of radio, the station will pay royalties when their song is played. For a better understanding of copyright go to www.copyright.org.au.

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You can also use royalty-free music and sound effects, and there is an abundance of this on the web. A good site to check out for royalty-free music is <http://freeplaymusic.com/>. For sound effects, type what you are looking for and also type 'royalty free' into a search engine. Also don't forget that you can record your own sound effects. This is a great creative task to do in the classroom. For some ideas about sounds that you can recreate from the most ordinary of household items go to http://english.unitecology.ac.nz/resources/units/radio/sound_effects.html

Short task

Recording in audio

Now we can put the theory into action. We are going to make a 30-second community service announcement about *Fine Print* (taken from their website). *Fine Print* is the quarterly journal of the Victorian Adult Literacy and Basic Education Council, and has a mandate to keep members informed of activities and developments in the areas of adult literacy and language research, project work, policy work and administrative practice.

Fine Print aims to promote informed debate on theoretical, methodological and policy issues. So read out and record this into the program by pressing Record on the toolbar. If you don't have access to a microphone, this excerpt of audio can be found on the VALBEC website www.valbec.org.au/fpsound.html

Editing

The great thing about editing with audio is that you can make people say things they didn't say by cutting and pasting their voice together. Understandably, digital audio evidence is not allowed in a court of a law!

As covered earlier, sound blobs are just like words and you can select them by using the **I** tool on the taskbar. By cutting and pasting we will make what was just recorded into something totally different. You won't be recording in your voice again. You will just be manipulating it from the original to this:

Fine Print is VALBEC's quarterly journal of debate within the field on theoretical, methodological and policy issues about activities and developments in the areas of administrative practice.

The five steps you need to create the above sentence from your initial recording are:

- 1 Save a copy of your work as a backup.
- 2 Cut the words 'debate within the field on theoretical,

methodological and policy issues' and paste them after 'VALBEC's quarterly journal'.

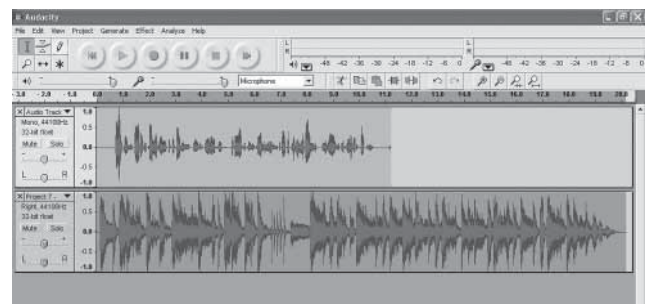
- 3 Cut the words 'about activities and developments in the areas of' and place them after 'policy issues'.
- 4 Cut the words 'administrative practice' and place them after 'in the areas of'.
- 5 Delete all remaining audio.


Have a listen back—it sounds quite different from what you had recorded in.

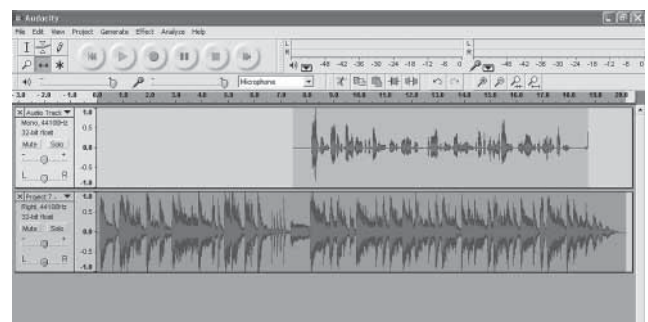
Adding in music and sound effects


Using your new recording, we will add background effects to make it sound more interesting. Source some audio from your computer or the web (you can do this by saving files from websites; when you click on sounds, you will be prompted to save the file. There is a base music file available on the *Fine Print* website).

Once you have found your file, go to Project > Import Audio. Now you should have two tracks on the screen as below.

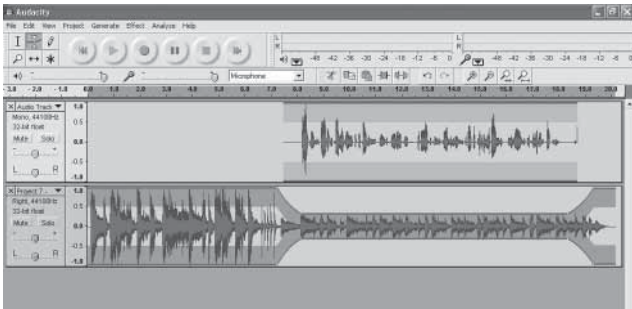


Using other tools, like the time shift tool  you can move around your tracks.



How does it sound? Make sure that you can hear your voice over the music. If you can't, you can use the envelope tool  to reduce the music track whilst there is the vocal track.

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Using the same principles you can add as many tracks as you like. Think of what mood you are trying to create for your announcement.

Mixing it down

Once you are happy with the track, you should save it again at File > Save Project. However, saving this will only preserve your work. It won't let you export it to be put onto a CD. To do this you'll need to export your file as an MP3. This can be done by going to File > Export as MP3. The first time you do this it will prompt you to find the 'lame_enc.dll' which you should have downloaded from the Audacity site.

Exporting your work as an MP3 will mix down all your tracks into one, and allow other programs and other computers to recognise the file. It also allows you to burn the file to an audio CD, to be played in any stereo, including on a radio station.


Best of luck, and I hope to hear you on radio soon.



Simon Goodrich is an educational media consultant, and has worked in community radio for seven years. He can be contacted at simon.goodrich@syn.org.au

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