Streaming audio (SA) is a new technology that allows users to listen to sounds and watch videos on or off the Internet. Language instructors can incorporate this technology into their classes and enhance classroom listening activities and the listening opportunities that students can experience. Currently, very few people use SA in their courses, and fewer English-as-a-Second-Language (ESL) materials developers make SA activities for the greater community. There has been virtually no research on SA and its effect on second language development. Benefits to SA include the following: students can get information, listen to real English for English native speakers, and gain access to impromptu speech. Potential drawbacks include the following: the amount of appropriate materials may be limited, some of the sound clips are lengthy, and there is a need for Internet access. Possible SA classroom activities for students include keeping a journal about clips they have heard, guessing the meanings of new words, making/identifying pictures and maps, and answering content questions. The paper concludes that SA is a potentially powerful tool for making listening activities for students, though there is little research on its impact on second language learners' listening abilities. (Contains 14 references.) (SM)
Streaming Audio in ESL
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Email Ftuzi@yahoo.com
One of the faster growing tools available for education and entertainment is streaming audio (SA), a technology that allows users to listen to sounds and watch videos on or off the Internet. Typical AV files on the Internet must be downloaded in their entirety before they can be accessed. SA files, however, are accessed as they are being downloaded allowing users to listen or view files much more quickly. Language instructors can incorporate this technology into their classes and enhance their classroom listening activities and the listening opportunities that their students can experience.

Currently there are only a handful of people using SA in their courses and fewer ESL materials developers making SA activities for the greater community. In addition, there has been virtually no research conducted on SA and its effect on L2 development. This paper is an attempt to inform the ESL community of the benefits that SA offers L2 instructor and learners, and to encourage research on the impact of SA on L2 listening and on L2 listening instruction.

The benefits of streaming audio in ESL

How can this technology benefit an ESL curriculum? First of all, SA is a program students can use to get information. The selection of information on the Internet is vast and varied enough to satisfy the interests of almost any student. Allowing students to choose the information they will listen to or watch is inherently motivating (Nunan, 1993). Additionally, since the information is recorded, they can listen to or see it over and over again, an option they don't have in the real world. Also, the materials are not limited to four or five voices. Students can listen to a variety of voices from people with different accents and dialects, thus, improving their listening ability. Another benefit is that students have the opportunity to listen to real English, that is, English for native speakers, allowing students to enjoy the full flavor inherent in authentic English speech (Mead, 1985). Even better than having real English is spontaneous speech (Ur, 1984). Since most heard speech is spontaneous, ESL students benefit by having an
abundance of impromptu speech available. Some of the radio programs on the Internet include talk shows, i.e. natural unplanned speech.

SA can also benefit reading classes. Some of the sites listed at RA have sound clips and transcripts allowing users to read and listen at the same time. Being able to perform both activities increases comprehension, memorization and motivation. Other sites have audio books. Books like Moby Dick and The Catcher in the Rye are dramatized in audio format. Audio books allow students to listen and read a story.

Potential drawbacks

Although there are a variety of benefits to using SA in the ESL classroom, teachers and students should be aware of some potential problems. There are some possible drawbacks to using streaming audio especially for beginners. As was mentioned earlier, streaming audio files are usually recorded for native speakers who have a rich lexicon reservoir; however, many foreign language students possess a smaller supply. Thus, the amount of appropriate materials may be limited, or the teacher may need to decide what materials the students use.

Another language drawback is that some of the sound clips are lengthy. A typical audio book is about 25 minutes long. Shorter clips are easier for ESL Students to digest. The longer students practice at one sitting, the weaker his listening skills become during that sitting (Ur, 1984). Therefore, it might be wise for instructors to select appropriate materials for beginning students.

These two drawback are easily remedied; ESL instructors or materials developers can create their own SA files specifically designed for beginning L2 learners. The SA files they create would contain a limited vocabulary and incorporate learning cues in the audio file, which will help L2 learners. Currently there are only a handful of SA websites that cater to L2 learners. The best site I have located is Randall’s Cyber Listening Lab located at http://www.esl-lab.com/ (Randall, 2000). This site is dedicated to creating ESL online SA listening activities. Many of the activities in this paper that I suggest be created for L2 classes have been implemented at this website. This site has nearly 100 listening SA activities with activities for beginners and more
advanced students. The ESL community needs more sites like Randall's Cyber Listening Lab.

Another obvious limitation is the need for a computer and Internet access. Anyone with a computer and a sound card, can use SA. This program does not require direct Internet access for it to work. However, in order to listen to streaming audio files users must have access to them, and the files are on the Internet. If a teacher or school has even one computer that has Internet access, however, many of the necessary files can be downloaded. Some locations on the Internet allow users to download the SA files. For example, Earth and Sky, a site dedicated to educating people about astronomical and environmental issues, allows visitors to download any information from their site. They have a daily radio program that lasts about a minute and a half, an ideal length for ESL students. A teacher or administrator can easily download dozens of files from this site and then make those files available to the rest of the school.

Having looked at the advantages and some possible drawbacks, I would like to suggest some possible uses of SA in the ESL Classroom.

Streaming audio in the classroom

The first step in using Streaming Audio is to acquire a SA program like Real Audio (RA) by Progressive Works Inc. or Windows Media Player. The RA player is free and can be downloaded at http://www.real.com/player/index.html. The player/recorder is a mere $30.00. After downloading this program, people can listen to radio programs like music, talk radio, and Hollywood interviews. There are also educational programs, family programs, children's programs, religious programs, etc. For a complete listing of the hundreds of sites that are listed at Real Audio, visit their site at http://realguide.real.com.

After the program is installed, begin selecting sites of interest for students. I have made a sample list for those teachers with little time to search the Internet. See Table One.

The next step is to decide how to incorporate streaming audio into the ESL classroom. There are a variety of ways that SA can enhance an ESL classroom. If the Internet is available to the entire class, students can pick and choose what they will listen to by going to SA and picking a
Streaming Audio in ESL

Among the thousands that they have listed. A teacher with limited access to the Internet will need to download files of interest and make those files available to the class. Once students and teachers choose the sound clips, they need to be incorporated into the curriculum. Here are some suggestions for incorporating SA sound clips into the ESL classroom.

Table 1. A Sample list of Real Audio sites for ESL

<table>
<thead>
<tr>
<th>Science</th>
<th>Language Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth &amp; Sky</td>
<td><a href="http://www.earthsky.com/">http://www.earthsky.com/</a></td>
</tr>
<tr>
<td>Space Zone</td>
<td><a href="http://www.spacezone.com/">http://www.spacezone.com/</a></td>
</tr>
<tr>
<td>The Discovery Channel</td>
<td><a href="http://www.discovery.com/">http://www.discovery.com/</a></td>
</tr>
<tr>
<td>News</td>
<td></td>
</tr>
<tr>
<td>NPR</td>
<td><a href="http://www.realaudio.com/contentp/npr/">http://www.realaudio.com/contentp/npr/</a></td>
</tr>
<tr>
<td>The BBC Online</td>
<td><a href="http://www.bbcnc.org.uk/worldservice/BBC_English/index.html">http://www.bbcnc.org.uk/worldservice/BBC_English/index.html</a></td>
</tr>
<tr>
<td>The Osgood Files</td>
<td><a href="http://www.cbsradio.com/osgood/">http://www.cbsradio.com/osgood/</a></td>
</tr>
<tr>
<td>Sports</td>
<td></td>
</tr>
<tr>
<td>Audio Net-Sports</td>
<td><a href="http://www.audionet.com/sports/">http://www.audionet.com/sports/</a></td>
</tr>
<tr>
<td>ESPN Sports Zone</td>
<td><a href="http://espn.sportszone.com/">http://espn.sportszone.com/</a></td>
</tr>
<tr>
<td>Literature</td>
<td>Internet Location</td>
</tr>
<tr>
<td>Audio Net</td>
<td><a href="http://www.audionet.com/">http://www.audionet.com/</a></td>
</tr>
<tr>
<td>Bible</td>
<td><a href="http://www.bible.org/">http://www.bible.org/</a></td>
</tr>
<tr>
<td>The Online Book Page</td>
<td><a href="http://www.cs.cmu.edu/Web/books.html">http://www.cs.cmu.edu/Web/books.html</a></td>
</tr>
<tr>
<td>Radio</td>
<td></td>
</tr>
<tr>
<td>Audio Net</td>
<td><a href="http://www.audionet.com/">http://www.audionet.com/</a></td>
</tr>
<tr>
<td>The Talk Network</td>
<td><a href="http://ttn.nai.net/">http://ttn.nai.net/</a></td>
</tr>
<tr>
<td>World Radio Network</td>
<td><a href="http://www.wrn.org/audio.html">http://www.wrn.org/audio.html</a></td>
</tr>
</tbody>
</table>

Possible activities

**Keeping a journal**

Have students keep a journal about the sound clips that they listen to. Students write a summary of each sound clip they select. The journal need not be on paper. The journal can also be on tape or could be a RA sound clip, in which case students would record a summary of each sound clip. In addition students can mention likes and dislikes, what things they learned from the sound clips and finally record any new vocabulary they learned through the sound clip.

**Guessing Definitions**

If the teacher has downloaded some file, they can listen through the clip and write down any new words that they want the class to learn. Then the teacher puts the words on a practice sheet for students to guess the meaning. For example, imagine your students are listening to the April
11, 1996 episode of Earth and Sky, The topic is the Sound Barrier. The students will hear:

Sound is produced by vibrations in the air around our planet. The speed of sound is 760 miles an hour at sea level — although this speed can vary a little under different conditions of altitude, temperature and wind. When an airplane tries to travel faster than sound, a wave of compressed air builds up ahead of the plane. That is why the speed of sound proved to be a formidable barrier to pilots. As they approached it, their aircraft’s controls would "lock" or freeze. The pilots themselves began speaking of a "sonic wall" or "sound barrier" that no one had crossed. Chuck Yeager was the first to break the sound barrier -- to travel faster than sound -- in the year 1947. You may have heard a sonic boom from a plane travelling faster than sound.

A possible question might be

What is a sound barrier?

This episode uses the word sound barrier, but does not directly define it. Therefore students can guess the meaning of the word by listening to the context. Such an exercise will allow students to practice guessing the meaning through context.

Tick off Items

For those interested in practicing with listening for specific information, have the students tick off items from a list. While the students are listening to a clip they tick off all the objects mentioned from a checklist of possible items. For example, if your students are listening to the Sound Barrier, a possible list might be:

* The speed of sound changes under conditions of
  - altitude
  - location on the earth
  - moon
  - wind
  - temperature
Making / Identifying Pictures and Maps

If you are a good artist, you may want to draw some comic strips which are in the wrong order. When the students listen to the clip, they number the pictures in the correct order. For example in Earth & Sky's February 18, 1997 episode entitled, "Journey into a Black Hole" the students will listen to the following:

At first, you wouldn't feel anything strange. You wouldn't notice a physical change in your surroundings -- unless you tried to go back the way you came. Then no amount of energy would be able to push you back out of the black hole. An object's gravity gets stronger as you get closer to it. If you were falling into a black hole, the gravitational pull on your feet would be much greater than that on your head -- assuming you were falling feet first! You'd be stretched into an indefinite length as you got closer to the hole. The hole's gravity would also compress your body -- it'd squeeze your two shoulders together, for example -- and ultimately stretch and squeeze the very atoms that make up your body! The result -- the total destruction of your body on its journey into a black hole. (Block, 1996)

In this example make a five part comic strip and have the students put them in proper order. Artistically challenged teachers might want to have the students make pictures from the account that they are listening to.

CLOZE

As was mentioned earlier, some sites on the Internet, like Earth and Sky, transcribe their program allowing users to read and listen to the program at the same time. The teacher can take the transcripts and convert them to CLOZE exercises for practice or for a test. A CLOZE generation program is available for download at Tim John's Call Center (web.bham.ac.uk/johnstf/timecall.htm), or if you use MS Word, check out the macros I made to create computerized CLOZE exercises from inside MS Word. Download these macros at gradeng.en.ip.edu/fltuzi/
True /False

In order to create true false questions, teachers need to listen to a sound clip and generate true/false questions which students then answer as they listen to the clip in class or during lab time. For example, in a sound clip at Car Talk episode entitled, "Foreign Embassy Car Problem", the students will listen to the following:

Caller: Well the police won't do anything about the security system in this car because it is an embassy car in the Swedish embassy parking lot. But that sound from the security system keeps the whole neighborhood awake all night.

Tom: Ok. Here's what you need to do. Do you have a tuxedo?

Caller: No.

Tom: Rent one.

Ray: Do you have blond hair?

Caller: Yes.

Ray: Good! (laugh)

Tom: Ok sometime late in the evening, put on your tuxedo, stand near the car and call AAA.

Tell them you want them to tow the car to the Mercedes car dealer in Maryland. (CarTalk, 1997)

Possible questions might be:

- The police helped the caller and stopped the sound in the car.
- The police won't help because the car is a German Car.
- The caller has a tuxedo.
- The caller has blond hair.

Answering Questions

L2 instructors can also create content questions for SA files. Creating content questions requires that the teacher listen to a clip and generate questions for that clip. For example, Car Talk has a clips from their weekly radio program on the Internet. Car Talk does not always have transcripts. So I simply listen to a clip and write some questions like
Who called?

What problem did they have?

What advice did the mechanics give?

The students then listen to the clips to get the answers. This type of activity will help students practice with getting the gist, and with listening for specific content.

Discussion

More advanced students would enjoy doing research about a particular topic and then sharing their findings with the rest of the class. For example, Give the students the topic of Martin Luther King Jr. and some questions to answer. At AudioNet there is an audio book on the life of Martin Luther King Jr. Students can listen to this book, collect information about him. Other students could go the National Public Radio RA archives and listen to audio clips of Dr. King there. Then all of the students can share their findings and discuss some of the issues surrounding his life.

Precautions

There are some things to remember for people who develop and implement these materials. First of all, it is important to select materials appropriate to the learners. Some programs do not lend themselves very well to ESL classrooms because the style of speech is disjointed. Language students can quickly become fatigued listening to exercises which are beyond their capacity to comprehend (Ur, 1984). So it is prudent to find appropriate materials that are not too long or too complex for the student abilities. In an effort to limit frustration and increase motivation, use sound clips that are within the students grasp.

It is also important to provide a purpose for the listening activity. Having a purpose provides students with a reason to actively listen. By giving students a task in the listening activity, teachers can also measure how well the students understood the sound clip. Finally, task oriented listening activities contribute to motivation. Fun activities or success oriented activities where students win a game because they completed a task are some possible techniques for
increasing motivation in a listening activity. Students without a purpose for listening will exhibit
less motivation for succeeding.

Conclusion

Streaming Audio is a new technology that is not being used extensively in the ESL classroom
currently, but has the possibility to greatly enhance language learning. SA sound clips are
intrinsically motivating as the materials themselves are of interest to the students. The range of
materials is enormous and the number of SA grows everyday. If you have a little time to search
and develop some materials, SA sound clips provide a useful and interesting way of sharpening
students listening skills.

Although I assert that SA is a potentially powerful tool for making listening activities for
students, there is little research on the impact of SA on L2 learners’ listening abilities. It is my
hope that researcher and developers will take a greater interest in SA, its incorporation into ESL
courses and its influence on L2 listening.

Anyone interested in more sites for ESL students, drop by at realaudio.com or visit my home
page at grading.en.iup.edu/fluzi/.

If you are interested in getting involved in streaming audio research in ESL, please drop me a
line at fluzi@yahoo.com
Work Cited
Backer, Jimmy (1995) Teaching Grammar With Survey Of Theoretical Literature


Mead, Nancy A.; Rubin, Donald L. (1985). Assessing Listening and Speaking Skills. ERIC Digest. ERIC Clearinghouse on Reading and Communication Skills, Urbana, Ill.


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