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THEORY. PRACTICE. INNOVATION.

TEACHING AND LEARNING IN THE DIGITAL WORLD

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Edited by:
Aymen Elsheikh, Julie Riddlebarger, Sufian Abu-Rmaileh, & Suhair Al Alami

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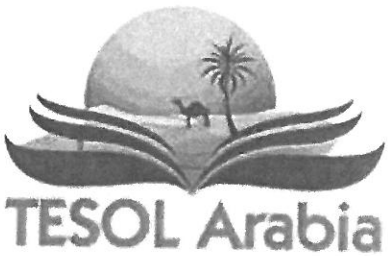

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Developing Online Listening Exercises for Natural English

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bstract

his chapter is about bringing speech recognition tools to bear on the creation f computer-based exercises for language learners that combine the elements of xt, voice, and interactivity where the raw material for the lesson is either inted text, or a recording of some kind, which may or may not already have a anscript. The tools discussed are all freely available for iPad or PC.

he Problem and Its Solution

ly work as an English faculty member at the air college in Al Ain UAE involves some extent training pilot cadets in listening comprehension and ommunication with Air Traffic Control (ATC). For this purpose, we work with TC recordings, some found on CDs that come with textbooks, some taken from ebsites where authentic recordings are posted, and some available from sites at put pilots with flight simulators in touch with one another at a distance so ey can virtually fly planes into the same virtual airport. The recordings companying textbooks often have transcripts available, but for authentic cordings, we may need to make our own. Whether there is a printed transcript vailable or one needs to be made from a raw recording, strategies need to be evised that will allow materials developers to make that transcript as quickly s possible. In this chapter I will explain techniques for either case that utilize peech recognition tools to make machine-readable transcripts.

peech Recognition Basics

here are two distinct forms of speech recognition (SR). One is the kind you ncounter in phone router systems where the machine might prompt something ike, "Is this an emergency, yes or no?" You might answer, "No, it's not an mergency, I just want to …" and the SR engine ignores all but the word *no* and outes the call accordingly. Or you can be sitting at your computer and say "file," nd the file pulldown activates. You can then say "new," "open," "save," or any

number of choices available at that point which the system will act on, depending on which of the anticipated responses you produce.

I was part of a team that worked with this kind of SR to produce an interactive speech-driven adventure game for EFL called *Traci Talk, the Mystery* (Harashima, 1999). The program had characters who conversed with language learners; the learners maintained their end of the conversation by reading options from the screen. The SR engine was usually able to distinguish which of the expected responses was being articulated and carried on with the dialog accordingly; if not, it said, "Sorry, I didn't catch that," or something equally appropriate. Thus users, in their role of private detective, felt they were not only conversing with the characters in the mystery, but driving the story line. The SR engine was robust and easily tweaked, so our conversation simulations worked fairly well.

Continuous Speech Recognition

When we were developing Traci Talk, continuous SR, which works on natural language input, was not well developed. Dragon Systems had the best tool available at the time. It was expensive, and it had to be trained by each individual user. Users who bought the package and worked with it over time could get it to take dictation pretty well.

For anyone with an awareness of the state of continuous SR before the turn of the century, the developments in the past 20 years are amazing. Nowadays you can speak text messages to Google Glass or into your cell phone, and if you are careful, you can often send them as is. You can speak into Google Docs using the keyboard microphone icon on most mobile devices with fairly good results. And you can now install Dragon Dictation as a free app on iPad and speak to it with results that are more satisfying than what you had to pay dearly for 20 years ago. Comparable products for PC are also free and give similar results.

This makes it possible for materials developers to work from audio recordings and produce transcripts by reading what they hear into an SR-enabled device. The process does not work perfectly, but I find it better than listening to audio and trying to type what I hear. I prefer to listen, process for meaning, and then regurgitate what I have just heard orally into an SR device which writes out what I say into a space that I can edit if need be. This takes less time than if I were typing it all out, in which case I'd still have to edit.

When we use authentic ATC recordings to try and give our pilot cadets materials s close as possible to what they will encounter in the real world, it would be edious to transcribe them, so when creating such exercises, I look to speech-to-ext software to improve my workflow. For example, I can listen to an exchange etween a pilot and control tower, speak what I have heard line by line into a Google Doc using the microphone icon on the virtual keyboard of an iPad, and ave the same Google Doc open on a PC, where what I say appears in text almost s soon as I say it, and where I can clean it up with a fully functioning keyboard nd mouse.

As previously mentioned, some of our ATC recordings accompany textbooks which provide transcriptions of the recordings. I often prefer using SR tools when working on getting printed text into machine-readable format, which is what I need to make interactive lessons. Of course there are many ways to get machine text from printed text. You can scan it to yourself and convert it from pdf to Word. You can scan it into an optical character program and get text from hat, or convert its image to text using One Note in the Microsoft Office Suite. But I find these methods to be imperfect. For example, there could be an illegible part of the scan that requires you to make a lot of adjustments using a word processor to correct the area not rendered correctly. For that part of the rendered ext, it sometimes helps to delete the mess and then read the distorted text into he master document, and work quickly that way, or if it is short, simply read he text into a Google Doc to begin with.

Reading it into your computer can not only be a good way to produce machine-eadable text quickly, but you also have the added possibility of simultaneously creating a recording. For example, let us say I want to make an interactive lesson rom a reading in the students' textbook, or from a magazine article which I have nly in hard copy. I can use the technique just described to read the text into an SR tool on my tablet or iPad in order to make it machine-readable, and at the ame time, on another device, I can make a recording of what I am reading (in Audacity on PC or in a free voice-recording tool on the iPad). Now, from omething that was originally static printed text, I have a machine-readable endition, and also an mp3 version of it. This makes good recordings for EFL earners because I speak distinctly into Google Docs or Dragon Dictation, and if nything, too slowly for Audacity, but it is a trivial matter to go back into the ecording where too-long gaps can easily be removed.

Practical Considerations

Why would one want to do this? Suppose you want to have your students work from a text in their textbook. You can ask them to read it and do the exercises there, but effective management of a class is hard to achieve when they are silently reading, or not. However, if you make an mp3 available to them, then have them play the mp3 as they follow the text, you can see they are on task, and my students say they appreciate the voice reinforcement. Then with the text you have rendered into zeroes and ones, you can do some interesting things. You can find their vocabulary words in it, you can create text manipulation exercises, you can simply have it projected on the board and search it for things you want to point out to them in conjunction with exercises they may be doing.

I find it most expedient to paste texts I create in this way into Google Docs. I label the texts consistently (e.g., Unit 4 "texts," IELTS 3 "texts"), and then I can search for "texts" in my drive and find all my texts created in this way. This allows me to pull them up on-the-fly in class. I share them so that anyone with the link can view the text, and I share that link with my students so they can search the texts for their own purposes, on their own (see Figure 1).

Figure 1. How to share a Google Doc so that anyone with its link can view it

Getting Text from Unclear Speech

But where the reading technique comes into its own is where there is no text to work from, where you want to get text from an audio recording, especially an unclear audio, such as our ATC broadcasts. In our context, I can render the unclear audio to text by listening to it, parsing it mentally, saying it back into the SR engine, and then creating text manipulation exercises from it that force students to attend to certain details in the text / speech. I have created Hot Potatoes exercises where the audio is embedded in the exercise and the students

lay the audio, complete the exercise, and get a score. In a Moodle context, Hot otatoes can pass the scores to the Learning Management System (LMS) (this ıould also be possible in the Bb Learn environment). Instead, I find that I can ave students do the exercises in class and then call me over when done and let ıe record their scores from their screens. It's a crude way to work, but it is ffective. It is the only way I have found to get a class of 20 cadets imultaneously on a listening task, each at his or her own pace, audibly and imultaneously engaged in listening and answering questions based on what I ′ant them to listen to.

)ragon Dictation on the iPad

)ragon Dictation is one tool that works on iPads to convert speech to text ccurately and almost painlessly. Two of its advantages are that it works well, nd it works offline. The problems I find with using Dragon on the iPad are (1) hat it's not seamless for me to correct the text, because I can't see the text as 'm recording it, and (2) having to export the text elsewhere before I can use it. 'igure 2 shows what Dragon Dictation looks like after you have stopped peaking.

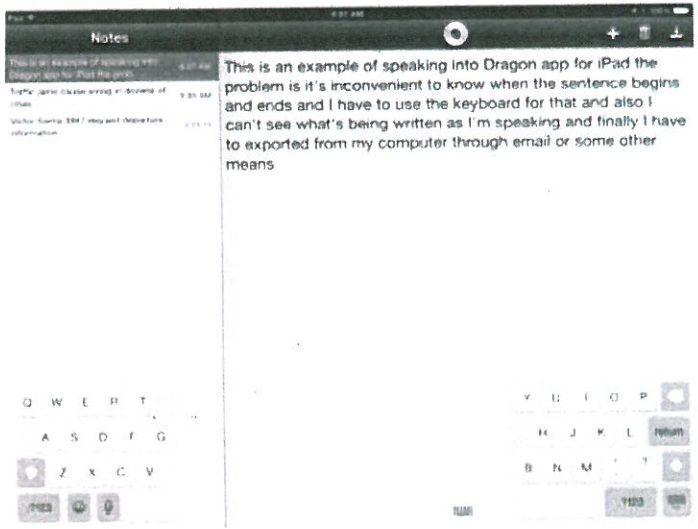


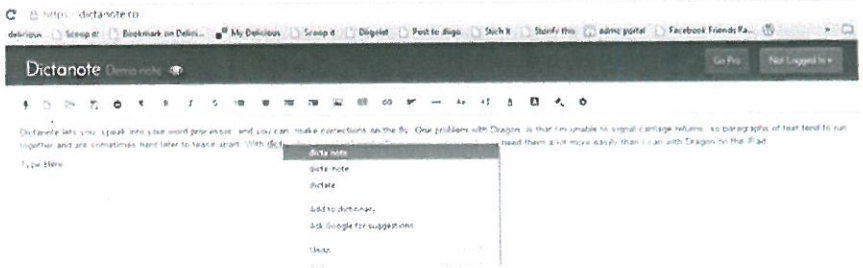
Figure 2. Dragon Dictation

First of all, making corrections to the text you have just recorded requires some dexterity with finger pointing and activating the keyboard exactly where you want it to appear in the text, especially if the text has gone to the bottom of the screen, in which case it's difficult but doable. This leads to the second problem, which is getting the text from the iPad into something I can work with. For me, real work requires a keyboard, so I like to create the exercises that utilize the text on my PC. To get from Dragon Dictation to a PC, I use email, but of course I have to be connected if I want it right away; otherwise, I have to create multiple texts and leave them on my iPad and get them later when I am back online.

Text to Speech on PC

The iPad is wonderful for having so many tools, microphone, and apps in a single device the size of a mouse pad. But if you are willing to work from a PC with a microphone attached, there are several tools available. One is the IBM Watson Speech to Text service (available at http://speech-to-text-demo.mybluemix.net/) which allows you to speak into a microphone on the left and renders the text on the right. You can copy what you get directly into whatever tool you are using on your PC and work with it more seamlessly than if you start on iPad and end up on PC.

My favorite SR tool for PC is Dictanote (available from https://dictanote.co/) because it combines speech to text with the functionality of a notepad, allowing you to make corrections as you speak in a way that most other applications don't. Dictanote's word processor interface allows you to make corrections on-the-fly (see Figure 3). One problem with tablet and mobile-based devices is that you have to speak to the program where you want commas, full stops, question marks, and returns; otherwise paragraphs of text tend to run together and are sometimes difficult to tease apart later. With Dictanote I can simply join up text or enter the returns where I need them more easily than I can with Dragon Dictation on the iPad. There's a full set of text processing tools available, including even an autocorrect tool (though it doesn't know when users are trying to say the name of the product). Still, you can do preliminary work right in Dictanote and copy your text from there into wherever you want it in the PC environment, without having to app-smash your way through a series of steps as you do on the iPad.



'igure 3. Dictanote lets you speak into an interface similar to a word processor

Making Hot Potatoes Exercises with Embedded Audio

'o make Hot Potatoes listening exercises, you need to have your mp3 (or mp4) nd then embed that into the Hot Potatoes module. The text rendered from peaking the text into an SR engine is then used to create the kind of exercise 'ou wish to develop. Students can play the embedded video or audio at their wn pace as they complete the exercise.

A Hot Potatoes exercise created in this way will have multiple files associated vith it (at minimum the Hot Potatoes html file and its associated media file). The components of the exercise can be saved to a Sharable Content Object Reference Model (SCORM) package in Hot Potatoes which in effect places the parts needed into a folder that runs as a zip or rar file (zipping your files to a zip or rar packet is another way of doing the same thing, except that Bb Learn accepts SCORM). Figure 4 illustrates how we might create a Hot Potatoes JCloze exercise, which has both mp3 and mp4 media embedded in its interface, n this case to model for students how to describe a Sukhoi aborting a carrier anding. This Interactive exercise can be found online here: ittp://vancestevens.com/kbzac/hotpots/videolistening/sukhoi.htm.

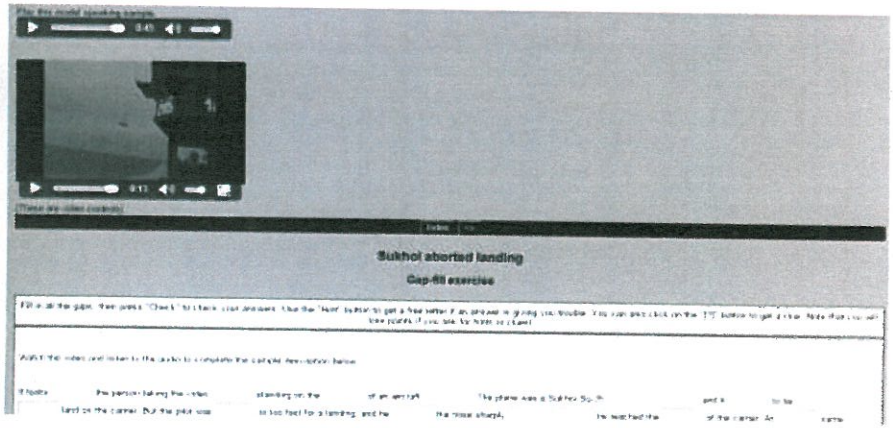


Figure 4. mp3 and mp4 media embedded into a Hot Potatoes JCloze exercise

The trick is to put some HTML into the head of the Hot Potatoes file that will play the media files you place in the folder where the HTML file resides. The code looks like this:

```
<audio controls>
 <source src="sukhoi.mp3" type="audio/mpeg">
 Your browser does not support the audio tag.
</audio></br>

<video width="320" height="240" controls>
 <source src="Sukhoi.mp4" type="video/mp4">
Your browser does not support the video tag.
</video></br>
```

If you're not too familiar with HTML (this is HTML5), you can simply copy the code above and paste it where indicated in the dialog boxes shown in Figure 5 below (where the names of the mp3 and mp4 files you are using replace the file names shown in bold in the example above).

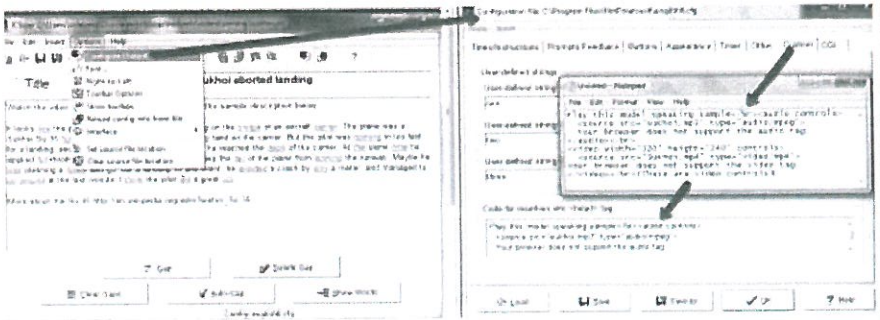


Figure 5. How to put media embed code into the head tag of a Hot Potatoes exercise

You can also embed a sound file from an online source, as in the example shown in Figure 6 below, where the URL plays an mp3 stored online, from a site that records pilot/ATC exchanges from John Wayne Airport simulations.

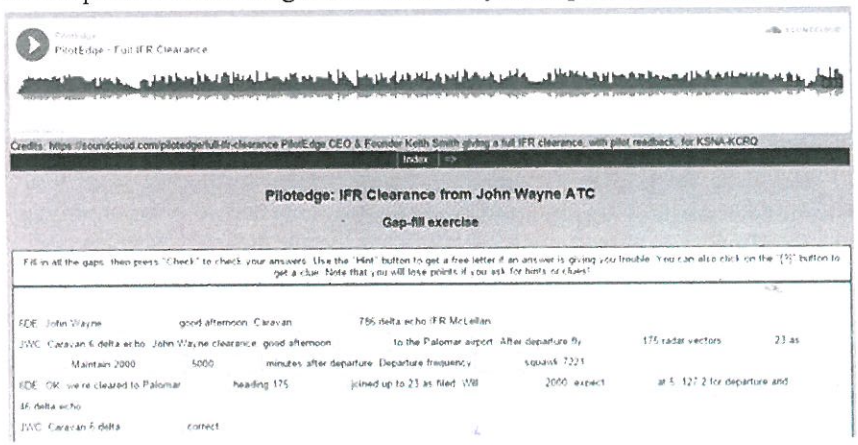


Figure 6. A Hot Potatoes JCloze exercise which plays audio from an online source

Two Hot Potatoes exercises made in this way can be found online, here:
http://vancestevens.com/kbzac/hotpots/pilotedge/pilotedge_ifrclearance.htm
http://vancestevens.com/kbzac/hotpots/pilotedge/pilotedge_ifrclearance_dragndrop.htm

We embed media from URLs using the <iframe> tag. Here is the code used to play the mp3 from its URL:

<iframe width="100%" height="150" scrolling="no" frameborder="no" src="https://w.soundcloud.com/player/?url=https%3A//api.soundcloud.com/tracks/24468540&color=ff6600&show_artwork=false"></iframe>

Figure 7 shows where the embedded code is copied into the Custom tab in the Hot Potatoes configuration dialog box:

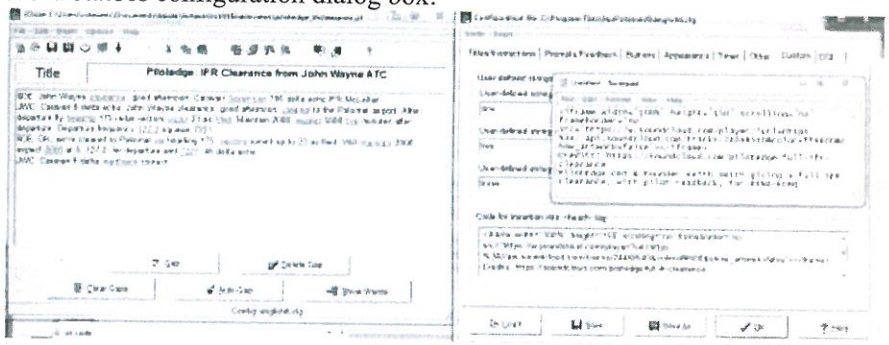


Figure 7. Embed code with frame tag copied into the head tag in a Hot Potatoes exercise

Conclusion

This chapter has described the creation of interactive student listening exercises using freely available tools where listening samples come from natural sources (e.g., ATC tower recordings used in ESP for pilot cadets). Making transcripts by listening and typing is time consuming, but SR tools allow materials developers to say clearly into the microphone what they are reading or listening to, and the tools render clear speech to text in a Google Doc or notepad interface, where it is easily edited. This text can be combined with associated audio files in a range of Hot Potatoes formats, using techniques shown in this chapter, to cause the media (mp3 or mp4) to be embedded in the Hot Potatoes HTML file, so that students can listen and complete the exercise individually on their PCs or tablet devices. While this chapter refers specifically to ESP for pilot cadets, the technology can easily be applied to many possible educational contexts.

References

Harashima, H. (1999). Software review of Traci Talk, the Mystery. *Computer Assisted Language Learning, 12*(3), 271–274. http://www.tandfonline.com/doi/pdf/10.1076/call.12.3.271.5708.

Appendix

Online Resources

https://dictanote.co/
http://hotpot.uvic.ca/
https://moodle.org/
http://scorm.com/
http://speech-to-text-demo.mybluemix.net/
http://uki.blackboard.com/sites/international/globalmaster/
http://vancestevens.com/
https://www.google.com/docs/about/

Using Nearpod to Create a Controlled Learning Environment for Teaching Academic Writing Skills

Richard Paul Taylor
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Abstract

IELTS preparation is of paramount importance for Emirati high school graduates who want to continue their studies in an English-medium university such as the UAE federal higher education institutions. One of the language skills that Emirati students are often particularly weak in is academic writing. While high school English courses prepare students for essay writing, report writing is not always adequately addressed. As a result, students are in need of explicit instruction on how to write an academic report. At the UAE federal higher education institutions, English study programs are delivered via iPads. While using iPads can be extremely motivating and engaging for students, the potential for distraction by non-teaching resources such as social media apps and games during the lesson is immense. This chapter describes a process for teaching IELTS Writing Task 1 using Nearpod. Nearpod is a platform that allows the teacher to manage student engagement with teaching and learning materials in a controlled digital environment. This ensures minimum distraction from non-teaching related materials and maximum student participation in class activities. The chapter demonstrates how to use Nearpod to construct a lesson on writing preparation activities, how to sequence the activities to create a seamless workflow, and finally how to manage the students when using the course materials.

Introduction

In an effort to adequately prepare Emirati students for a globalized world, the UAE has long embraced bilingual education programs and since the 1980's the federally funded higher education institutions have been delivering their courses through English-medium instruction (EMI), replacing the previous undergraduate programs which had previously been taught exclusively in Arabic (Findlow, 2006). The demand for a high level of academic English proficiency has brought with it an intensive focus on standardized tests such as the

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This volume contains 19 articles selected from papers presented at the 21st TESOL Arabia Conference:
Theory. Practice. Innovation. Teaching and Learning in the Digital World held in Dubai, UAE, in March 2015.

The articles are divided into the following four sections:

- **Technology and E-Learning**
- **The Four Skills**
- **Teacher Education and Training**
- **The Classroom and Other Issues**

The articles included in this volume represent the diverse background and research interests of the TESOL Arabia membership. The contributions are a mix of research studies and pedagogical practices with a strong emphasis on the role of technology in English language teaching. This makes the volume a must- read for ELT professionals in the region as well as worldwide.

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