MS Excel – A student's best study aid - The personal experience of an untalented student

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Why I decided to study phonetics

I was probably Patricia Ashby's most untalented student. I cannot tell politically incorrect jokes involving the Irish, Welsh or Scots because I can't imitate accents. I cannot tell if a sequence of notes is ascending or descending. I have two tin ears.

I decided to enrol in a phonetics class for two reasons.
1. I had picked up some German by listening to soaps and The Simpsons on German TV. I could hear that my accent was not good, but I had no idea how to correct it.
2. I was working as a volunteer teaching English as a foreign language and I did not know how to help my students improve their accents.

Why I decided I would be able to study phonetics.

I had developed a way of using Excel as a learning aid, and I was convinced that I could learn anything which could be put into a table. I knew that audio files could be included in these tables. I called my set of tricks and techniques Excel-At.

What does Excel-At give a student?

Excel-At gives a student complete control over the data being studied at any one time.
1. Every column can be included in either the "question" or the "answer".
2. It needs only two mouse clicks to shuffle a quiz.
3. It is trivially easy to split data into small quizzes, or amalgamate small quizzes into large quizzes.
4. If a student is finding the material difficult, the set of answers can be displayed and will not change when the questions are shuffled.
5. If a student decides to type an answer it is easy to compare the attempted answer with the correct one.
6. It is easy to ensure that questions a student finds difficult are asked more often than questions a student finds easy.
7. A progress record can be kept in many different ways.

The general Excel-At tricks and techniques

1. Changing the font colour to be the same as the background colour makes the cell contents invisible, and thus an "answer". If the answer is in an ordinary font then the student can see the answer simply by clicking in the cell and looking in the formula bar. If the answer is in a phonetic font the student will have to change the font colour to make it visible.
2. The formula =rand() fills a cell with a random number. When every cell in a column contains a random number, and one cell is selected, clicking a 'Sort' button shuffles all the rows.
3. Sort works on a data range, and a range is bounded by an empty row and empty column. To split a large data set, simply insert a couple of empty rows. To amalgamate data sets simply delete the empty rows.

4. To keep a copy of the answers on display at all times, copy them into a column away from the main data. An empty column ensures that the model answer set is not included in the shuffling operation.
5. Student guesses can be typed in the column next to the concealed answers. To compare two adjacent cells repeatedly click the left and right arrows while looking at the formula bar. If the contents are identical the formula bar does not change. If the contents differ in any way, the formula bar flickers.
6. Difficult questions can be copied into the data set a number of times, and will then appear more frequently. In long lists a column is added to keep a score of the number of times each question has been incorrectly answered. After each pass through the data, 'Sort-descending' on the score column causes the questions which have been incorrectly answered to rise to the top of the list.
7. As long as one remembers to isolate the quiz with at least one empty column, the columns further to the right can be used to keep a summary of the scores through each data pass.

Creating Excel-At phonetics resources.
Using Excel-At is quick and easy. Creating Excel-At files which don't involve audio is time-consuming but I learned quite a lot while typing them up. They need careful proofreading.
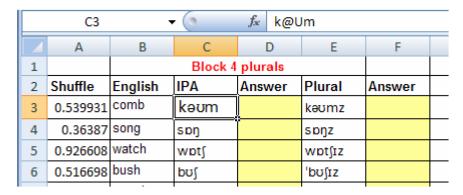

Figure 1 – No audio, student will type answers.

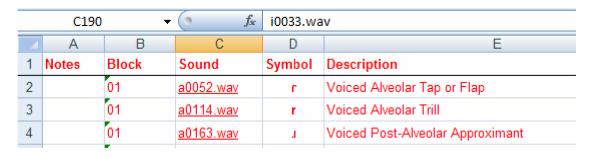A worksheet with audio hyperlinks looks similar but is much more tedious to set up.

Figure 2 - Master worksheet with audio

It is usually necessary to play an audio file, record the activity of the sound card, save the file in the same folder as the Excel file, and then create a hyperlink. I wished that someone else had done this for me.
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Setting up quizzes.

Figure 3 - Selecting rows from a copy of a master sheet.

I used a copy of the master sheet to select the rows which would make up several quizzes. I added a "Select" column, and inserted numbers into the selected rows. 'Sort-descending' brought those rows to the top of the sheet from where they could be copied and pasted into a Quiz master sheet.

My IPA chart Quiz master sheet contained over 20 small quizzes. The first 24 rows were set up as a table of contents for the rest of the worksheet. The "Select" column was replaced by a "Sort" (or "Shuffle") column containing random numbers.

Figure 4 - Quiz master Sheet with random numbers and an index to 23 quizzes.

Using quizzes

Figure 5 shows part of a small quiz on Trills. I have narrowed the Sound column so that I don't get any clue from the file name. The figure shows the situation after I had played the audio, and thought about how I would describe the symbol R. I would then have clicked in the "Description" cell, and checked the formula bar to see if I had guessed correctly.

Figure 5 - Quiz to test if I can describe a phonetic symbol

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Figure 6 shows the same quiz being used to learn which symbol matches a description. Symbols don't normally appear correctly in the formula bar so I had to change the font colour from white to black to see the symbol.
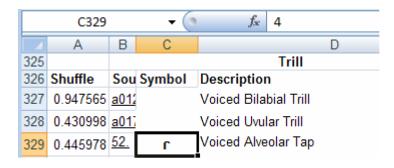

Figure 6   Quiz to test if I know which symbol matches a description.

Figure 7 shows the same quiz being run towards the end of my course. I would have played the audio and typed my answers into columns D and F. I have discovered that my Symbol is incorrect. I am about to click in cell E4 and discover that my description is OK.

Figure 7 - Quiz where the "Question" is an audio file, and there are 2 answers.

Conclusion

During my studies I used a lot of different resources. A lot of work had obviously gone into putting the data into quizzes. None of the quiz engines gave the flexibility that Excel gives. It would have been easier, and sufficient, for the resource creators to simply have provided a folder containing the audio and an Excel file with the transcriptions and the hyperlinks. This would have given me, as a student, far more flexibility in how I studied this very interesting and useful subject.

My web site, www.kehr.co.uk, contains more details of how to set-up and use Excel-At, including tips for using a right-left language like Hebrew.

Resources

These are some of the most important resources I transferred to Excel-At.
Armstrong Eric and Meier Paul http://www.paulmeier.com/ipa/charts.html
Ashby Patricia *University of Westminster Phonetics 1 and 2 course materials (2005)*
Ashby Michael (UCL), Ashby Patricia (University of Westminster) and John Maidment (UCL). *Analytic Listening* http://www.eptotd.btinternet.co.uk/pal/palin.htm
Ladefoged *A Course in Phonetics 5th ed (2006)*
Maidment John *Toni* http://www.btinternet.com/~eptotd/vm/toni/tonihelp.htm
Maidment John *Online Intonation* http://www.phon.ucl.ac.uk/home/johnm/oi/oiin.htm
Wells John and House Jill *The Sounds of the IPA CD-ROM*