

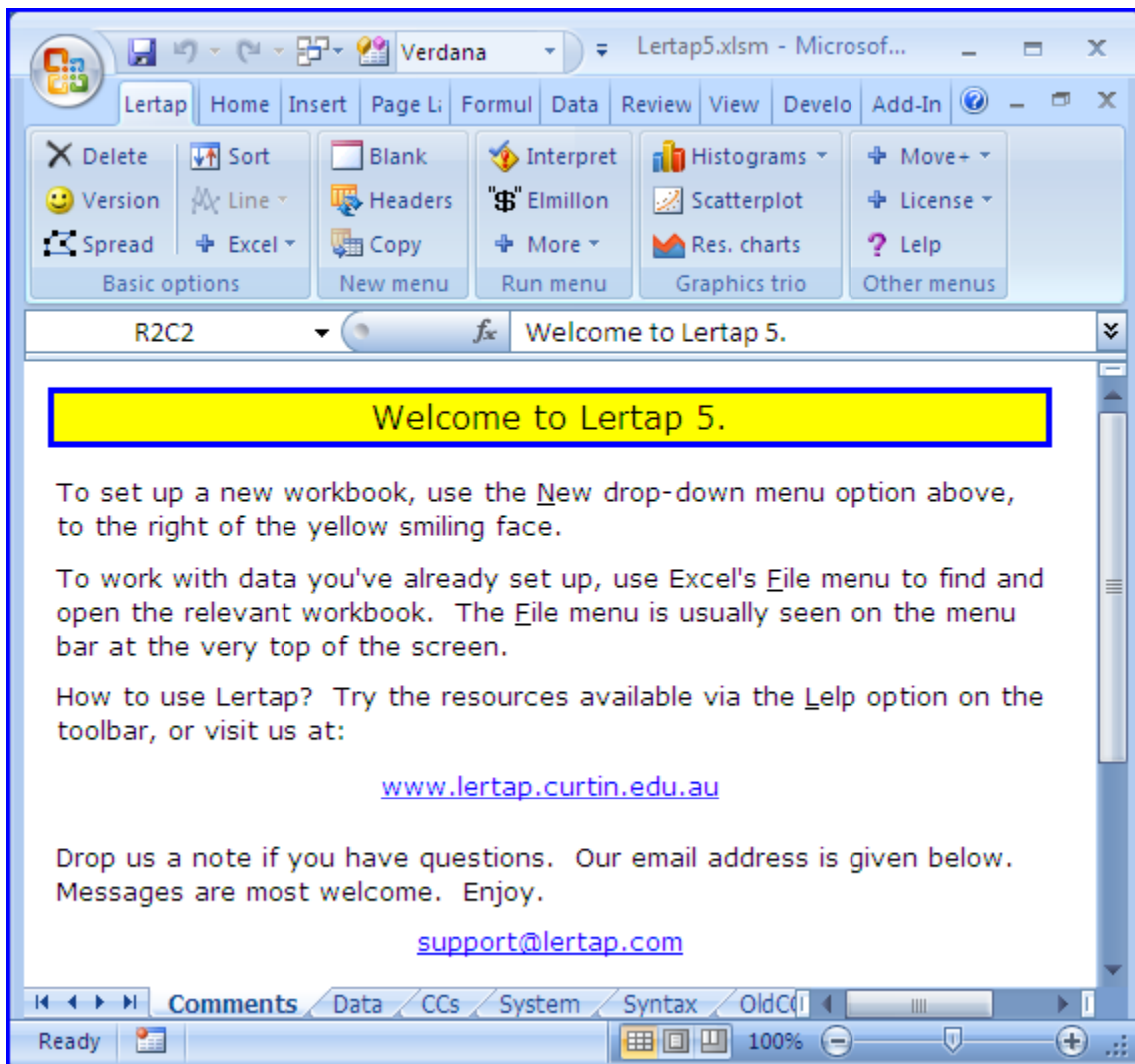
Lertap for Excel 2007

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Can Lertap run with Excel 2007, the latest version of Excel for Windows?

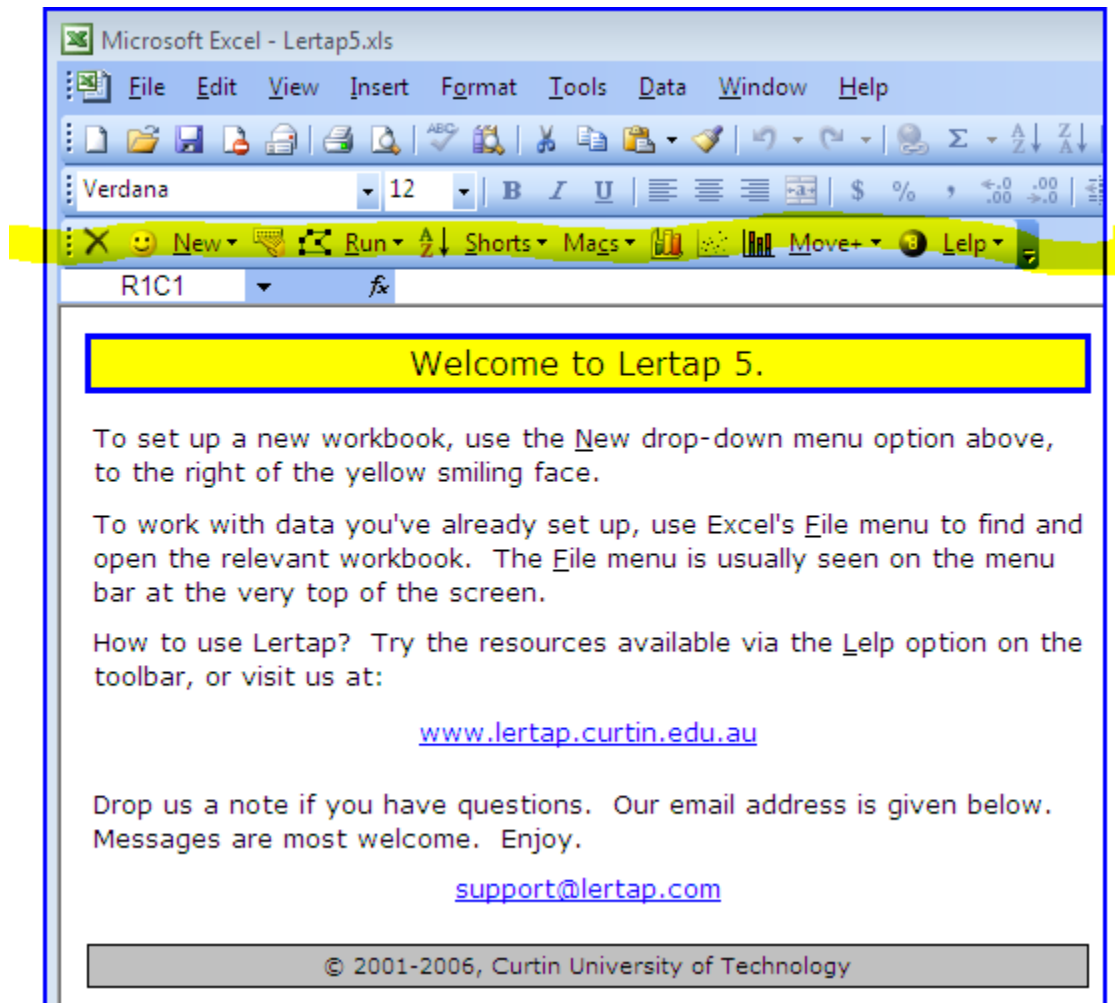
Sure. You bet. The Excel 2007 version of Lertap is stable, and these days it seems more people are downloading it than any other version (as if there were many other versions! See www.assess.com for a versions listing – you'll see that there's a version for Excel 2003, and also one for Macintoshers).

Here's Lertap for Excel 2007 in all its glory:



The major feature of this version? The ribbon of controls at the top of the screen.

Compare it to the Lertap toolbar, as seen when running an earlier version of Excel for Windows, in this case Excel 2003:



The ribbon of controls seen in Office 2007 products is meant to make it easier for users to go about their business – fewer mouse clicks required to reach common options is supposed to be the idea. And, with a properly-configured ribbon of controls, the idea actually lives – look above, at the first screen snapshot, the one with the Lertap ribbon at the top.

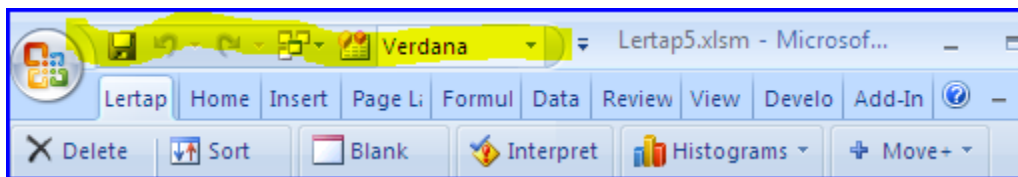
The three most commonly used Lertap routines are (1) create a new workbook suitable for Lertap; (2) 'Interpret' the CCs lines; followed by (3), run 'Elmillon'.

All of these three actions are available on the new Lertap ribbon. Just three mouse clicks are all that's required to activate the options. Compare this to the six mouse clicks required when running Lertap with the former toolbar. Imagine how much energy you'll have left at the end of a day at the office, having expended far fewer mouse clicks.

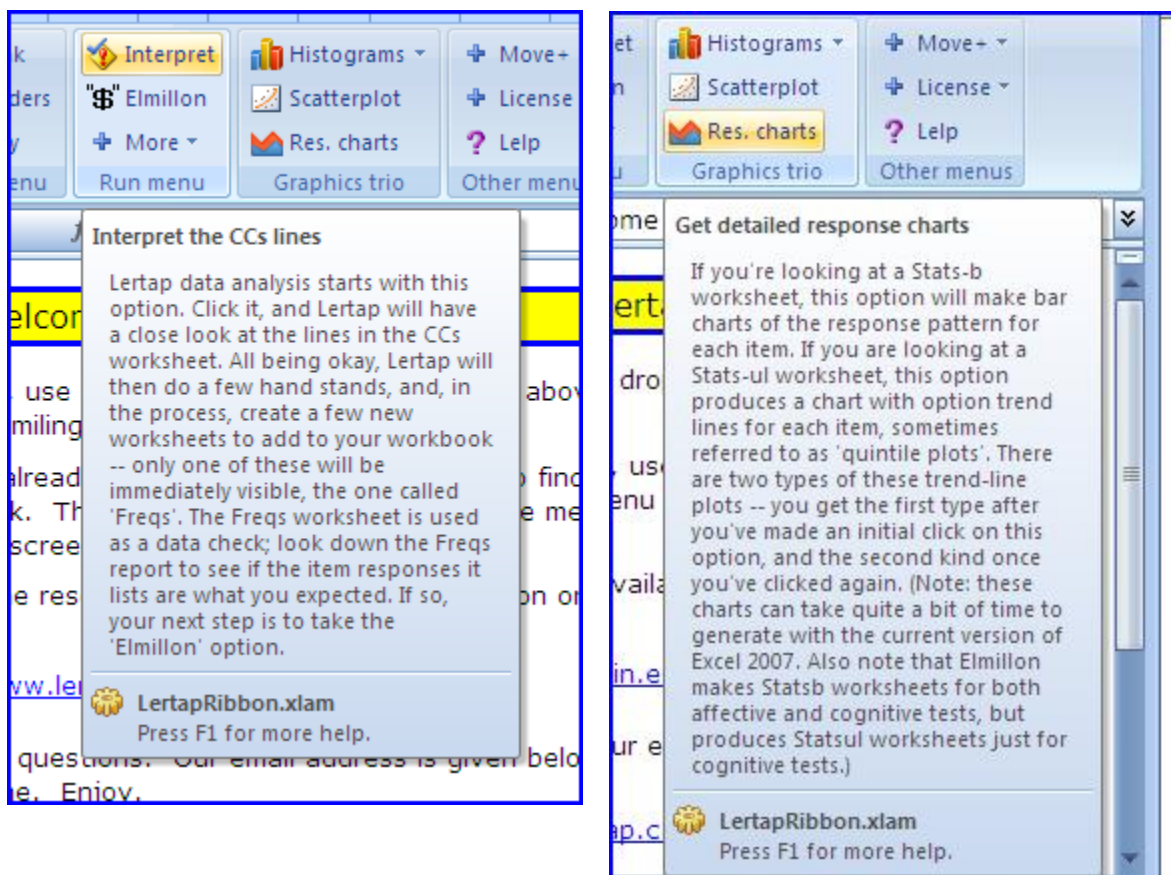
Lots of people have made lots of comments about the new control ribbon found in Office 2007 products. It does take some getting used to the ribbon, for sure. In the case of Lertap, the ribbon has, I think, obvious advantages – more about this below. But in the more general case of using an Office application, such as Word or Excel, the controls we're used to finding in the older toolbars have been distributed over a series of ribbon tabs; in Word, for example, the tabs include ones called 'Home', 'Insert', and

'Page Layout'. Clicking on a tab results in a new ribbon display, a new collection of control icons.

I've seen some people recommending two weeks as the minimum amount of time required to learn how to use the ribbon effectively. I'd say it might take more time, especially for users of earlier versions of Office products. It takes time to recognise that the old toolbars are simply gone; we're forced to learn a new interface, and it is a very different interface indeed. I found myself fighting it at first. I found little wrong with the old interface, and I had customised several of the old Office toolbars to make my work easier. You can't customise the ribbon, but there is a new "quick-access toolbar" available in Office 2007 products which is customisable – I have highlighted it in the screen snapshot seen below:

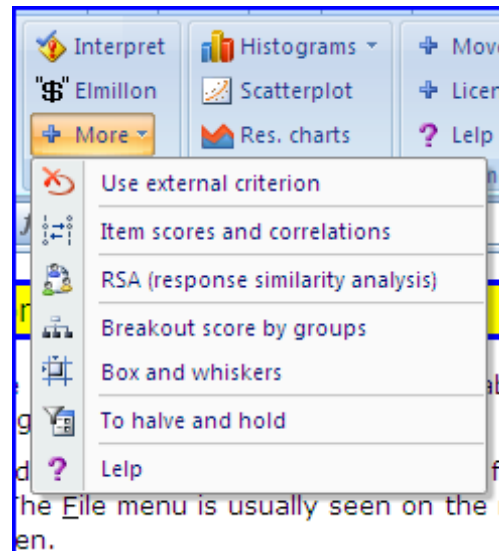


It's possible to have real fun with the quick-access toolbar, or "QAT". The example I show in the snapshot above displays a relatively short QAT – you can put many more icons into it, and it's easy to do so (use the application's Help system to learn how). An advantage of the ribbon is that its controls can be made to have little stories attached to them. No, they're not real stories, of course – they're comments designed to briefly explain what the controls can do. Have a look at two examples from the Lertap 5.7 ribbon, if you will:



The text in the little boxes appears whenever I let my mouse hover above one of the controls seen on the ribbon. These little "stories" can be very helpful.

Some of the controls on the ribbon have wee arrows on their right-hand side. Click on one of these little arrows, and, in the case of Lertap 5.7, drop-down menus appear, revealing more options. An example is shown below:



Other Excel 2007 advantages

Excel 2007 offers much more than just a new face. Whereas former versions of Excel limited the number of columns to 256, now there can be over 10,000 columns. The number of rows has increased from a former limit of 65,536 to over a million.

This might seem to bode well for Lertappers. Over the years a few folks have written in to say that the 256-column limit stifles them; they say this as the number of test items which Lertap can process is the same as the number of columns in a worksheet, meaning that earlier versions of Lertap were constrained to processing at most 256 test items.

There are, however, at least two 'however's' to consider here: Lertap 5.7 has not been tested beyond 256 items, and to date the maximum number of data records processed has been, to my knowledge, about 30,000. In theory Lertap will go beyond these limits, but some further testing is required to be sure.

*Insert 20 May 2008: Lertap 5.7 was recently used to process 350 items in Florida. The *key and *alt lines used by this job exceeded 256 characters, which used to be a problem with earlier versions of Excel. But all worked okay.*

The second 'however' is that more computer memory is recommended in order to properly accommodate larger worksheets. My own computers, the ones I carry around from place to place (n=3), have from 1 MB to 2 MB of RAM, and this is probably getting to be a bit slim now.

Insert 20 May 2009: This memory matter may not be all that relevant. Most new laptops now seem to come with Office 2007 products, and yet 2 MB of RAM is typical. Nonetheless, I have bumped RAM up to 4 MB on my two every-day laptops. Can't say that I've noticed much of a performance difference; however, I am comforted by those who say this was a smart move.

The third thought-to-be big advantage to Excel 2007 is that Microsoft has implemented new file formats. The new XML-based formats are said to have numerous advantages; for Lertap users, the greatest of these is speed – the new file formats are supposed to load and save faster, or so I believe. At least, this is I believe the theory. In practice I have not found this to be the case at all.

Insert 20 May 2009: Microsoft released a major update for Office 2007 products just two weeks ago. It's Service Pack 2, or "SP2". One of the touted changes is support for the "open document" format. This is the native format used by OpenOffice.org products. If you haven't seen the OpenOffice.org suite, you might want to: it's open-source stuff, and while financial contributions are welcome, the OpenOffice suite is free. And have no doubt: the OpenOffice.org suite is very sweet, very professional, undoubtedly a serious competitor to Microsoft Office. Its spreadsheeter is called "Calc". I have my eye on Calc, waiting for its macro language to improve. It may be able to support Lertap's macros in the fairly-near future (possibly a year from now).

Insert 20 May 2009: ah-ha, a potential real advantage for me in SP2: it's now much easier to save a spreadsheet in PDF format.

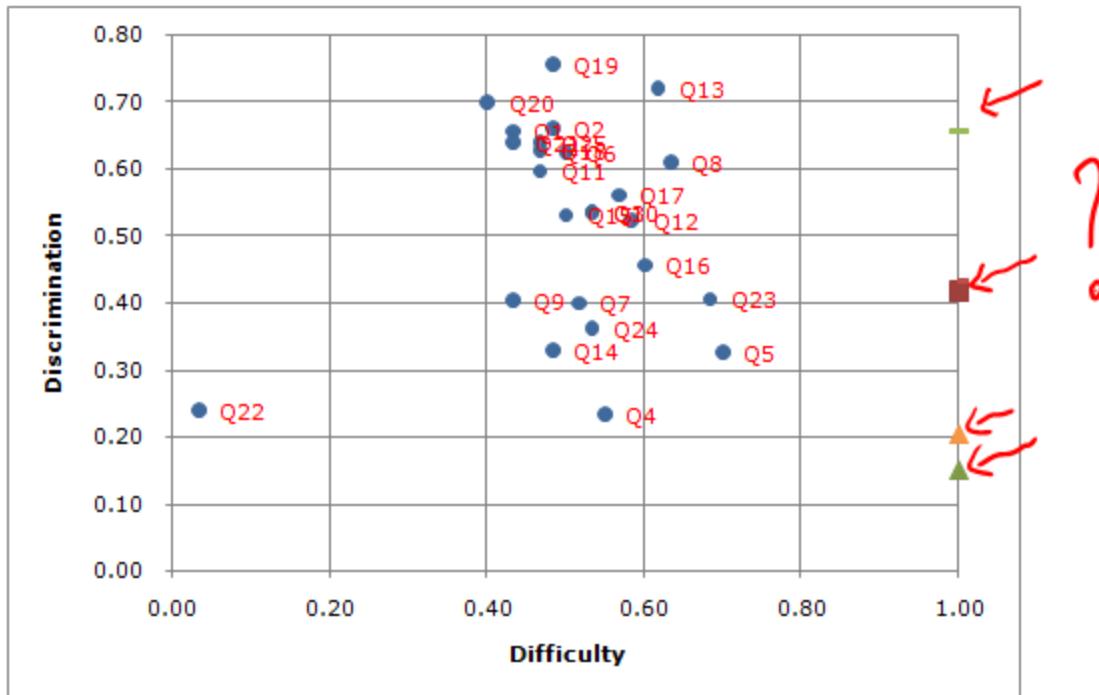
The downside to Excel 2007

As rosy as all the guff above might sound, there are some substantial disadvantages to Excel 2007. For those of us who toil at the Lertap coal face, the biggest drawback, and it's a real pain, has to do with graphics: Microsoft scrapped the former chart 'engine', rewriting it completely. The new chart engine is said to have more features than the old one, but Microsoft admits that some of the features of the former engine have been dropped altogether.

None of the charts generated by various Lertap options worked well when first tried with Excel 2007 a couple of years back. In fact some didn't work at all. We've got them working again; a couple might be better than older versions, but at least one is worse: the box and whisker charts have lost the wee blip which shows where the median score lies. We'll continue to try and improve the charts, but we're hoping that Microsoft will soon release an update to Excel 2007, a "service release" perhaps, which will fix the charting problems we and others have noticed.

Insert 20 May 2009: Well, it's here! Service Pack 2, or "SP2", emerged a couple of weeks ago. A list of fixes shows no less than 236 for Excel 2007, and many of them have something to do with charts. Have these been of benefit to Lertap?

It's a bit too early to start celebrating, but already I have noticed that chart grid-lines seem more solid; they used to waft about a bit, making the tables at the bottom of quintile plots uneven. However, look at this scatterplot, an example of the one found in Lertap's "Stats1b" report for cognitive items:



What are the strange symbols noted by the red arrows? No item had a difficulty of 1.00; there should be no blips above the 1.00 difficulty value at all, but here we're blessed with four or five of them. At least Excel 2007 is consistent: I can replicate this situation, which in theory means we should be able to track down the problem. (These mysterious blips do not appear for all data sets, just some.)

A second major drawback is that Excel 2007 is slower than previous versions, at least when given the code used to date in Lertap. On our to-do list is the matter of benchmarking; soon we'll get in and provide a table with run-time comparisons, Excel 2003 vs. Excel 2007. My guess is that it will show major differences. For example, generating 60 quintile plots might take about 30 seconds with Excel 2003 and Lertap 5.6.3, but perhaps at least double that when Lertap 5.7 runs under Excel 2007.

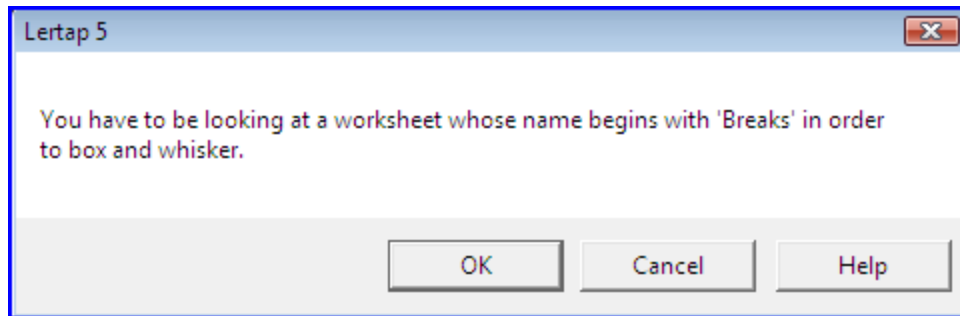
Insert 28 August 2007: getting quintiles for a 25-item test took about 8 seconds under Excel 2003, but almost 100 seconds (yes, over a minute and a half) under Excel 2007. Lertap for Excel 2007 currently uses two passes to make quintiles, but even so once we have a single-pass method in place, such as that used with Excel 2003, indications are that it will still take over a minute to make the quintiles.

Insert 12 July 2008: things have improved. Lertap is still using two passes to makes its quintile plots, but the code has been cleaned up. Now the quintiles for that 25-item test takes about 36 seconds.

Insert 20 May 2009: have not noticed any significant performance increases after the release of Service Pack 2. The quintiles for my 25-item test are still clocking in at 30-some seconds. One of the most telling performance tests for Lertap is that related to running the cheating detector, "RSA" (for response similarity analysis). For a 60-item cognitive test and 649 students, the Excel 2007 version of Lertap took 21 minutes to produce its three RSA reports; in contrast, the Excel 2003 version took just a bit more than 3 (yes, three). But this isn't to say that the Excel 2007 version feels like a geriatric tortoise - I don't think it does. These days I find myself using it in preference to the Excel 2003 here as, on most tasks, it doesn't seem slow. For RSA jobs I start it running, and take a break.

Using the Excel 2007 version seems recommended if I want to keep up with the trend: most of the students have Excel 2007, and I think it's difficult to buy a new computer which comes with Excel 2003.

There are a few minor drawbacks, too. Activating 'Lelp', Lertap help, from many dialog boxes simply will not work with the present version of Excel 2007. For example, a click on the Help button in the dialog box below will fail.



Excel 2007 has a new view called "Page Layout View". It's handy. It can be set as the default view. But it's not compatible with Lertap. Many of Lertap's reports are formatted using Excel's 'Freeze Panes' option. This option is not supported in Page Layout View.

Insert 20 May 2009: the Help-button problem mentioned above is still with us; Service Pack 2 has not addressed this issue. The Page Layout View is still one which Lertap users should avoid (the default view is set under Excel Options / Popular / Default view for new sheets; for Lertap it's best to set the default to "Normal View").

Recommendation

The initial version of this document appeared almost two years ago. At that time I suggested it was best to stick with Excel 2003 – its charts were better, and its performance was much, much better. Lertap still runs better under Excel 2003, but I myself am drifting more to using Excel 2007. I'm getting used to what I still regard as an inferior user interface, and used to its relative lack of speed. Lertap's charts under Excel 2007 are now on par with those in Excel 2003, with a couple of fairly minor exceptions. RSA analyses take *much* longer to run, but we can now push through up to 1,400 students and expect complete RSA reports from Lertap (Excel 2003 allows far fewer rows in its worksheets, causing one of the most important RSA reports, RSAsig1, to be abbreviated whenever the number of students exceeds about 350).

I continue to regard Excel 2007 as untrustworthy. Even with Service Release 2, I still find charts doing strange things at times: unexpected colours can appear; the tops of charts are sometimes chopped off when the chart is positioned immediately below a table, or beneath a row which has been frozen for display purposes; clicking on one of Lertap's help buttons sometimes calls up the correct information, but at times will shell out to Excel help instead of Lelp (Lertap help).

Programming Excel 2007 macros remains more difficult than under Excel 2003, which is something readers will not worry about, just those of us glued to the programming desk.

At the end of the day, there must be quite some number of Excel users who share this question with me: Why ever did Microsoft undertake such a major redirection to its Office products? Excel 2003 was a good product (wasn't it?). It wasn't broken (was it?).

You bet, the increased capacity found in 2007, with over a million rows and more than sixteen thousand columns now available, is good news for some Lertap users, but, in my opinion, Excel 2007 remains something of a retro-grade step.

But Excel 2007 is what we have. Excel 2003 appears to be fading over the horizon. Onwards, mates!

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