

## UPDATES SUMMARY FOR USERS OF LERTAP5

Document revision date: **1 July 2022**

<https://www.lertap5.com/Documentation/UpdatesSummaryLertap57.pdf>

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To view a **condensed summary** of salient recent changes and events, [see this webpage](#).

To get a copy of Lertap5, pay a visit to [this page](#) (refresh the page as things may have changed).

Lertap5.xlsm was last updated on <b>1 July 2022</b> .
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The updated version, labelled 5.11 (version 11 of Lertap5), works on both Windows and MacOS computers. The former versions, 5.10.9 (Windows) and 5.10.99 (Mac), are no longer supported. Changes are detailed below.

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*The change below was made 1 July 2022.*

Missing data handling has been substantially improved. Read about it by visiting [this document](#).

**Lertap5.xlsm** version.revision number and date now: **5.11.2, at 1 July 2022**

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*The change below was made 1 April 2022.*

Minor enhancements made to sections of the Lertap5 Excel tab so that labels and help messages are a bit clearer. “Lelp”, the Lertap5 help system, has also seen very minor changes.

**Lertap5.xlsm** version.revision number and date now: **5.11.1, at 1 April 2022**

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*The change below was made 20 January 2022.*

The RaschAnalysis1 macro has been updated so that it does a better job when copying its results to the Scores worksheet – the formatting has been improved and is now easier to interpret.

**Lertap5.xlsm** version.revision number and date now: **5.11.1, at 20 January 2022**

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*The change below was made 15 January 2022.*

The Rasch item summary worksheet now includes a small table with logit ranges for both item difficulties and student scores. An example is found towards the bottom of [this webpage](#).

**Lertap5.xlsm** version.revision number and date now: **5.11.1, at 15 January 2022**

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*The change below was made 10 September 2021.*

Minor textual and cosmetic alterations made to all worksheets in the Lertap5.xlsm workbook.

**Lertap5.xlsm** version.revision number and date now: **5.11.1, at 10 September 2021**

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*The change below was made 28 August 2021.*

Very minor textual changes made in the unlock code request process as seen by Macintosh users.

**Lertap5.xlsm** version.revision number and date now: **5.11.1, 28 August 2021**

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*The change below was made 3 August 2021.*

The “Zoom all sheets” option, particularly useful for Mac users, is now easier to find, having its new home under the little Excel drop-down menu found on the Lertap5 ribbon. Read up by scrolling down in [this document](#).

**Lertap5.xlsm** version.revision number and date now: **5.11.1, 3 August 2021**

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*The change below was made 1 August 2021.*

Additional improvements made in the [RaschAnalysis1](#) macro. When run, it now provides data on the time taken (in seconds) by the steps involved in processing the item responses, and in computing estimates of Rasch item difficulties and student ability.

**Lertap5.xlsm** version.revision number and date now: **5.11.1, 1 August 2021**

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*The change below was made 18 July 2021.*

Improvements made in the [RaschAnalysis1](#) macro. It will now loop through iterations automatically using the pausing/stopping rules set and saved by users in the [System worksheet](#). The macro now performs better and is easier to use.

**Lertap5.xlsm** version.revision number and date now: **5.11.1, 18 July 2021**

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*The change below was made 16 July 2021.*

Corrected an **error** in Lertap5.xlsm that would result in coefficient omega statistics being omitted from [IStats reports](#) (worksheets) whenever a user had the [RSA setting](#) in the System worksheet set to Yes.

**Lertap5.xlsm** version.revision number and date now: **5.11.1, 16 July 2021.**

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*The change below was made 4 July 2021.*

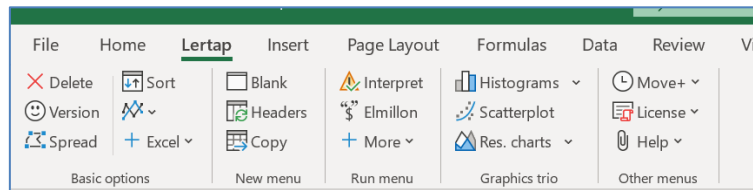
Corrected file access **errors** in the [Omega1](#) special macro found in the Lertap5MacroSetA.xlam workbook. They had to do with the rmd script files which the macro automatically tries to download so that subsequent IRT / Rasch runs can be made with RStudio. (Incorrect files were being downloaded.)

**Lertap5.xlsm** version.revision number and date now: **5.11.1, 4 July 2021.**

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*The change below was made 24 June 2021.*

When Lertap5.xlsm opens in Excel, the position of the Lertap tab on Excel's ribbon will now be after the Home tab, not before. This has been done in an attempt to address a problem sometimes encountered when it [runs on a Mac](#).



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*The change below was made 25 June 2021.*

Very minor changes made to the formatting of numerous reports.

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*The change below was made 23 June 2021.*

Sometimes (rarely) closing Lertap5.xlsm would produce an error message from Excel. This was as no consequence whatsoever but has now been addressed and fixed.

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*The change below was made 19 June 2021.*

A few very minor changes made in the [System](#) worksheet's settings (e.g. Production mode set to "no", turning it off, and the "Import CSV" macro was moved up to Row 103 and will now show when the "[Macs](#)" menu is displayed). The [ImportCSV](#) macro's hyperlinks were corrected to point to the Lertap5.com web domain. No new functionality was added.

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*The change below was made 9 June 2021.*

The previous versions of Lertap5, 5.10.9.4 (Windows) and 5.10.99.4 (MacOS) are now known as version 5.11, with the same version running on both platforms. Functionally, this version does not have any new features. Minor alterations have been made in the wording of some of the comments which Lertap5 embeds its reports.

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**The change notices below pertain to former versions.**

*The change below was made 28 April 2021 for version: **Macintosh Excel**.*

Corrected minor runtime execution messages that would occur whenever the “Item scores and correlations” option was selected. (This is the option that creates “Istats” reports. The messages would appear whenever a dataset with more than one subtest was being processed.)

**Mac Excel** version number and date now: **5.10.99.4** (28 April 2021).

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*The change below was made 4 April 2021 for version: **Macintosh Excel**.*

Changed the plot of affective item correlations so that a line now connects all plotted points (serves to highlight the plot’s pattern).

**Mac Excel** version number and date now: **5.10.99.4** (4 April 2021).

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*The change below was made 1 April 2021 for version: **Excel 2010 / 2013 / 2016 / 2019***

Changed the plot of affective item correlations so that a line now connects all plotted points (serves to highlight the plot’s pattern).

**Excel 2010/2013/2016/2019** version number and date now: **5.10.9.4** (1 April 2021).

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*The change below was made 28 March 2021 for version: **Macintosh Excel**.*

Added the plot of affective item correlations as mentioned in the very next change notice for the Windows version (dated 18 March 2021).

**Mac Excel** version number and date now: **5.10.99.4** (28 March 2021).

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*The change below was made 18 March 2021 for version: **Excel 2010 / 2013 / 2016 / 2019***

Plot of item correlations added to Stats-b reports when affective items have been processed. Some examples [are here](#).

**Excel 2010/2013/2016/2019** version number and date now: **5.10.9.4** (18 March 2021).

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*The change below was made 6 March 2021 for version: **Macintosh Excel**.*

Enhancements made in the closed-form omega module.

**Mac Excel** version number and date now: **5.10.99.4** (6 March 2021).

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*The change below was made 4 March 2021 for version: **Macintosh Excel**.*

Corrected a run-time error encountered when multiple subtests were being processed.

*Mac Excel version number and date now: **5.10.99.4** (4 March 2021).*

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*The change below was made 4 March 2021 for version: **Excel 2010 / 2013 / 2016 / 2019***

Enhancements made in the closed-form omega module.

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (4 March 2021).*

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*The change below was made 26 February 2021 for version: **Macintosh Excel**.*

An estimate of the coefficient omega reliability index is now produced whenever the “[Item statistics and correlations](#)” option is taken. See Appendix D in this [working paper](#).

*Mac Excel version number and date now: **5.10.99.4** (26 February 2021).*

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*The change below was made 22 February 2021 for version: **Excel 2010 / 2013 / 2016 / 2019***

An estimate of the coefficient omega reliability index is now produced whenever the “[Item statistics and correlations](#)” option is taken. See Appendix D in this [working paper](#).

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (22 February 2021).*

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*The change below was made 15 December 2020 for version: **Excel 2010 / 2013 / 2016 / 2019***

Very minor cosmetic changes made to the Comments worksheet in the main Lertap5 Excel workbook, Lertap5.xlsm.

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (15 December 2020).*

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*The change below was made 3 December 2020 for version: **Macintosh Excel**.*

The Mini version (free) has been upgraded so as to allow for processing up to 250 data records – the former limit was 100. There remains no limit on the number of items which may be processed.

*Mac Excel version number and date now: **5.10.99.4** (3 December 2020).*

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*The change below was made 1 December 2020 for version: **Excel 2010 / 2013 / 2016 / 2019***

The Mini version (free) has been upgraded so as to allow for processing up to 250 data records – the former limit was 100. There remains no limit on the number of items which may be processed.

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (1 December 2020).*

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*The change below was made 18 September 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

Corrections made to the omega1 special macro so that it downloads RMD files from the correct web server (lertap5.com, **not** larrynelsostuff.com).

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (18 September 2020).*

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*The change below was made 6 June 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

Very minor change made in [RSA](#) (response similarity analysis) – the histogrammer, when activated when an RSAsig worksheet was active, was overwriting one of the column headers, “EEIC” in RSAsig. Fixed.

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (6 June 2020).*

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*The change below was made 5 June 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

Very minor changes made in [RSA](#) (response similarity analysis) – several column labels have been improved in RSAsig reports, and the histogrammer will now indicate the name of the RSAsig worksheet on which its plot has been made.

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (5 June 2020).*

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*The change below was made 29 May 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

Changes made in [RSA](#) (response similarity analysis) so that it completes in less time, and more capably handles test results where the number of suspect pairs might be quite large (these changes were inspired by a need to check test results obtained under the remote proctoring conditions that became necessary during the Covid-19 pandemic).

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (29 May 2020).*

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*The change below was made 8 May 2020 for version: **Macintosh Excel**.*

Minor alterations made in a couple of user help messages.

***Mac Excel** version number and date now: **5.10.99.4** (8 May 2020).*

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*The change below was made 5 May 2020 for version: **Macintosh Excel**.*

Corrected an error found in one of the chart routines – selecting the “[ResCharts](#)” option when looking at a Stats1b worksheet would cause a run-time error in Excel. Fixed.

**Mac Excel** version number and date now: **5.10.99.4** (5 May 2020).

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The change below was made 22 April 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only**

Alterations made so that the [Omega1](#) and [difR1](#) special macros would not crash without notice when working with workbooks destined to be save on Microsoft **OneDrive**.

**Excel 2010/2013/2016/2019** version number and date now: **5.10.9.4** (22 April 2020).

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The change below was made 20 April 2020 for version: **Macintosh Excel**. This version will also work with Excel 2016 running on a Windows computer.

Corrected a small, non-fatal, almost unimportant limitation in the [System](#) worksheet's list of special macros. The "ZoomAllSheets" macro title had been omitted.

**Mac Excel** version number and date now: **5.10.99.4** (20 April 2020).

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The change below was made 4 April 2020 for version: **Macintosh Excel**. This version will also work with Excel 2016 running on a Windows computer.

Added the difR1 special macro as described in the following change notice for the Windows version.

**Mac Excel** version number and date now: **5.10.99.4** (4 April 2020).

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The change below was made 4 April 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only**

A new special macro, "[difR1](#)", has been added, making it a bit easier to set up data files for use with the CRAN difR Project.

**Excel 2010/2013/2016/2019** version number and date now: **5.10.9.4** (4 April 2020).

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The change below was made 19 March 2020 for version: **Macintosh Excel**. This version will also work with Excel 2016 running on a Windows computer.

Installed the CSEM2 calculation correction as applied 14 March 2020 to the Windows version (as described immediately below).

**Mac Excel** version number and date now: **5.10.99.4** (19 March 2020).

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The change below was made 14 March 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only**

An error was found in the routine that calculates "[CSEM2](#)" for cognitive test items. It resulted in a slight underestimate of CSEM2 values across all of the test's observed scores. For example, if the

CSEM2 value corresponding to an observed test score of 26 was formerly reported as being 3.10, it would now be 3.13 with this corrected version of Lertap5.

*Excel 2010/2013/2016/2019 version number and date now: 5.10.9.4 (Lertap5.com at 14 March 2020).*

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*The change below was made 19 February 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

**Minor** alterations made in the [RaschAnalysis1](#) special macro. The iteration messages are now clearer when the macro runs.

*Excel 2010/2013/2016/2019 version number and date now: 5.10.9.4 (Lertap5.com at 19 February 2020).*

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*The change below was made 17 February 2020 for version: **Macintosh Excel**. This version will also work with Excel 2016 running on a Windows computer.*

A few code accelerators were added to make Lertap5 run better with the latest version of Excel for the Mac, and a fatal error in the “[Enhance M-H Charts](#)” option was fixed. The [RaschAnalysis1](#) special macro was updated with minor changes (macro date is 19 February 2020).

*Mac Excel version number and date now: 5.10.99.4 (Lertap5.com at 17 February 2020).*

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*The change below was made 16 January 2020 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

**Minor** alterations made in two files: Lertap5.xlsm (the main Lertap5 workbook) and also Lertap5MacroSetA.xlam (the special macros workbook, responsible for responding to options from the [MacMenu](#)).

*Excel 2010/2013/2016/2019 version number and date now: 5.10.9.4 (Lertap5.com at 16 January 2020).*

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*The change below was made 1 December 2019 for version: **Macintosh Excel**. This version will also work with Excel 2016 running on a Windows computer.*

Improvements and changes made in the [RaschAnalysis1](#) special macro. The highlighting applied to INFIT and OUTFIT mean squares now varies according to sample size. (This is the same change made to the Windows version on 28 November 2019.)

*Mac Excel version number and date now: 5.10.99.4 (Lertap5.com at 28 November 2019).*

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*The change below was made 28 November 2019 for version: **Excel 2010 / 2013 / 2016 / 2019 only***



Improvements and changes made in the [RaschAnalysis1](#) special macro. The highlighting applied to INFIT and OUTFIT mean squares now varies according to sample size.

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (Lertap5.com at 28 November 2019).*

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*The change below was made 20 November 2019 for version: **Macintosh** Excel. This version will also work with Excel 2016 running on a Windows computer.*

Corrected a minor execution error encountered when updating the Scores worksheet's [correlations](#) when the Data worksheet has an embedded blank row.

*Mac Excel version number and date now: **5.10.99.4** (Lertap5.com at 20 November 2019).*

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*The change below was made 20 November 2019 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

Corrected a minor execution error encountered when updating the Scores worksheet's [correlations](#) when the Data worksheet has an embedded blank row.

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (Lertap5.com at 20 November 2019).*

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*The change below was made 14 October 2019 for version: **Macintosh** Excel. This version will also work with Excel 2016 running on a Windows computer.*

Rasch item analysis capability added. Read about it [here](#).

*Mac Excel version number and date now: **5.10.99.4** (Lertap5.com at 14 October 2019).*

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*The change below was made 14 October 2019 for version: **Excel 2010 / 2013 / 2016 / 2019 only***

Support for **Rasch** item analysis has been added. Read about it [here](#).

*Excel 2010/2013/2016/2019 version number and date now: **5.10.9.4** (Lertap5.com at 14 October 2019).*

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*The change below was made 2 October 2019 for version: **Macintosh** Excel. This version will also work with Excel 2016 running on a Windows computer.*

A 95% confidence interval for coefficient alpha is now computed and displayed in Stats\_f reports. A screen capture is shown at [this webpage](#).

Stats\_b reports have had a minor change – negative discrimination values are now in **red** in the case of cognitive items, and, for affective items, negative item-scale correlations are also now in **red**.

**Mac Excel** version number and date now: **5.10.99.3** (Lertap5.com at **2 October 2019**).

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The changes below were made 24 September 2019 for version: **Excel 2010 / 2013 / 2016 / 2019 only**

A 95% confidence interval for coefficient alpha is now computed and displayed in Stats\_f reports. A screen capture is shown at [this webpage](#).

Stats\_b reports have had a minor change – negative discrimination values are now in **red** in the case of cognitive items, and, for affective items, negative item-scale correlations are also now in **red**.

**Excel 2010/2013/2016/2019** version number and date now: **5.10.9.3** (Lertap5.com at 24 September 2019).

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The change below was made 14 August 2019 for version: **Macintosh Excel 2016**. This version will also work with Excel 2016 running on a Windows computer.

One of the Lertap5 code modules was changed in order to be compatible with Microsoft's August upgrade of Excel 2016 for the Mac (version 16.28 / 19081202).

**Mac Excel 2016** version number and date now: **5.10.99** (Lertap5.com at **14 August 2019**).

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The change below was made 26 July 2019 for version: **Macintosh Excel 2016**. This version will also work with Excel 2016 running on a Windows computer.

Very minor changes to web and email links.

**Mac Excel 2016** version number and date now: **5.10.99** (Lertap5.com at **26 July 2019**).

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The change below was made 26 July 2019 for version: **Excel 2010 / 2013 / 2016 / 2019 only**

Very minor changes to web and email links, from lertap.com to lertap5.com, and from support@lertap.com to lertap5@gmail.com

**Excel 2010/2013/2016/2019** version number and date now: **5.10.9.2** (Lertap5.com at 26 July 2019).

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The change below was made 24 July 2019 for version: **Excel 2010 / 2013 / 2016 / 2019 only**

Now the entries in an RSACases report/worksheet are sorted on the H-H index column, from lowest to highest – previously the sort was on the H-H sigma column. This is the same order seen in RSAsig reports

**Excel 2010/2013/2016/2019** version number and date now: **5.10.9.2** (Lertap5.com at 24 July 2019).

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The change below was made 10 June 2019 for version: **Excel 2010 / 2013 / 2016 only**

One minor change: when the “[Breakout scores by groups](#)” and “[Item responses by groups](#)” options are taken, now a check is made to make sure that the Data column selected for the stratifying group variable uses only non-numeric codes.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.2** (Lertap.com at 10 June 2019).*

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*The changes below were made 29 May 2019 for version: **Macintosh Excel 2016**. This version will also work with Excel 2016 running on a Windows computer.*

Errors fixed in the [RSA](#) (response similarity analysis) code, and now the entries in an RSAsig report are sorted on the H-H index column, from lowest to highest – previously the sort was on the H-H sigma column.

*Mac Excel 2016 version number and date now: **5.10.99** (Lertap.com at 29 May 2019).*

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*The changes below were made 22 May 2019 for version: **Excel 2010 / 2013 / 2016 only***

Minor changes made to the [RSA](#) (response similarity analysis) code in both the main Lertap5 workbook, Lertap5.xlsm, and Lertap5MacroSetA.xlam, the special macros workbook.

Now the entries in an RSAsig report/worksheet, are sorted on the H-H index column, from lowest to highest – previously the sort was on the H-H sigma column.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.2** (Lertap.com at 22 May 2019).*

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*The changes below were made 14 May 2019 for version: **Excel 2010 / 2013 / 2016 only***

The Lertap5MacroSetA.xlam macros-only workbook was updated with a new code module, making it easier for [RSA](#) (response similarity analysis) users to change three common run-time settings without having to open the [System worksheet](#) in the Lertap5.xlsm workbook. A minor change was made to Lertap5.xlsm’s code so that the RSAsig report/worksheet is now sorted by H-H index instead of H-H sigma.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.2** (Lertap.com at 14 May 2019).*

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*The changes below were made 29 April 2019 for version: **Excel 2010 / 2013 / 2016 only***

Two relatively minor errors addressed. The first has to do with the message produced when the [Interpret](#) option is taken, the process of creating the [Freqs report](#) begins, and a column in the [Data](#) worksheet is found to have an entry longer than a single character. Such entries are unexpected in columns where item responses are recorded – it’s assumed that item responses for multiple-choice or survey items will be just a single character – an error “flag” is raised and a message output when this is not the case. The message has always allowed for users to terminate the program at this point, but often it failed to work correctly. Fixed.

The second error had to do with [RSA](#) runs. A behind-the-scenes worksheet called “RSACasesNosort” is commonly output by the RSA routine, as described in [this topic](#). An error would occur if a user deleted the worksheet reports produced by RSA, and then went on to request a new RSA run (usually by excluding certain items from the analysis, or analysing a different range of test scores). This error has also been fixed.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.2** (Lertap.com at 29 April 2019).*

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This **notice** was added on 29 December 2018 and applies to users with Windows 10 installed on their computers: in September 2018 Microsoft added improved virus security to its operating system. It dramatically affected how Lertap 5 ran; in particular, it took noticeably longer for Excel to open Lertap and, in some rare cases, Excel would even fail to successfully open the Lertap5.xlsm workbook.

Please refer to [this topic](#) for more information. It is possible to get the virus scanner to skip designated files (such as Lertap5.xlsm); this is highly recommended.

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*The change below was made 12 December 2018 for version: **Excel 2010 / 2013 / 2016 only***

A small error was detected in the routine that classifies DIF results using the ETS scale of A, B, C. The critical value for testing the statistical significance of MH D-DIF at the 0.05 level was set at 1.96. It should have been, and now has been, set at 1.645. See [this topic](#).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.2** (Lertap.com at 12 December 2018).*

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*The change below was made 6 December 2018 for version: **Excel 2010 / 2013 / 2016 only***

The routine that makes DIF charts has been automated so that plots will be made for all items without users having to do them on a one-by-one basis. See [this topic](#).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.2** (Lertap.com at 6 December 2018).*

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*The changes below were made 3 December 2018 for version: **Excel 2010 / 2013 / 2016 only***

The main Lertap 5 workbook for use on Windows computers, Lertap5.xlsm, now loads and opens significantly faster; it also closes more rapidly.

It is now quite a bit easier to [add a DIF chart](#). What was a two-step process is now just one.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.2** (Lertap.com at 3 December 2018).*

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*The change below was made 21 October 2018 for version: **Excel 2010 / 2013 / 2016 only***

Correction made so that the “Reliability (coefficient alpha)” value seen at the base of a [Stats1b](#) report more accurately displays whenever  $0.00 < \alpha < 0.10$  (fixes an internal programming error related to very small but greater than zero numbers).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9.1** (Lertap.com at 21 October 2018).*

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*The changes below were made 5 August 2018 for version: **Excel 2010 / 2013 / 2016 only***

Alterations made to the [Omega1 macro](#) so that it presents users with the option to delete the first column in the csv file (comma-separated values) it creates, making it easier to use with R packages such as “psych”, “ltm” (latent-trait models), and “TAM”.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9** (Lertap.com at 5 August 2018).*

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*The changes below were made 5 August 2018 for version: **Macintosh (“MacWin”) prototype** for use with Excel 2016 (Macintosh). [This version will also work well with Excel 2016 running on a Windows computer.](#)*

Changes have been made to the [Omega1 macro](#) so that it presents users with the option to delete the first column in the csv file (comma-separated values) it creates, making it easier to use with R packages such as “psych”, “ltm” (latent-trait models), and “TAM”.

*MacWin Excel 2016 version number and date now: **5.10.99** (Lertap.com at 5 August 2018).*

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*The changes below were made 10 July 2018 for version: **Excel 2010 / 2013 / 2016 only***

Changed the CCs sheet in Lertap5.xlsm so that it defines two subtests, not three. (This is an extremely minor change; it brings Lertap 5 back to being more in line with the original manual published back in the year 2000.)

Added support for users interested in dichotomous IRT analyses. An “IRTmoduleUWO-1.Rmd” file may be downloaded from [this topic](#).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9** (Lertap.com at 10 July 2018).*

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*The changes below were made 10 July 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh). [This version will also work with Excel 2016 running on a Windows computer.](#)*

Changed the CCs sheet in Lertap5.xlsm so that it defines two subtests, not three. (This is an extremely minor change; it brings Lertap 5 back to being more in line with the original manual published back in the year 2000.)

*Mac Excel 2016 version number and date now: **5.10.99** (Lertap.com at 10 July 2018).*

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*The changes below were made 8 July 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh). This version will also work with Excel 2016 running on a Windows computer.*

Added support for users interested in dichotomous IRT analyses. An “IRTmoduleUWO-1.Rmd” file may be downloaded from [this topic](#). (Windows users will find this file automatically downloaded when they run the [Omega1](#) macro.)

**Mac Excel 2016** version number and date now: **5.10.99** (Lertap.com at **8 July 2018**).

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*The changes below were made 13 June 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh). This version will also work with Excel 2016 running on a Windows computer.*

Code changes made to ensure compatibility with latest version of Mac Excel (version 16.14). Errors fixed in the [external criterion](#) modules.

**Mac Excel 2016** version number and date now: **5.10.99** (Lertap.com at **13 June 2018**).

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*The change below was made 10 June 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh). This version will also work with Excel 2016 running on a Windows computer.*

The [Omega1](#) reliability macro was repaired so that it no longer fails when used on a Mac.

**Mac Excel 2016** version number and date now: **5.10.99** (Lertap.com at **10 June 2018**).

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*The change below was made 5 June 2018 for version: **Excel 2010 / 2013 / 2016 only***

A minor change was made in order to have “[Little h help](#)” available on chart sheets such as [Stats1bCht](#).

**Excel 2010 / 2013 / 2016** version number and date now: **5.10.9** (Lertap.com at 5 June 2018).

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*The change below was made 1 June 2018 for version: **Excel 2010 / 2013 / 2016 only***

Made it possible to control the thickness of the lines seen in Lertap’s quantile plots. Information is [here](#) (scroll to the bottom of the topic – the new thickness setting is in row 99 of the System worksheet).

**Excel 2010 / 2013 / 2016** version number and date now: **5.10.9** (Lertap.com at 1 June 2018).

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*The change below was made 16 April 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh). This version will also work with Excel 2016 running on a Windows computer.*

Corrected an error encountered when asking for a [histogram](#) from a [Breaks1](#) worksheet report.

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*The change below was made 12 April 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh).*

Minor (but critical) code changes were made in order to have Lertap run correctly with the latest release of Microsoft Excel 2016 for the Macintosh (version 16.12; replaces version 15.11.11).

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*The change below was made 6 April 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh).*

A minor change was made in order to have "[Little h help](#)" available on chart sheets such as [Stats1bCht](#).

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*The change below was made 20 March 2018 for version: **Macintosh prototype** for use with Excel 2016 (Macintosh).*

A fully-functional but not yet fully tested version of Mac Lertap 5 may be downloaded and taken for test drives. Start by reading [this document](#).

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*The change below was made 30 January 2018 for version: **Excel 2010 / 2013 / 2016 only***

Changes were made in order to improve performance. Lertap is now much faster, and also a bit smoother, when it runs (especially with Excel 2016). Updated running times are [here](#).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.9** (Lertap.com at 30 January 2018).*

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*The change below was made 2 January 2018 for version: **Excel 2010 / 2013 / 2016 only***

The [omega1 macro](#) will now download four "Rmd" files to a user's working directory. Some are for use with an R package called "TAM", an IRT program; read more at [this topic](#).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.4** (Lertap.com at 2 January 2018).*

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*The change below was made 29 December 2017 for version: **Excel 2010 / 2013 / 2016 only***

More enhancements made to the [omega1 macro](#). It will now copy an "Rmd" file to a user's working directory, making it possible to get more sophisticated output. This [paper](#) describes what can now be done.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.4** (Lertap.com at 29 December 2017).*

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*The change below was made 29 November 2017 for version: **Excel 2010 / 2013 / 2016 only***

Enhancements made to the [omega1 macro](#). Now easier to use. Factor analysis graph now captured in a png file.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.4** (Lertap.com at 29 November 2017).*

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*The change below was made 26 October 2017 for version: **Excel 2010 / 2013 / 2016 only***

Minor bug fixes related to creating [packed plots](#) when running in [production mode](#).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.4** (Lertap.com at 26 October 2017).*

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*The change below was made 20 October 2017 for version: **Excel 2010 / 2013 / 2016 only***

Added two special macros to the Lertap5MacroSetA.xlam workbook: "[BinaryItems](#)" and "[ChartChanger4](#)". These make it somewhat easier to assess the performance of multiple-choice cognitive items, and may be particularly useful for users undertaking IRT (item response theory) analyses.

Minor bug fixes were also made.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.4** (Lertap.com at 20 October 2017).*

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*The change below was made 1 August 2017 for version: **Excel 2010 / 2013 / 2016 only***

The [Stats1b](#) report has been fixed so that it now correctly underlines keyed-correct options for cognitive items when [\\*mws lines](#) have been used to indicate that some options do not use all of the response codes seen in the res= declaration on a CCS \*sub line.

An example would be res=(0,1,2,3,4,5) and \*mws c2, \*, 0, 0, 1, 0, 0.

The \*mws line is indicating that the item coded in column 2 (c2) of the Data worksheet effectively uses res=(1,2,3,4,5); it does not use the response code of zero.

(The keyed-correct option for the item would be 3 in this case.)

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.3** (Lertap.com at 1 August 2017).*

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*The change below was made 14 July 2017 for version: **Excel 2010 / 2013 / 2016 only***

Minor corrections made to the System worksheet (all options set back to their correct default values), and to sections of the documentation.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.1** (Lertap.com at 14 July 2017).*



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*The change below was made 20 May 2017 for version: **Excel 2010 / 2013 / 2016 only***

The [“Mini” version](#) now works with as many as 100 data records, double the previous limit – as before, there is no limit to the number of items which may be processed.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8.1** (Lertap.com at 20 May 2017).*

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*The change below was made 14 December 2016 for version: **Excel 2010 / 2013 / 2016 only***

Minor but important changes made to the installation and unlocking procedures.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.8** (Lertap.com at 14 December 2016).*

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*The change below was made 21 November 2016 for version: **Excel 2010 / 2013 / 2016 only***

A minor error, non-fatal, was encountered in the Exam Developer special macro used with Pearson Vue: the Questions worksheet in the “ED\_” workbook created by the macro had three extra lines at the bottom. These lines stemmed from changes made back on 8 March 2016 and affected only users with Lertap installations after that date.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.4** (Lertap.com at 21 November 2016).*

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*The change below was made 20 August 2016 for version: **Excel 2010 / 2013 / 2016 only***

Installed an option to turn off the line markers used to help distinguish response traces as seen in quantile plots – the plots are now easier to read when viewed on screen. Refer to the bottom of [this topic](#) for more information.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.3** (Lertap.com at 20 August 2016).*

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*The change below was made 6 July 2016 for version: **Excel 2010 / 2013 / 2016 only***

Corrected a fatal error found in the [external criterion](#) analysis routine.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.3** (Lertap.com at 6 July 2016).*

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*The change below was made 20 June 2016 for version: **Excel 2010 / 2013 / 2016 only***

Very minor changes made to the [“Transfer the license”](#) option.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 20 June 2016).*

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*The change below was made 15 June 2016 for version: **Excel 2010 / 2013 / 2016 only***

Another new macro, [ImportCSV2](#), was added to to the Lertap5MacroSetA.xlam file. It's for use with csv datasets where the item responses for each student are spread over two rows.

Corresponding documents were updated accordingly, and very some minor bug fixes were made.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 15 June 2016).*

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*The change below was made 10 May 2016 for version: **Excel 2010 / 2013 / 2016 only***

A new macro, [ImportCSV](#), was added to to the Lertap5MacroSetA.xlam file and numerous corresponding documents were updated accordingly.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 10 May 2016).*

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*The change below was made 5 May 2016 for version: **Excel 2010 / 2013 / 2016 only***

An error was found in the routine which outputs the "CSEM at cut score" statistic seen in [Stats1ul](#) reports when [Mastery mode](#) is on. The value of this statistic was correct when viewed in the [CSEM report](#), but a look-up error resulted in the wrong value being carried over to Stats1ul. Fixed.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 5 May 2016).*

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*The change below was made 12 April 2016 for version: **Excel 2010 / 2013 / 2016 only***

The RSA ([response similarity analysis](#)) routine in version 5.10.7.2 has been enhanced; for every RSACases report there is now an unsorted, hidden counterpart called [RSACasesNosort](#). The entries in this spreadsheet are unsorted, making it easier to discern clusters of possible cheaters (even though the format of the sheet is not sophisticated).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 12 April 2016).*

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*The change below was made 10 April 2016 for version: **Excel 2010 / 2013 / 2016 only***

Corrected an error found in the RSA ([response similarity analysis](#)) routine in version 5.10.7.2. It was due to the changes made 8 March 2016.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 10 April 2016).*

-----

*The change below was made 21 March 2016 for version: **Excel 2010 / 2013 / 2016 only***

Corrected an error found when running the “[Item scores and correlations](#)” option when the user run mode was set to 2, [Elmillon direct](#).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 21 March 2016).*

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*The change below was made 18 March 2016 for version: **Excel 2010 / 2013 / 2016 only***

Fixed an error which was impeding the creation of [csem reports](#) in the 17 March 2016 version.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 18 March 2016).*

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*The change below was made 17 March 2016 for version: **Excel 2010 / 2013 / 2016 only***

Minor bug fix – when the [Experimental Features option](#) was on, the Stats\_b average and s.d. figures for item difficulty and discrimination would not display under the correct columns. Fixed.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 17 March 2016).*

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*The change below was made 8 March 2016 for version: **Excel 2010 / 2013 / 2016 only***

A “[user run mode](#)” setting has been introduced to provide an alternative to the way the Interpret option functions. The new “[Elmillon direct](#)” mode can make the use of the Interpret option more efficient for some users.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7.2** (Professional Testing at 8 March 2016).*

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*The change below was made 8 January 2016 for version: **Excel 2010 / 2013 / 2016 only***

Programming changes were made to the previous version, 5.10.6, so that it would run faster with Excel 2013 and Excel 2016. Very noticeable run time reductions will now be noticed when these two versions of Excel are used with Lertap 5, but Excel 2010 remains the speed champion.

Note inserted 10 January 2016: some of these changes were also applied to the **Excel 2011 (Macintosh)** version, bringing it to version 5.9.2.2.

Lertap 5 is now distributed by **Professional Testing** Inc. in the United States ([www.proftesting.com](http://www.proftesting.com)).

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.7** (Professional Testing at 8 January 2016).*

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*The change below was made 10 November 2015 for version: **Excel 2010 / 2013 / 2016 only***

The previous version, 5.10.5.1, was adapted so that it will also work with the Windows version of Excel 2016, released in November 2015.

*Excel 2010 / 2013 / 2016 version number and date now: **5.10.6** (Fremantle Village at 10 November 2015).*

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*The change below was made 24 September 2015 for version: **Excel 2010 / 2013 only***

Two minor fixes: the [EIRTanalysis1](#) macro in `Lertap5MacroSetA.xlam` had a small bug when working with IStats worksheets, and the [data recoder](#) was found to fail when a worksheet had more than 256 columns – this was an old Excel column limit which no longer applies to current Excel versions (now the recoder works as expected).

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 24 September 2015).*

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*The change below was made 16 July 2015 for version: **Excel 2010 / 2013 only***

Lertap 5's support for "IRT", Item Response Theory, has been enhance by another new macro, [EIRTanalysis1](#). Using this macro and the "EIRT" program it calls on is described in [this document](#).

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 16 July 2015).*

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*The change below was made 7 July 2015 for version: **Excel 2010 / 2013 only***

Lertap 5's support for "IRT", Item Response Theory, has been bolstered by a new macro, [IRTsas1](#).

This macro prepares two files for use with [SAS IRT](#) – an Excel workbook with item scores, and a small file with SAS code.

[SAS](#) has been a leading data analysis system for decades. The "[SAS University Edition](#)", a freebie, was released in 2014.

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 7 July 2015).*

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*The change below was made 22 June 2015 for version: **Excel 2010 / 2013 only***

This change Incorporates two new macros in `Lertap5MacroSetA.xlam` for use in processing very large datasets, such as those encountered in the national achievement exams in Indonesia. The macros are called "RowZapper1" and "JatengIDMaker1".

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 22 June 2015).*

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*The change below was made 19 June 2015 for: **Lertap5MacroSetA***

Two error-catching traps have been installed in the **ExamDeveloper1** macro. Now it is impossible to use the macro with an affective subtest (or survey), and a check is made to see if a user is trying to write to an Option worksheet which does not exist (in which case alarm bells sound).

How to update the Lertap5MacroSetA workbook is now discussed in Lelp. [Read more.](#)

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*The change below was made 10 June 2015 for version: **Excel 2010 / 2013 only***

The recent changes mentioned below regarding **Pearson VUE's Exam Developer** system (see 1 June 2015 and 18 March 2015) have been consolidated in the latest installer package: [SetupLertap5.10.5.exe](#). When the new installer runs in brings in all recent changes to the Lertap5MacroSetA.xlam file, and seats a copy of the standard ExamDeveloper Excel template in the installation folder – this template has a file name of EDT0.xls. A bit more about Lertap's support for Pearson VUE system components may be found in [this Lelp topic](#).

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 10 June 2015).*

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*The change below was made 1 June 2015 for: **Lertap5MacroSetA***

Enhancements made in the macros which support interfacing Lertap results to **Pearson VUE's Exam Developer**. Improvements were made in the original macros developed in March, and support has now been provided for more users. [Read more.](#)

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*The change below was made 18 May 2015 for version: **Excel 2010 / 2013 only***

A bug was found when [packed plots](#) were requested and [production mode](#) was set to "yes" – a system crash would result. Fixed.

Modified the production of numerous reports so that screen flicker is less obvious. This has resulted in somewhat smoother running, and also a tiny reduction in running time.

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 18 May 2015).*

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*The change below was made 5 May 2015 for version: **Excel 2010 / 2013 only***

Improved the production of Stats-ul reports so that the sometimes-noticed screen flickers are now hardly ever noticed. (This is a very small modification, handy but of no great consequence.)

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 5 May 2015).*

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*The change below was made 18 March 2015 for: **Lertap5MacroSetA***

Support for interfacing Lertap results to **Pearson VUE's Exam Developer** system is now incorporated in a new macro. [Read more](#).

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*The change below was made 18 March 2015 for version: **Excel 2010 / 2013 only***

Inserted a new column in Stats1ul's **Summary Group Statistics** section: now, after the column with n (number in each group), there's n% (percent in each group).

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 18 March 2015).*

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*The change below was made 12 March 2015 for version: **Excel 2010 / 2013 only***

Corrected an error found in Stats1ul mastery statistics whenever the Mastery= setting was a raw test score instead of a percentage figure (see the following 11 March 2015 change notice).

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 12 March 2015).*

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*The change below was made 11 March 2015 for version: **Excel 2010 / 2013 only***

The **Mastery=** setting on a CCs \*Sub line may now be either a percentage (as before), or a raw test score. Mastery=45% will set the cutoff score at 45% of the maximum possible test score, while Mastery=45 will set the cutoff at a test score of 45. Read a bit more [here](#).

*Excel 2010 / 2013 version number and date now: **5.10.5.1** (Fremantle Village at 11 March 2015).*

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*The change below was made 1 March 2015 for version: **Excel 2010 / 2013 only***

More flexibility has been built into the use of [external criteria](#). Now, when response charts are requested using an external criterion score, users are asked if the charts should be based exclusively on ECStats-f results, excluding the inclusion of Stats-f statistics. This small change makes it unnecessary to go out to Lertap's System worksheet to change the setting in [row 81](#).

*Excel 2010 / 2013 version number and date now: **5.10.5** (Fremantle Village at 1 March 2015).*

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*The change below was made 26 February 2015 for version: **Excel 2010 / 2013 only***

A change was made so that, when an external-criterion quantile plot is displayed, the "Disc" value found at the base of the plot will equal "r/ec", the correlation of the item with the selected external criterion score. Snapshots with examples are found on pp. 6 -7 of [this PDF document](#).

Another alteration was made in the way the "IStats" report is created. Now it is possible to have **IStats** contain only item scores, *excluding* item statistics and eigenvalues. Read about it [here](#).

*Excel 2010 / 2013 version number and date now: **5.10.5** (Fremantle Village at 26 February 2015).*

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*The change below was made 15 February 2015 for version: **Excel 2010 / 2013 only***

The response charts toggle menu has been expanded to include an option which shows / hides the item labels seen in the Stats1b scatterplot of item difficulty by item discrimination. The link to this change [is here](#).

*Excel 2010 / 2013 version number and date now: **5.10.5** (Fremantle Village at 15 February 2015).*

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*The changes below were made 20 January 2015 for version: **Excel 2010 / 2013 only***

A link to a short promotional “flyer” regarding this very substantial update is [available here](#).

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

**Major** enhancements have been made for the “[Res. charts](#)” option. There may now be as many as 10 groups involved in an “upper-lower” groups analysis (the former limit was 5). Quantile plots may now include information from Stats-f and ECStats-f summaries, and a page break controller is available when printing response charts.

Changes have been made to [lbreaks](#) – its main item response charts have been redesigned so as to be more print friendly. There’s even more: [Have a look, if you please](#).

Additional attention has been applied to address problems with the “generic” error catcher, carrying on from the work mentioned in the 5 December 2014 changes below. A few minor bug fixes have also been made.

*Excel 2010 / 2013 version number and date now: **5.10.5** (Fremantle Village at 20 January 2015).*

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*The change below was made 5 December 2014 for version: **Excel 2010 / 2013 only***

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

An attempt has been made to address problems with the “generic” error catcher. This is the catcher which activates as a last resort, when Excel has encountered an untrapped error. Now, instead of automatically closing, Lertap makes more effort to survive such an event.

*Excel 2010 / 2013 version number and date now: **5.10.4.1** (Fremantle Village at 5 December 2014).*

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*The change below was made 1 December 2014 for version: **Excel 2010 / 2013 only***

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

A new macro has been added to the Lertap5MacroSetA.xlam file. It’s called **AboutLertapMacros**. This is a very elementary macro with a simple task: to display the date when the macros workbook, Lertap5MacroSetA.xlam, was last updated.

Lertap's System worksheet has been changed so that this new macro, and two other recently-added macros mentioned below, **PvueExamSeries1** and **IstatsPruner**, will display as options when the [Mac menu](#) has been opened.

*Excel 2010 / 2013 version number and date now: 5.10.4.1 (Fremantle Village at 1 December 2014).*

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*The change below was made 24 November 2014 and will work with all versions*

A new macro has been added to the Lertap5MacroSetA.xlam file. It's called **PvueExamSeries1**.

This macro is designed to import data from an Excel workbook based on results collected by Pearson VUE users. A document with details is available [here](#).

As this enhancement is in Lertap5MacroSetA.xlam, it will work with all current versions of Lertap 5, Mac and Windows. Installation instructions may be obtained by writing to [support@lertap.com](mailto:support@lertap.com).

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*The change below was made 8 October 2014 for version: Excel 2010 / 2013 only*

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

A handy new macro, **IstatsPruner**, has been added. It will separate the two main sections of an **IStats** worksheet, creating a new workbook, "IScores", with just the item scores, and another new workbook, "ICorrs", with just the item correlation data. Read a bit more about it at this [webpage](#).

The option on the License menu to transfer the license has not worked well for quite some time; it's been improved. Some notes are [here](#).

*Excel 2010 / 2013 version number and date now: 5.10.4.1 (Fremantle Village at 8 October 2014).*

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*The change below was made 2 August 2014 for version: Excel 2010 / 2013 only*

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

A bug in the NumericFilter1 macro in the Lertap5MacrosSetA.xlam file was fixed – if the number of scores in a Scores worksheet was less than six, the macro would inadvertently include a small number of the last records found in the Scores worksheet, resulting in a filtered Data worksheet with too many records. (*More comments about this macro are [found below](#).*)

*Excel 2010 / 2013 version number and date now: 5.10.4 (Fremantle Village at 2 August 2014).*

-----

*Changes below as at 2 July 2014 for version: Excel 2010 / 2013 only*

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

References to domain "lertap5.com" changed to "lertap.com" – an extremely minor revision, of no great consequence.



*Excel 2010 / 2013 version number and date now: 5.10.4 (Fremantle Village at 2 July 2014).*

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*Changes below as at 4 May 2014 for version: **Excel 2010 / 2013 only***

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

URL links to online help messages changed so that they point to new domain:

[www.larrynelsonstuff.com/lertap/](http://www.larrynelsonstuff.com/lertap/)

*Excel 2010 / 2013 version number and date now: 5.10.4 (Fremantle Village at 4 May 2014).*

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*Changes below as at 5 April 2014 for version: **Excel 2010 / 2013 only***

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

More alterations made to the way Lertap 5 is installed, and unlocked (that is, activated).

(Problems had been noted on multi-user computers; these changes address those problems. If more than one user requires access to Lertap 5, someone with administrator rights should install Lertap to the Public/Documents folder, after which a shortcut to the Lertap5.xlsm file might be placed on each user's desktop.)

*Excel 2010 / 2013 version number and date now: 5.10.3 (at 5 April 2014).*

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*Changes below as at 14 February 2014 for version: **Excel 2010 / 2013 only***

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

Several alterations made to the way Lertap 5 is "unlocked", or activated. These are designed to make the process somewhat easier, and to support a new way for instructors to get a single code for activating Lertap 5 with an entire class.

*Excel 2010 / 2013 version number and date now: 5.10.3 (at 14 February 2014).*

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*Changes below as at 10 December 2013 for version: **Excel 2010 / 2013 only***

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

Lertap 5 was found to have an error which stopped processing whenever an item response had a frequency greater than 32,766. Fixed.

*Excel 2010 / 2013 version number and date now: 5.10.2 (at 10 December 2013).*

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*Changes below as at 7 December 2013 for version: **Excel 2010 / 2013 only***

This updated Lertap 5 works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

Lertap 5 was found to have an error which limited it to processing no more than 32,766 data records. Fixed.

*Excel 2010 / 2013 version number and date now: **5.10.2** (at 7 December 2013).*

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*Changes below as at 30 August 2013 for version: **Excel 2010 / 2013 only***

This updated Lertap works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

Very minor changes made to the text dialog boxes displayed when License menu options are selected.

*Excel 2010 / 2013 version number and date now: **5.10.2** (at 1 September 2013).*

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*Changes below as at 26 August 2013 for version: **Excel 2011 (Macintosh) only***

This updated Lertap works with **Excel 2011**, for use with Macintosh OS/X.

Options having to do with making a new workbook have been fixed so that they all work as expected with Excel 2011.

*Excel 2011 Macintosh version number and date now: **5.9.2.1** (at 26 August 2013).*

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*Changes below as at 9 June 2013 for version: **Excel 2010 / 2013 only***

This updated Lertap works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

The [Histogrammer](#) was not working correctly when asked to work with a Breaks1 worksheet; it would report too many zero scores for the groups with the smallest sample sizes. Fixed.

*Excel 2010 / 2013 version number and date now: **5.10.2** (at 9 June 2013).*

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*Changes below as at 8 June 2013 for version: **Excel 2010 / 2013 only***

This updated Lertap works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

Improvements made to the way Lertap prepares data and item control files for use with **Xcalibre 4**. Now it's clearer where the text files created by Lertap are saved. More info [here](#).

Substantially enhanced the **NumericFilter1** macro, used when a "Select If" function is required to pick only certain records from a dataset. (This is a complement to the [NumericFilter2](#) macro.)

*Excel 2010 / 2013 version number and date now: 5.10.2 (at 8 June 2013).*

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*Changes below as at 3 June 2013 for version: Excel 2010 / 2013 only*

This updated Lertap works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

Fixed a few minor bugs related to running this version in "[production mode](#)".

*Excel 2010 / 2013 version number and date now: 5.10.2 (at 2 June 2013).*

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*Changes below as at 1 June 2013 for version: Excel 2010 / 2013 only*

This updated Lertap works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8.

Fixed one minor bug on the Stats1ul report. Added a [paper](#) linking NCCA accreditation reports to Lertap output.

*Excel 2010 / 2013 version number now: 5.10.2 (at 1 June 2013).*

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*Changes as at 15 May 2013 for version: Excel 2010 / 2013 only*

This updated Lertap works with **Excel 2010 and 2013**, for use with Windows 7 and Windows 8. The main change has to do with **mastery testing**, and the **Stats1ul** report. More statistics are now displayed in Stat1ul, such as Livingston's coefficient, the standard error of measurement at the cut score, and an estimate of the actual number of students who may have been incorrectly classified. The report itself has been extensively improved; see it by clicking [here](#).

Some minor bugs have been fixed, and very minor formatting changes have also been made.

*Excel 2007 version number unchanged: 5.8.2.1.*

*Excel 2010 / 2013 version number: 5.10.2 (at 15 May 2013).*

*Excel 2011 (Macintosh) version number unchanged: 5.9.2.1-Mac.*

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*Changes as at 12 April 2013 for version: Excel 2010 / 2013 only*

This updated Lertap works with **Excel 2010 and 2013**. It will work with Windows 8 (and Windows 7, of course). Major changes have to do with the introduction of the '**Mini**' and '**Full**' editions of Lertap. The Mini edition (or version) is similar to the former **Student** version: it has no expiry date, is full featured, but is limited to processing a maximum of 50 records. The Full version is the same as the '**ASC**' (Assessment Systems Corporation) version, but uses an entirely different method of copy protection, making its installation easier and less error prone. The '**Standard**' version may now have a range of expiry terms, from 31 days to one year; it uses the same revised copy-protection method found in the Full version.

Several mostly minor bugs have been fixed.

*Excel 2007 version number unchanged: 5.8.2.1.*

*Excel 2010 / 2013 version number changed to: 5.10.2 (at 12 April 2013).*

*Excel 2011 (Macintosh) version number unchanged: 5.9.2.1-Mac.*

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*Changes as at 17 October 2012 for version: **Excel 2010 only***

This updated version will work with [Excel 2013 Preview](#). **Note:** if you try this version with Excel 2013 Preview, make sure that you have Excel's Formula Bar showing (use the View tab on the Excel Ribbon). If this is not done, Lertap will start okay, making the Freqs report and getting a start on some of the other reports, but it will hang.

*Excel 2007 version number unchanged: 5.8.2.1.*

*Excel 2010 version number changed to: 5.10.1 (at 17 October 2012).*

*Excel 2011 (Macintosh) version number unchanged: 5.9.2.1-Mac.*

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*Changes as at 19 September 2012 for version: **Excel 2010 only***

An error trap has been inserted for the special case of an RSA analysis (response-similarity analysis) with all test takers found to be "suspect". This may happen under very exceptional circumstances; for example, it may happen when there are numerous items wherein all students selected one of the distractors (incorrect answers).

A user requested that the Reliability (coefficient alpha) figure found towards the end of a Stats\_b report be highlighted. Accordingly, it is now shown with a bold, blue font format. (Looks better.)

*Excel 2007 version number unchanged: 5.8.2.1.*

*Excel 2010 version number changed to: 5.10.1 (at 19 September 2012).*

*Excel 2011 (Macintosh) version number unchanged: 5.9.2.1-Mac.*

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*Changes as at 27 July 2012 for version: **Excel 2010 only***

Option installed in [System](#) worksheet to control whether or not the "My Stars!" message appears whenever the Data worksheet has asterisks.

*Excel 2007 version number unchanged: 5.8.2.1.*

*Excel 2010 version number changed to: 5.10.1 (at 27 July 2012).*

*Excel 2011 (Macintosh) version number unchanged: 5.9.2.1-Mac.*

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*Changes as at 17 July 2012 for version: **Excel 2010 only***

Stats\_b reports now show the value of coefficient alpha just above the scatterplot of item difficulty by discrimination. (Copied over from the Stats\_f report.)

Quantile plots have been enhanced. Now items with negative disc. (discrimination) are flagged in red; the item ID is red, and the title along the x-axis is also red.

A new chart changer has been built into Lertap5.xlsm, and the term '**packed plots**' has been introduced. It's called "ChartChanger3". The Lertap tab on the Excel ribbon has been changed to include an icon (option) to call this chart changer. [Read about it.](#)

Access to help has been *significantly* enhanced by the inclusion of hot spots (a small [h](#)) at the top of each major report: Stats\_f, Stats\_b, Stats\_ul, and many others. At the same time, the main help website, "[Lelp](#)", has been expanded so that it includes more reference material, including selected bits from the printed manual. These two changes make it much easier to obtain immediate, context-sensitive online help, and greatly lessen the need to refer to the manual.

Improvements have been made to the histogrammer, the scatterplotter, the box and whiskers plots, the csem graph. The histogrammer now automatically adds the Excel chart at the bottom, usually called "HistoE" in Lertap. The scatterplotter's axes have been extended by one unit in each direction, improving its appearance. The box and whiskers plot is now centred at the bottom of the corresponding report. The csem graph's line for SEM (the horizontal line) is now black, not yellow, and it's easier to see.

*Excel 2007 version number unchanged: **5.8.2.1**.*

*Excel 2010 version number **changed** to: **5.10.1**. (Major number bump.)*

*Excel 2011 (Macintosh) version number unchanged: **5.9.2.1-Mac**.*

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*Changes as at 22 June 2012 for version: **Excel 2010 only***

The Stats\_f reports for cognitive items now include item flags, indicators of potential problems with an item's options. A reference document is here:

<http://lertap.curtin.edu.au/Documentation/Iteman42andLertap5921Flags.pdf>

*Excel 2007 version number unchanged: **5.8.2.1**.*

*Excel 2010 version number **changed** to: **5.9.3**.*

*Excel 2011 (Macintosh) version number unchanged: **5.9.2.1-Mac**.*

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*Changes as at 18 June 2012 versions: **Excel 2010 and Excel 2011***

An error was uncovered which made the “minimum possible score” incorrect whenever an item in an affective test had an option with a scoring weight of zero. The “minimum possible score” appears in the Summary Statistics section of Stats\_f reports. It is also reported as “MinPos” towards the bottom of the Scores report (the “MinPos” value was correct – it was only the “minimum possible score” which was in error). Note: this error is unlikely to have affected many users as having zero points for a valid affective item option is something very few users are likely to encounter.

*Excel 2007 version number unchanged: 5.8.2.1.*

*Excel 2010 version number unchanged: 5.9.2.1.*

*Excel 2011 (Macintosh) version number unchanged: 5.9.2.1-Mac.*

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*Changes as at 8 October 2011 for versions: **Excel 2007 and Excel 2010***

Enhancements have been made which make it easier to format and print quintile plots. For the most part, these enhancements are vested in a new special macro, **ChartChanger2**, which is housed in the Lertap5MacroSetA.xlam file. Read about ChartChanger2 [here](#), and about printing quintiles [here](#).

*Excel 2010 version number **changed** from 5.9.2 to 5.9.2.1.*

*Excel 2007 version number **changed** from 5.8.1 to 5.8.2.1.*

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*2 June 2011 for version: **Excel 2010 only***

A new version of Lertap, **Version 5.9.2**, is now ready for use with Excel 2010. Its major enhancement is that it works with both versions of Excel 2010: the 32-bit version and the 64-bit version. (The previous release, 5.9.1, only worked with the 32-bit version of Excel 2010.)

Enhancements:

The ? column found in the Stats1b report for cognitive tests has had one minor improvement, and a bug fix. The column header, a ?-mark, now appears in bright red, and in bold. This column is supposed to flag all distractors which “did not work”, that is, had no responses at all, or had responses from test takers whose overall criterion score was above average. It still does this. The column was also supposed to flag correct answers selected by test takers with *below* average criterion scores. This it was not doing – now fixed. More about the use of this column may be found [here](#).

A small number of additional context-sensitive help buttons have been added.

Bug fix:

The Copy option from the [New Menu](#) has been fixed so that, when finished, only the Data sheet in the original workbook remains selected (before, the CCs sheet was also selected, creating problems whenever a return was made to the original workbook).

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The changes below relate to **both the Excel 2007 and Excel 2010** versions of Lertap.

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*28 September 2010*

Several minor bug fixes. The most important of these relates to the “**lbreaks**” routine, that which is activated by the “*Item responses by groups*” option from the Run menu. lbreaks produces the Mantel-Haenszel **DIF** (differential item functioning) statistics. Several DIF statistics are made by lbreaks – the ones which related to ETS classification levels had errors which have now been addressed (for more information, please email [larry@lertap.com](mailto:larry@lertap.com)).

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*30 September 2009*

Correction made to the code which displays adjusted alpha values at the end of a Stats\_f worksheet (it had not been working correctly).

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*3 September 2009*

Mantel-Haenszel methods for looking for **DIF**, differential item functioning, have been added. The routine which does this, “lbreaks”, may also be used to simply breakout the way groups of test takers have responded to an item. Details may be seen here:

<http://lertap.curtin.edu.au/HTMLHelp/HTML/index.html?lbreaks.htm>

*Version number changed from 5.7.4 to 5.7.5.*

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*29 June 2009*

The **boxplot** routine has been greatly enhanced. Several minor changes made to other graphs.

*Version number changed from 5.7.2 to 5.7.4.*

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*8 December 2008*

Lertap will now import files made to work with **ITEMAN**, one of the veritable veterans in software for classical test analysis (see [www.assess.com](http://www.assess.com)). Get to the importer by going to the Move+ menu, then Macs, then look for the Iteman1 option.

Importing ITEMAN files into Lertap opens access to the extra graphics displays featured in Lertap, and unavailable in ITEMAN. Among these are the quintile plots which make it possible to discern item quality by looking at graphs instead of, or in addition to, traditional item statistics.

This document has more comments and some examples:

<http://www.lertap.curtin.edu.au/Documentation/ItemanAndLertap5.pdf>

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*21 July 2008*

Added a version checker so that those who use Excel 2003 to open the Lertap5.xlsm file get an error message, and a suggestion to download Lertap5.xls, the Excel 2003 version, from [www.assess.com](http://www.assess.com). Note that some computers running Excel 2003 will not display this error message. Instead they show a little note from Windows which says that one is attempting to open a file created by a newer version of Excel; Windows offers the possibility of downloading a “compatibility pack” so that Excel 2003 will try to open the file, in which case Lertap’s error message will activate. The result of all this is that Lertap5.xlsm will not work with Excel 2003 at all – before it tried to, only to produce execution errors of one sort or another.

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*10 July 2008*

Minor change made to the routines that handle the **quintile plots**. Now, when quintile charts have a data table, a border is drawn around all the table’s cells. (Whether or not these charts have a data table is an option in the Lertap5.xlsm workbook’s System worksheet.)

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*6 July 2008*

*Substantial* changes made to the routines that handle the **quintile plots**. The result is a handy increase in processing speed, and, more importantly, a fix to an error which related to the display of response frequencies for the “other” category – for some reason, values for this category were plotted in reverse order, so that the percentage of respondents in the lower group falling into the “other” category (usually those who omitted the item) appeared as the upper group’s value, and vice versa.

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*30 June 2008*

Links from the License menu options now work. (They would sometimes crash the system before this fix.)

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*18 June 2008*

The total score was not being calculated correctly (when there is more than one subtest, Lertap will create a total score unless wt=0 appears on \*sub cards). Fixed.

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*15 June 2008*

Repaired very minor error: if an affective subtest had just one item, if the item had just two choices, and if the number of people selecting each choice was the same a crash would occur. Now fixed.



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*27 May 2008*

Fixed charting problems related to getting response charts from a Stats\_b report.

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*16 May 2008*

Added code so that the special macros in Lertap5MacroSetA automatically load when the Lertap5.xlsm file is opened. Also added code so that the Lertap ribbon, and the special macros, unload when Lertap5.xlsm is closed.

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*14 May 2008*

Repaired the scatterplot of item difficulties and discrimination figures found at the bottom of a Stats\_b report for cognitive subtests. It's much better now, and it looks particularly good when made by the Excel 2010 version of Lertap.

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### ***Updates to Lertap5MacroSetA.xlam follow.***

Do you know what this xlam file is all about? If not, read about it [here](#).

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*18 March 2015*

Another special macro added: *ExamDeveloper1*. It'll take data from Lertap's reports, such as Stats1f, Stats1b, and Stats1ul, and copy the data over to the special item statistics Excel workbook used with Pearson VUE's new [Exam Developer](#) system.

The macro is available from Lertap's [Macs Menu](#) but note: a special Excel template is required by the macro. Write for more information: [support@lertap.com](mailto:support@lertap.com).

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*26 February 2015*

The [IStatsPruner macro](#) has been trained to check to see that the IStats worksheet it's to work with has more than item scores. (The need for this check resulted from changes made to the way the IStats report is made – from 26 February 2015 it became possible for IStats to only contain item scores. Read more [here](#).)

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*1 December 2014*

A simple little macro, *AboutLertapMacros*, is now available – when called via the [Macs menu](#), it will display the date on which Lertap5MacroSetA.xlam was last changed.

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*24 November 2014*

The *PvueExamSeries1* macro is now incorporated and available. It's designed to reformat workbooks created by Pearson VUE so that they're compatible with Lertap. Bone up on it [here](#). If you don't know if your copy of the Lertap5MacroSetA.xlam workbook is up to date, whiz off a note to us at [support@lertap.com](mailto:support@lertap.com) and we'll help out.

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*8 October 2014*

A macro has been added for users wanting to separate an IStats worksheet into its two main parts, item scores and item correlations. Read about *IstatsPruner* [here](#).

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*2 August 2014*

A bug in the *NumericFilter1* macro was fixed – if the number of scores in a Scores worksheet was less than six, the macro would inadvertently include a small number of the last records found in the Scores worksheet, resulting in a filtered Data worksheet with too many records.

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*8 June 2013*

The *NumericFilter1* macro has been improved. This macro is used with a Scores worksheet to select records, or cases, meeting specified criteria – for example, to select only those students whose SAT scores are equal to or greater than 500.

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*19 November 2012*

*ScrunchBoss* is now included. Its task is to concatenate the contents of a series of adjacent columns, combining their contents into a string.

A general discussion, with examples, may be found [here](#).

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*4 October 2011*

*ChartChanger2* has been added. It makes it possible to resize quintile charts (or plots) quickly, to change the display so that quintiles go across the page in rows (you get to say how many charts will be in each row), and substantially eases the matter of getting quintiles to print.

The general discussion of *ChartChanger2* is [here](#), while specific comments about using it to facilitate printing are found [here](#).

Note: *ChartChanger2* is not currently available to users with the Excel 2003 version of Lertap.

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*2 June 2011*

The *Iteman1* macro now reminds users that it is designed to work with what has become the “old version” of *Iteman* – *Iteman 4* was released by Assessment Systems Corporation early in 2011. It has quite different ways of preparing data and control lines, incompatible with Lertap’s *Iteman1* macro.

The *NumericFilter2* macro has been enhanced in that it now allows users to exit before going through the complete list of the selection variable’s values. It has also enjoyed a bug fix: on completion, only the Data sheet in the original workbook remains selected (the bug was that the original workbook’s CCs sheet was also selected, leading to potential problems).

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*1 September 2010*

Added a new macro, *NumericFilter2*. This macro operates in a manner similar to the “select-if” capabilities found in other software packages. See it here:

<http://lertap.curtin.edu.au/HTMLHelp/HTML/index.html?numericfilter2.htm>

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### ***List of unresolved known problems***

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*n=32,767 error (6 December 2013)*

All but the very latest versions of Lertap 5, Windows and Macintosh, currently have a limit of **32,766 data records**. Anything over this number will result in error messages.

A fix is available for Windows users with Excel 2010 and 2013. Please write to [l.nelson@curtin.edu.au](mailto:l.nelson@curtin.edu.au) for assistance.

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#### *Speed*

Excel 2013 is **not as fast** as Excel 2010.

Running Lertap 5 with Excel 2013 will likely lead to some dismay for users who have been running Excel 2010. Excel 2013 is substantially slower. See our [time trials](#).

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#### *RSA error with Excel 2010 and large datasets (17 Oct 2012)*

Excel 2010 may produce a message saying “Excel cannot complete this task with available resources. Choose less data or close other applications”. The error results when Lertap tries to sort an RSA sig report, and when there are more than 300 students. It’s an Excel 2010 error; there’s a “hotfix” for it here:

<http://support.microsoft.com/kb/2598378>

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#### *Pickables for RSA setting (12 Aug 2010)*

The System worksheet has a setting at or around row 29 (depending on the version of Lertap), which is used to “Mark all records as pickable for **RSA**”. However, a coding error in all present versions of Lertap, except **5.9.1**, **inadvertently uses** the “Mark all items as pickable for quintile plots” setting, found at or around row 16, instead. Whatever is found in the quintile plot setting is used as if it were also the setting for RSA records.

A link to Lelp’s discussion of the System worksheet is here:

<http://lertap.curtin.edu.au/HTMLHelp/HTML/index.html?systemworksheet.htm>

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#### *Did-not-see limitations (22 Jul 2010)*

Lertap’s **did-not-see** option is used whenever some test items are not presented to all students. A link to Lelp’s discussion of did-not-see is here:

[http://lertap.curtin.edu.au/HTMLHelp/HTML/index.html?did\\_not\\_see\\_option.htm](http://lertap.curtin.edu.au/HTMLHelp/HTML/index.html?did_not_see_option.htm)

Recent application of this option has indicated that Lertap’s reported value for **item discrimination**, as indexed by the point-biserial correlation coefficient, **may be incorrect** whenever there is also missing data for those items not seen by some test takers. Please write to [support@lertap.com](mailto:support@lertap.com) for more information.

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*Missing data limit (30 Sep 2009)*

Lertap will **crash** when processing affective items when the number of “other” responses is equal to or greater than the total number of records in the Data worksheet (in other words, when half or more than half of the students are either missing a response, or have a response which is not a member of the subtest’s Res=( ) declaration on a \*Sub CCs line. Res=(1,2,3,4,5) is the default setting; whenever affective items use response codes different to these, it’s crucial to add a proper Res=( ) declaration to the \*Sub line. (*Note*: this is a Lertap programming error present in the current version. Fortunately, the situation which gives rise to the error is found very infrequently.)

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*Not responding*

It is not unusual for Excel 2007 and Excel 2010 to display “Not responding” at the top of its screen. When this happens, the status bar at the bottom of the screen will not be updated – it may have been saying, for example, “Creating Freqs, reading col. 8, case 3096”, with the case number clicking over rapidly, only to suddenly halt altogether. Other status bar messages where this may happen: “Writing subtest score ...”; “Creating initial chart ...”; “Now enhancing chart ...”; and more.

This is a bother, but users should not be alarmed: just sit back and wait and, in due course, things will come good (Lertap is still processing, even when Excel says it’s not responding).

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*Ibreaks charts are strange*

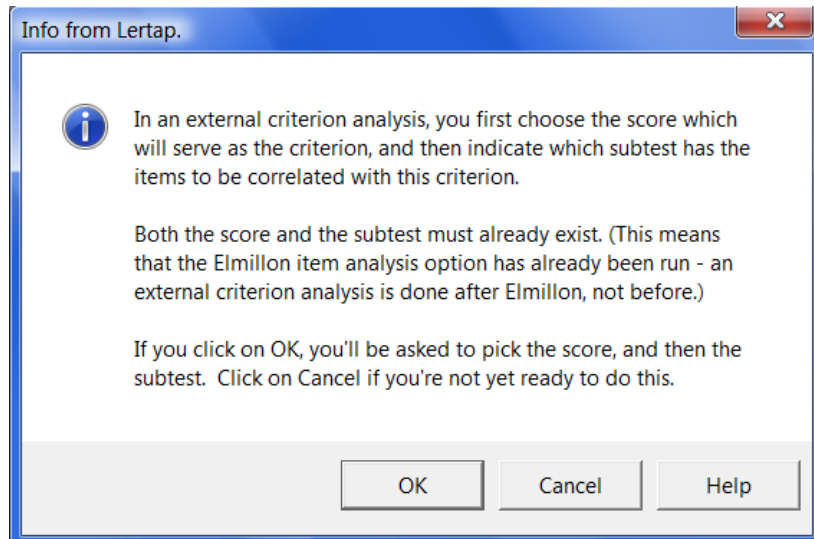
If the column used to define groups contains numeric codes (such as 1 for male, 2 for female), the charts made by the Ibreaks option **will not be correct**. They’ll look bad. To get around this problem, use the “Recode a Data column” option found under the Move + menu. Much more on this in Lelp; see, for example:

<http://lertap.curtin.edu.au/HTMLHelp/HTML/index.html?ibreaks.htm>

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### Help

There are numerous spots where Lertap displays a dialog box with a Help button, as exemplified below:



These Help buttons **do not work**. Instead of leading to the relevant topic in “Lelp”, the Lertap help system, they either don’t work at all, or just result in Excel’s help system being displayed. This is an acknowledged error in Excel 2007, and also in the Macintosh version, Excel 2011.

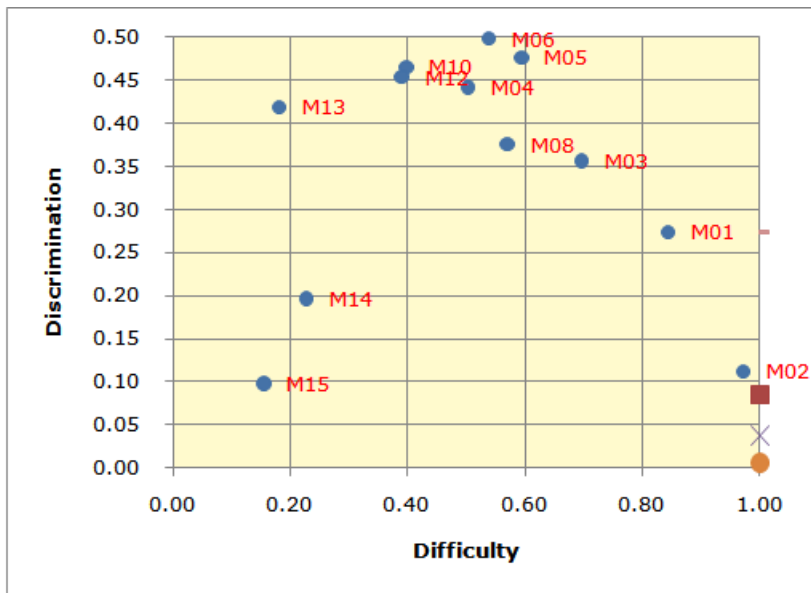
(Insert 8 December 2009: **this problem has been resolved**, but not in Excel 2007: the latest versions of Excel for Windows, Excel 2010 and Excel 2013, are not plagued with this problem.)

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### Difficulty / Discrimination scatterplot (Stats1b)

The bottom of a Stats1b report always includes a scatterplot of item difficulty by item discrimination if the subtest is a cognitive one.

There are times when the scatterplotter seems to **become scatterbrained**, particularly for users with Excel 2007. Here’s an example:



The most obvious problem with the scatterplot above is the appearance of four strange characters at the extreme right of the plot, on the Difficulty 1.00 line. Starting from the bottom, where Discrimination is 0.00, there's an orange dot, then an X, then a brown square, and then, finally, a small brown dash.

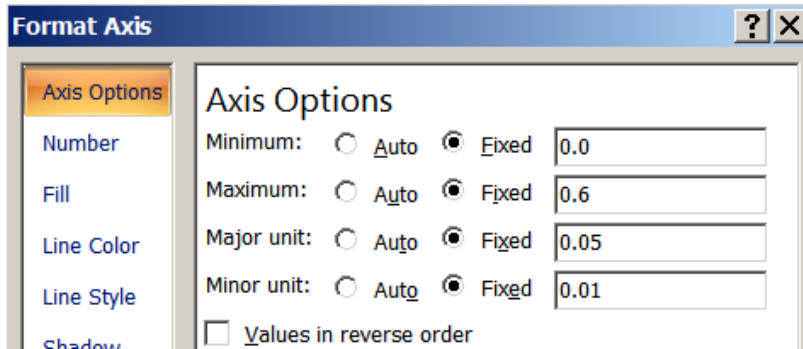
These symbols do not always appear. Here at Lertap HQ it's not yet known why they are sometimes present, sometimes absent. They never appear when the scatterplotter runs in the Excel 2003 version of Lertap. (They do not appear in the new version for Excel 2010 either – see note below.)

Another problem: the y-axis does not go high enough at times. Above it stops at 0.50. However, there were three items with discrimination figures above 0.50. This is seen in the corresponding Stats1f report, towards the bottom:

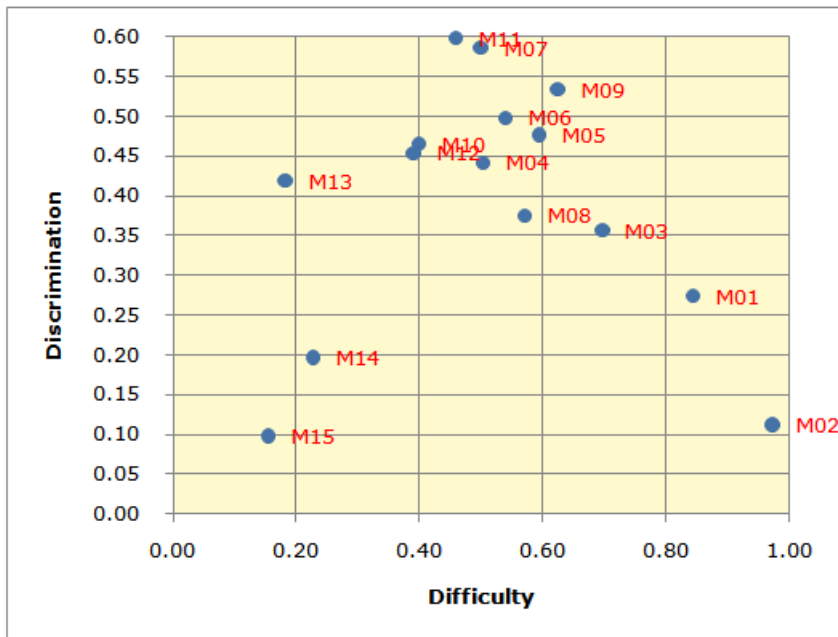
<u>item discrimination bands</u>	
.00:	
.10:	M02 M15
.20:	M01 M14
.30:	M03 M08
.40:	M04 M05 M10 M12 M13
.50:	M06 M07 M09
.60:	M11
.70:	
.80:	
.90:	

Items M07, M09, and M11 had discrimination values above 0.50 and do not show in the plot.

These problems may be fixed by hand. Select each of the strange symbols, and delete them, one by one. Right-click on the Discrimination labels on the vertical axis, choose "Format axis ...", and then set the Maximum: value to a suitable figure, such as 0.6 in this case.



After making these changes, the scatterplot is as seen below.



Note: the y-axis problem has been fixed in Version 5.8.0 – it was a Lertap error, not Excel. The “strange characters” problem has also been resolved, but only in the new version for Excel 2010, 5.9.1.

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*Execution errors*

There are times when Excel 2007 seems to be purring along, only to suddenly give some sort of **error message**. We have found that these errors can often be resolved by making sure that Excel is not working in **compatibility mode**. Excel will use compatibility mode whenever you have opened an old workbook, one with an xls extension (for example), or when you have saved the current workbook as an “Excel 97-2003 workbook”. The solution is to save all workbooks in the xlsx format, the new default format, the format now commonly used by Excel to save its workbooks.

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*Slow file loading*

One of the touted advantages of Excel 2007 is a more efficient format for storing workbooks. It’s true that the new method can result in much smaller workbook files, but Excel achieves this by



compressing its files – when they're opened they have to be decompressed, and in the case of Lertap workbooks with thousands of test results, the amount of time required can be very noticeable, at times on the order of ten seconds or more.

***Insert 22 July 2010:*** Microsoft's latest version of Excel for Windows, ***Excel 2010***, seems to have addressed this problem very well.

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\*\*\* Comments or questions to: [larry@lertap.com](mailto:larry@lertap.com), thanks. \*\*\*