

# A simple E-prime tutorial

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## 1 Introduction

The following guide is intended for the absolute beginner of using E-prime. It will guide you through building a very simple experiment, and how to expand it to include pictures and sounds. Thus, this is no thorough E-prime guide, but instead it is recommended that you look in the Tutorials and Manuals for more help and guiding, and that you visit the web site:

Here are examples of experiments that can be downloaded so that you can get a closer look at them, and there are also tips on how to build other experiments.

<http://www.pstnet.com/products/E-Prime/default.htm>

Another site that has good information about E-prime, and many scripts to download for inspiration is the "STEP" homepage: <http://step.psy.cmu.edu/>

Read also the article about STEP in the article, downloadable from here:

[www.lrdc.pitt.edu/schunn/research/papers/macwhinneyetal2001.pdf](http://www.lrdc.pitt.edu/schunn/research/papers/macwhinneyetal2001.pdf)

### 1.1 The contents of this guide

This guide contains information on the following:

- How to make a simple priming experiment, where written words are used both as priming and stimulus.
- How to expand the simple priming experiment, and use pictures instead of written words as a priming.
- How to expand the picture priming experiment by adding sounds to it.

### 1.2 Preparations

1. Start the Epsilon computer, and log in with your ID and password. Make sure you log in to "SOL", and not the local computer.
2. Go to the Start-menu in the bottom left corner of the screen.
3. Choose "Program".
4. Choose the folder "E-prime".
5. Choose the option "E-studio.exe".
6. The program will start and show you a small window with different options. Since we are starting a new experiment, you should choose "Blank Experiment", and click OK.
7. Five different windows have now opened up. If any of them disappears you can go to the View-menu and open them again. The five windows will be referred to below, so it is good if you have an idea about which window is which (see figure 1).

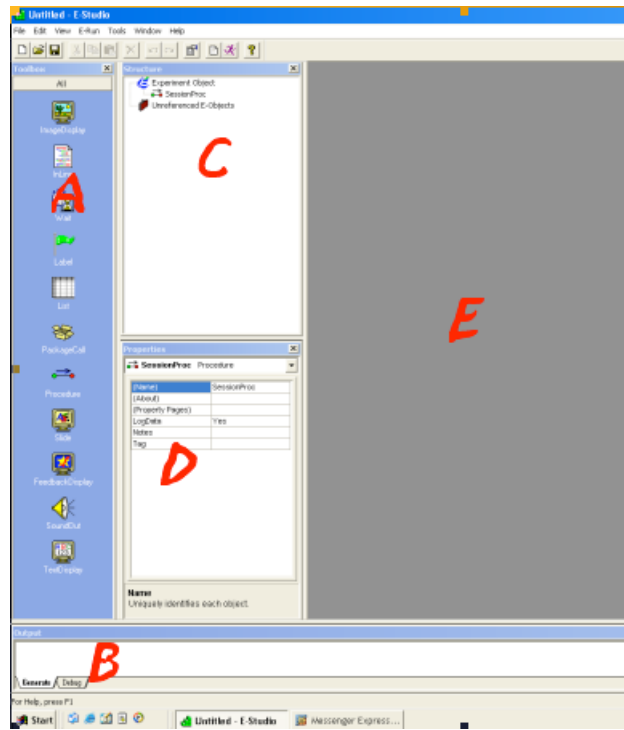


Figure 1: The five windows in E-prime, A=Toolbox, B=Output window, C=Structure Window, D=Properties window, E=Workspace.

- (a) **Toolbox** to the far left contains various symbols which you will use for create different parts of the experiment. Note that you can scroll downwards in this window.
  - (b) **The Output window** is at the bottom of the screen. Here you will be able to control that the experiment script is generated correctly.
  - (c) **The Structure window** is to the right of the Toolbox. Here, you will watch the structure of your experiment grow.
  - (d) **The Properties window** is located under the Structure window. You will use this window to define various settings for different parts of the experiment.
  - (e) **The workspace** is the grey surface to the right of the Structure and Properties windows. This space will be used to open different windows where you will specify and build up your experiment.
8. You can change the size of the windows by clicking the corners and the edges, and drag. For instance, you most often want the column with the Structure and Properties window to be broader. Try to broaden them!

## 2 Build an experiment

We will now start to build an experiment in the very simplest way. Before we start it is good to know some things about E-prime.

The experiments in E-prime are hierarchically built, and no matter how hard you try to understand it, it always seems to feature one level too much. Try not to think too much about this, but simply learn the different levels that are necessary for building the experiment.

The basic structure of the E-prime experiment contains of:

- **SessionProc** (Session Procedure): The structure for the whole experiment. There is only one SessionProc in every experiment, and the object is already predefined when you start to create an experiment. The various subtests are created with different BlockProcedures, but you can also create objects that apply to the whole set of tests, for instance welcome instructions. These objects are then placed directly under the Session Procedure, at the same level as the (various) Block Procedure(s).
- **BlockList**: The experiment can contain one or several Block Lists, but in a simple experiment (as the one below) you only need one. A Block List defines the structure for one subtest. The Block List most often contains a BlockProc (Block Procedure), from which you specify different *TrialLists*.
- **TrialList**: The Block Procedure can contain one or several TrialList. The Trial List defines the content of a single subtest. The actual carrying out of the experiment (i.e., that the test person focuses on a fixation point for 2 seconds, then is presented with a test word, and then has to press the Y-key) is defined in a so-called TrialProc (Trial Procedure).

Also in a very simple experiment it is necessary to define all three levels (as far as I have understood it). Don't be too confused with all the levels - it will all be much clearer once we have created one simple experiment!

### 2.1 This priming experiment

The first experiment we will build is a very simple priming experiment, where the test person is presented with pairs of word. The first word in the pair is always a colour (red, green, yellow or blue), and the second word is a noun (tomato, cucumber, cat or dog). The testperson's task is to decide whether or not the second word is a vegetable, by pressing Y (for Yes) if it is a vegetable, or N (for No) if it is not.

### 2.2 Start building the experiment

Look in the Structure window. From the beginning there is a mini-structure looking like in figure 2. When we start building the experiment, the changes will be reflected in this structure - objects will be added and deleted.

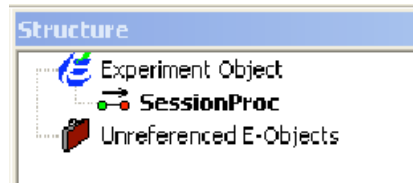


Figure 2: The structure shown in the Structure window at the beginning of an experiment.

### 2.3 Write a welcome message

We will start by designing the welcome message containing instructions to the test person.

Do like this:

1. Double click on the word "SessionProc" in the Structure window.
2. A window opens in Workspace, see figure 3.

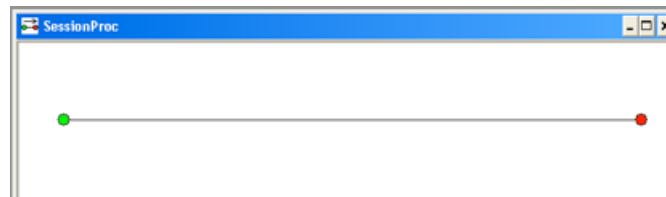


Figure 3: The typical "Procedur window" with a horisontal line with a green dot to the left, and a red dot to the right.

3. Leave this window open.
4. Go to the Toolbox window to the left.
5. Find a symbol called "TextDisplay" (maybe you will have to scroll down to find it).
6. Click once on the "TextDisplay"-symbol and drag it to the horisontal line in the open window in Workspace, and let go.
7. Now, you have created a text object for your experiment. If you look in the Structure window, you will see that your object has appeared there too (cf. figure 4).
8. Now, click *once* on the object "TextDisplay1" on the horisontal line.
9. Now, go to the Properties window (under the Structure window), and notice that you now can see text in this window (cf. figure 5). The left

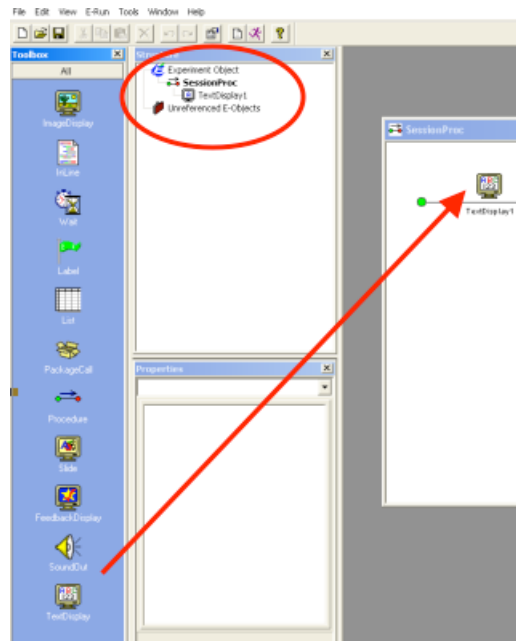


Figure 4: The structure shown in the Structure window at the beginning of an experiment.

column of the Properties window show different properties, and in the right column you are able to define these.

10. Find the property "(Name)" in the left column. To the right you see the name "TextDisplay1" (cf. figure 5).
11. Mark the word "TextDisplay1" in the right column and instead give the object a new name by typing in "Instructions" in the cell instead.
12. Press enter.
13. Notice that the object name has changed from "TextDisplay1" to "Instructions" in both Workspace and the Structure window.
14. Make sure that the object (now named) "Instructions" in Workspace still is highlighted. (If it is not, then highlight it with a single click.)
15. Go to the Properties window and find the property "(Property Pages)". Click *once* in the empty cell to the right of this property.
16. A small box with three dots is shown in the cell. Click once on this box.
17. A display window opens up. Here you are able to specify your instructions.
18. Begin with selecting the tabular "General".

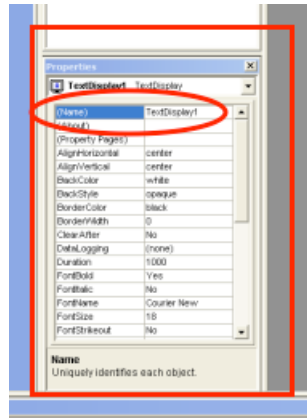


Figure 5: The properties window is activated when a symbol in the workspace is highlighted.

19. Here, you shall write the instructions. Write like this (cf. figure 6).

In this experiment you will see different words on the screen.  
 The words are presented in pairs. After each picture-word pair,  
 it is your task to decide whether or not the last word is a  
 vegetable.  
 If it is a vegetable, press Y (for Yes).  
 If it is not a vegetable, press N (for No).  
 Try to answer as quickly as possible.  
 Press space to start the experiment.  
 Good luck!!

20. Then click on the tabular "Font". Choose the font Verdana.
21. Then click on the tabular "Duration/Input" Change the box after Duration to "Infinite".
22. Click on the "Add.." -button towards the bottom left of the window (see figure 7).
23. A display window opens. Highlight the symbol for "Keyboard" and click OK.
24. The window closes, and you can now notice that the word "Keyboard" has appeared in the Devices box above the Add-button.
25. In the white box to the right of "Allowable" (to the right in the window), you now see {ANY}. Replace this with {SPACE}<sup>1</sup>.

<sup>1</sup>This means that the test person has to press Space in order to proceed from the experiment instructions to the experiment itself.

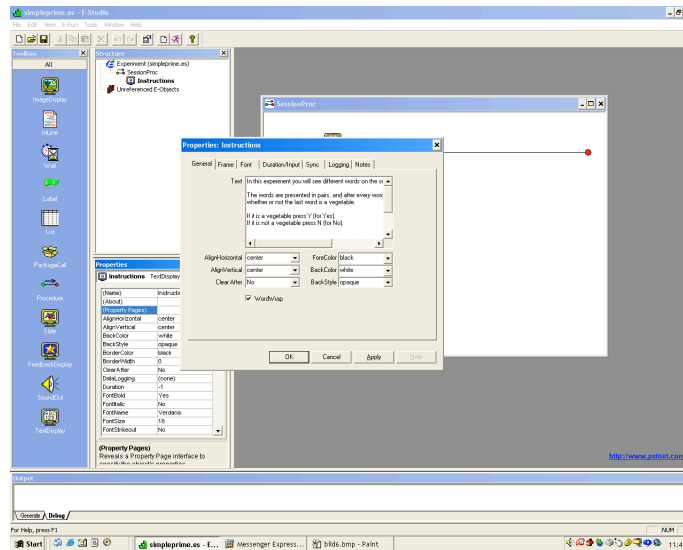


Figure 6: The properties window is activated when a symbol in the workspace is highlighted.

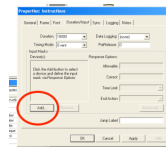


Figure 7: Click "Add" to specify the input mode.

26. Make sure that the cell after "Time Limit" says "(same as duration)".
27. Make sure that the cell after "End Action" says "Terminate".
28. Click OK at the bottom of the window.

## 2.4 Save your experiment

Now it is definitely time for saving your experiment.

The best thing is to save the experiment on the hard disk. If you save it on the server this can cause problems when running the experiment - especially if the program has to load big images or sound files from the server.

You can choose to save the experiment in a place where only you have access to the experiment, but the best thing is to save it at a place where other persons can look at it too, and thus get ideas on how to develop their own experiments.

1. Go to the File-menu (in E-prime) and choose the option "Save as...".



2. Choose "Lokal disk (C:)"
3. Choose "Documents and Settings"
4. Choose "All Users"
5. Choose "DOKUMENT"
6. Choose "Shared Experiments".
7. If you don't have a folder with your name here yet, do so now (e.g., by right clicking in the window, choosing "Nytt" in the menu that shows, and then "Mapp"). Give the new folder your own name.
8. Open your own folder.
9. Show the experiment here, under the (proposed) name "simpleprime.es"

## 2.5 Test your experiment!

Now it is time to test your experiment. Throughout the experiment building you can do this testing, although at certain points it won't work very well (for instance, when you are in the middle of creating an experimental round, or building up a TestTable).

However, do like this to test the experiment.

1. First, go to the symbols at the top of the screen. Choose to click on the Generate symbol (the third from the right, see figure 8).



Figure 8: Click on the "Generate" symbol to generate a script from your experiment.

2. In the Output window (below on the screen), you will see your script be generated. When it is finished (at that only takes a few seconds), the text in the Output window will say: "Script compiled by E-run successfully..."
3. Return to the symbols at the top of the screen, and click on the Run symbol (the second from the right, see figure 9). This is the symbol that will make the experiment run.



Figure 9: Click on the "Run" symbol to run your experiment.

4. Before the experiment starts, a display window opens up where you are asked to choose a subject number.
5. Choose number 1, and click OK.
6. A new display window opens up where you are asked to choose a session number.
7. Choose number 1<sup>2</sup>, and click OK.
8. A third display window is shown where you have to confirm the information you just gave. Click yes here.
9. Your experiment starts running, and if everything is working you will see the instructions on the screen. They won't disappear until you press "Space".

## 2.6 Create a BlockList

1. Go to the Structure window.
2. Double click on the word "SessionProc", so that the SessionProc window opens up in Workspace. You should see the horizontal line with the text object "Instructions" displayed.
3. Go to the Toolbox window to the very left on the screen.
4. Find the symbol "List".
5. Single click on the List symbol and drag it to the open window in Workspace, so that an object with the name "List1" is created to the right of the symbol "Instructions".
6. Click once on the object "List1" on the horizontal line.
7. Change name of the object by turning to the Properties windows, and replace the name "List1" in the right column with the name "BlockList".
8. Then press enter.
9. The list object should now have changed name to BlockList both in the open window in Workspace, and in the Structure window.
10. Now, double click on the symbol "BlockList" on the horizontal line.
11. A new window, named "BlockList" opens up in workspace. This window will make it possible to create a structure for different experiments in this subtest.

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<sup>2</sup>When you test run your experiment, you can instead choose the session numbers 2, 3, 4, 5 etc. If you happen to choose a combination of subject and session number that you have already used, the program will protest and ask if you want to replace the old version with the new running. If you are only test running it might not be a big problem if the running sessions are replaced, but when you are running the real experiment you want to make sure that your test sessions are not overwritten.

## 2.7 Create a BlockProc

In order to create a BlockProc you must have double clicked on the symbol "BlockList", so that a window with this list opens up.

Then do like this:

1. You now see a window showing a table.
2. Click on the cell under the heading "Procedure".
3. In this cell you should write "BlockProc" (ignore that there are predefined options to choose from), and press enter.
4. A display window will appear that states that the procedure "BlockProcedure" does not exist, and it will ask if you really want to create it. Click Yes.
5. Another display window will appear, asking you if you want to make this procedure standard for new levels. Click Yes.
6. Then close the BlockProc window.

Now save your experiment (by choosing Save from the File menu, or Ctrl+S)

Now check the Structure window. Your structure should now look as in figure 10.

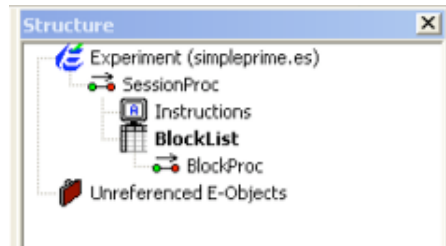


Figure 10: The structure window after created a BlockList and a BlockProc.

## 2.8 Create a TrialList

Now we will proceed by creating a TrialList under the BlockProcedure.

Do like this:

1. Double click on the object BlockProc (in the Structure window).
2. A new window will open up in Workspace. This window will show a horizontal line, just like the one we saw in figure 3.
3. Start by dragging a List symbol from the Toolbox window (to the left) and drop it on the horizontal line.

4. Rename this List object (which by default is List1) to "TrialList", by changing the default name "List1" in the cell in the right column (to the right of the property "(Name)") in the Properties window.
5. Then double click on the object "TrialList" on the horizontal line in the window in Workspace.
6. This opens up a window called "TrialList" in Workspace (cf. figure 11).

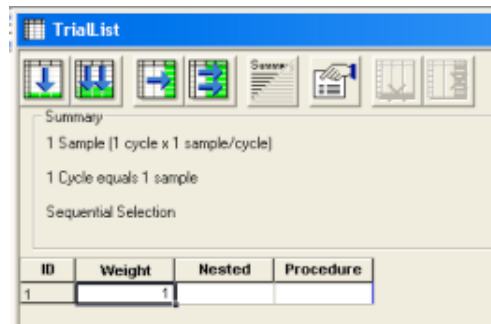


Figure 11: The TrialList window before you start to create attributes.

7. Now, click on the symbol in the TrialList window showing two arrows pointing to the right (see figure 12). This will add attributes to your list.



Figure 12: The symbol for adding attributes to your list(s).

8. A display window shows where you should define the number of attributes you want to add. Write 2, and click OK.
9. In the table "TrialList", two new columns have been created - "Attribute1" and "Attribute2".
10. Double click on "Attribute1".
11. A display window opens, where you can change the name to "Prime-Word"<sup>3</sup>. Click OK, to close the window.
12. Double click on "Attribute2".
13. A display window opens, where you can change the name to "Stimulus-Word". Click OK, to close the window.

<sup>3</sup>Please note that it is *important* with capitalized letters!

14. Then click in the white cell under the word "Procedure" (in the third column in the table).
15. A menu will show, but ignore the options, and instead write "TrialProc" in the cell.
16. A display window will appear that states that the procedure "TrialProcedure" does not exist, and it will ask if you really want to create it. Click Yes.
17. Another display window will appear, asking you if you want to make this procedure standard for new levels. Click Yes.
18. Now, click on the symbol in the TrialList window showing two arrows pointing downwards. This will add levels to your list.



Figure 13: The symbol for adding levels to your list(s).

19. A display window shows where you should define the number of levels you want to add. Write 15, and click OK.
20. The table should now have 16 levels and five columns.
21. Fill in the table as below. You can write in the cells by clicking on them, and to some extent using the tab key, and the arrow keys to move around in the table. You can also use delete to erase text that is already in the table.

Weight	Nested	Procedure	PrimeWord	Stimulus
1		TrialProc	red	tomato
1		TrialProc	green	cucumber
1		TrialProc	yellow	tomato
1		TrialProc	blue	cucumber
1		TrialProc	green	tomato
1		TrialProc	red	cucumber
1		TrialProc	blue	tomato
1		TrialProc	yellow	cucumber
1		TrialProc	red	cat
1		TrialProc	green	dog
1		TrialProc	yellow	cat
1		TrialProc	blue	dog
1		TrialProc	green	cat
1		TrialProc	red	dog
1		TrialProc	blue	cat
1		TrialProc	yellow	dog

22. Close all windows in the Workspace.
23. Save the experiment by pressing Ctrl+S.
24. Now, double click on the symbol "TrialList" in the Structure window, so that the tables open up again.
25. Go to the Properties window. Find the property "(Property Pages)" in the left column, and click in the white cell to the right of this property.
26. This will make a small box with three dots to show in the cell. Click on this small box.
27. This will make a display window to open up, and in this window you can specify your experiment.
28. Choose the tabular "Seletion".
29. Choose the option "Random". This will make the words in your experiment to be presented in randomized order.
30. Then click the tabular "Reset/Exit".
31. Check that the option "All samples (16)" is selected.
32. Also check that the option "After 1 cycles (16 samples)" is selected after "Exit list". (These two options means that the experiment will be run once and that all alternative (i.e., words) will be presented once.)
33. Then click OK in the bottom of the window, so that the window closes.
34. Then close all other open windows in Workspace, and save your experiment (with Ctrl+S).

## 2.9 To define a singel trial

Now we have defined the factors that will be examined (i.e., the words). Now it is time to define the structure of one single experimental trial.

1. Begin with clicking the object "TrialProc" in the Structure window.
2. A window opens in the Workspace, with a horisontal line, just like in figure 3.
3. Drag the symbol for TextDisplay from the Toolbox window (to the left) to the horisontal line (in Workspace). This will create a new object with the default name TextDisplay1 on the line.
4. Click once on the object "TextDisplay1", and rename it "Fixation", by going to the Properties window and change the word "TextDisplay1" in the right column. Then Press Enter.

5. Drag another symbol for TextDisplay from the Toolbox window to the horizontal line. Place the new object after the object "Fixation". The just created object has the default name "TextDisplay1".
6. Click once on the object "TextDisplay1", and rename it "Prime", by going to the Properties window and change the word "TextDisplay1" in the right column. Then Press Enter.
7. Finally, drag a third symbol from the Toolbox window to the horizontal line. Place the new object after the object "Prime". The just created object has the default name "TextDisplay1".
8. Click once on the object "TextDisplay1", and rename it "Stimulus", by going to the Properties window and change the word "TextDisplay1" in the right column. Then Press Enter.

As a result you should now have three text objects on the line. The names should be (from left to right): "Fixation", "Prime" and "Stimulus". If you check the experiment structure in the Structure window it should look like in figure 14.

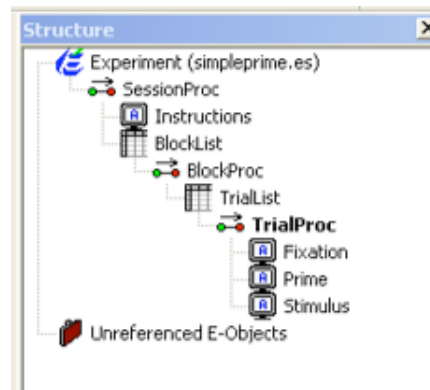


Figure 14: The structure window after adding the objects Fixation, Prime and Stimulus to your TrialProc..

9. Now, continue by clicking once on the object "Fixation" (on the horizontal line).
10. Then go to the Properties window, and find the property "(Property Pages)" in the left column. Click once in the cell to the right of this attribute, and then once on the small box with three dots that appears in the cell.
11. This will open a display window, where you can specify the settings for the Fixation object.

12. Go to the tabular "General".
13. In the white box after "Text" you should type a star (i.e., \*).
14. Then go to the tabular "Font".
15. Choose the font Verdana, and the size 40.
16. Go to the tabular "Duration/Input".
17. In the white box after "Duration", type "2000".
18. Then click OK in the bottom of the window, so that the window closes.
19. Then click once on the object "Prime" on the horizontal line.
20. Then go to the Properties window. Scroll down in the window until you find the property "Text" in the left column. In the cell to the right of this option you should write "[PrimeWord]". It is important with the capitalized letters, and with the square parantheses!! See figure 15.

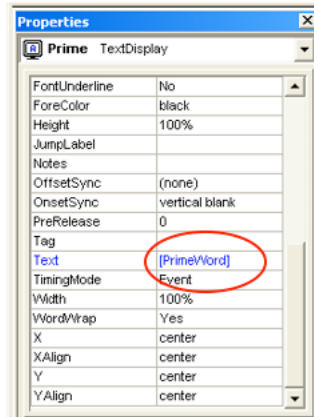


Figure 15: Set the text to be displayed for your Prime words to vary depending on the list "PrimeWords" that you have created on your TrialList

21. Then scroll up in the Properties window, and find the property "(Property Pages)" in the left column. Click once in the cell to the right of this attribute, and then once on the small box with three dots that appears in the cell.
22. A display windows open, where you should start with selection the tabular "Font".
23. Choose the font Verdana, and the size 40.
24. Then click on the tabular "Duration/Input"



25. In the cell after Duration, specify the duration to be "250".
26. Then click OK in the bottom of the window.
27. Then click once on the object "Stimulus" on the horizontal line.
28. Then go to the Properties window. Scroll down in the window until you find the property "Text" in the left column. In the cell to the right of this option you should write "[StimulusWord]". It is important with the capitalized letters, and with the square parantheses!!
29. Then scroll up in the Properties window, and find the property "(Property Pages)" in the left column. Click once in the cell to the right of this attribute, and then once on the small box with three dots that appears in the cell.
30. A display windows open, where you should start with selection the tabular "Font".
31. Choose the font Verdana, and the size 40.
32. Then click on the tabular "Duration/Input"
33. Click on the button Add in the middle of the window (cf. figure 7).
34. A display window opens. Highlight the symbol for "Keyboard" and click OK.
35. The window closes, and you can now notice that the word "Keyboard" has appeared in the Devices box above the Add-button.
36. In the white box to the right of "Allowable" (to the right in the window), you now see {ANY}. Replace this with "yn" (with small letters, no quotation marks or paranthesis, and no space between)<sup>4</sup>.
37. Then check the rest of the cells in the window, so that it meets the settings below, and in figure 16.
  - (a) Duration should be set to "10000".
  - (b) Timing Mode should be set to "Event".
  - (c) Data Logging should be set to "Standard".
  - (d) PreRelease should be set to "0".
  - (e) Allowable should be set to "yn".
  - (f) Correct should be empty (i.e., don't change anything).
  - (g) Time Limit should be set to "(same as duration)".
  - (h) End Action should be set to "Terminate".

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<sup>4</sup>This means that the test person has to press the keys "y" or "n", and the experiment will only work, and proceed to the next word if this is done.

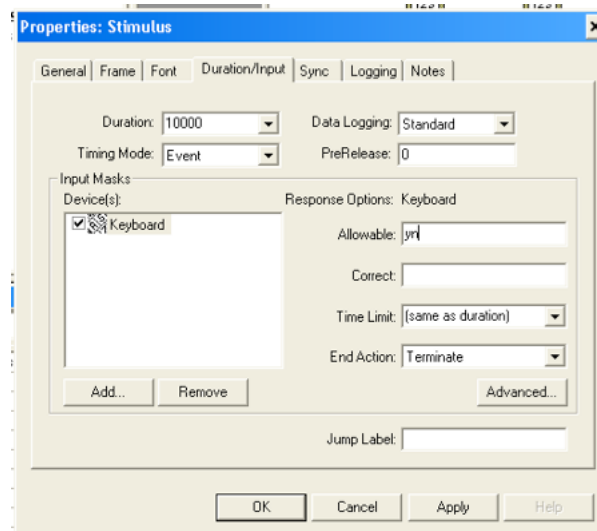


Figure 16: Set the text to be displayed for your Prime words to vary depending on the list "PrimeWords" that you have created on your TrialList

38. Then click OK in the bottom of the window, to close it.
39. Close all the windows in Workspace.
40. Save your experiment with Ctrl+S.
41. Click on the Generate button.
42. Click on the Run button to test run your experiment. Does it work the way you intended, or do you need to adjust it?

## 2.10 Make an ending to the experiment

Finally, we will write some final word as a thank you to the test person.

Do like this:

1. Go to the Structure window, and click on the object "Sessionproc".
2. A window opens in Workspace, and the objects "Instructions" and "BlockList" are displayed.
3. Now drag a new TextDisplay object from the Toolbox window (to the left) to the horizontal line. The new TextDisplay Object should be located to the right of BlockList.
4. Click once on the new TextObject on the horizontal line, and then go to the Properties window and change the name by changing names from

"TextDisplay1" to "Goodbye" (after the property "(Name)"), and press Enter.

5. Then go back to the Properties window, and find the property "(Property Pages)" in the left column. Click once in the cell to the right of this attribute, and then once on the small box with three dots that appears in the cell.
6. A display window opens where you should begin with choosing the tabular "General".
7. In the white field you should write the instructions that the test person will see in the end of the experiment. Write like this:

Thank you for participating in this experiment.

8. Then click the tabular "Font", and choose the font Verdana.
9. Then click on the Tabular "Duration/Input".
10. Change the numbers after "Duration" to "4000".
11. Click OK in the bottom of the window to close it.
12. Save your experiment with Ctrl+S, and generate it.

Now everything should work and the experiment be ready to run!

### 3 Make an experiment with pictures

Below follows a description on to remake the experiment above but use pictures (of colours) as a priming instead of words displayed as text.

The basic changes we have to make to first experiment is exchanging the prime words for pictures showing colours. This means that we have to replace the text object "Prime" for a so-called Slide-object (that we will name "PrimeSlide").

If you use images in the experiment, it is important to save these on the hard disk on the computer where you perform the experiment (this means that you have to copy the image folder along with the experiment if you decide to move a whole experiment to another computer).

#### 3.1 Copy the pictures to your own folder

There is a folder called "colours" located in the folder "Shared Experiments". The folder "colours" contains pictures that we will use for this experiment. Proceed like this, to place the folder with pictures in your own experiment folder. This will make the picture experiment (described below) work:



Figure 17: The symbol for showing the desktop.

1. Click on the symbol for "showing the desktop" (somewhere in the bottom left corner (see figure 17.
2. Choose "Lokal disk (C:)"
3. Click on Dokumenter og Indstillinger
4. click on "Alle brugere"
5. Click on DOKUMENT
6. Click on Shared Experiments
7. Right click on the folder "colours", and choose "kopier".
8. Then double click on the folder with your own name (so that it opens).
9. Right click somewhere on the white area in your folder, and choose "Klistre ind". This will make a copy of the "colours" folder to your own folder.
10. Then go back to E-prime, to continue to build your experiment.

### 3.2 Change the TrialList to refer to pictures instead of written words

Begin like this:

1. Open the first experiment (simpleprime.es).
2. When the experiment is open, go to the File-menu and choose "Save as..."
3. Save the experiment under a different name, e.g., "simpleprime\_pic.es".
4. Click on the object "TrialList" in the Structure-window.
5. The list opens up.
6. Then click on the symbol for adding a new column/attribute (i.e., the button with one arrow to the right, see figure 18.
7. Name this attribute "PrimeColour".



Figure 18: The symbol for adding one attribute to a list.

8. Now we will add information on how the program should find the picture files that we use for this experiment. Fill in the column "PrimeColour" according to the table below. Capitalized/small letters are important!! As a guide for which colour that should be put in each cell, you can use the colour names in the column "PrimeWord".

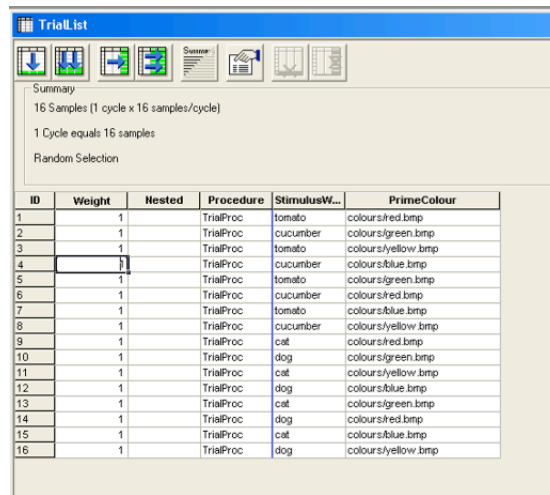
Weight	Nested	Procedure	PrimeWord	Stimulus	PrimeColour
1		TrialProc	red	tomato	colours/red.bmp
1		TrialProc	green	cucumber	colours/green.bmp
1		TrialProc	yellow	tomato	colours/yellow.bmp
1		TrialProc	blue	cucumber	colours/blue.bmp
1		TrialProc	green	tomato	colours/green.bmp
1		TrialProc	red	tomato	colours/red.bmp
1		TrialProc	blue	tomato	colours/blue.bmp
1		TrialProc	yellow	cucumber	colours/yellow.bmp
1		TrialProc	red	cat	colours/red.bmp
1		TrialProc	green	dog	colours/green.bmp
1		TrialProc	yellow	cat	colours/yellow.bmp
1		TrialProc	blue	dog	colours/blue.bmp
1		TrialProc	green	cat	colours/green.bmp
1		TrialProc	red	dog	colours/red.bmp
1		TrialProc	blue	cat	colours/blue.bmp
1		TrialProc	yellow	dog	colours/yellow.bmp

9. When you have filled the column "PrimeColour in", click on the top of the column named "PrimeWord".
10. Among the symbols in the top of the window, the symbol for deletion attributes is activated (see figure 19). Click on this symbol to remove the column "PrimeWord".



Figure 19: The symbol for deleting one or more attributes in a list.

11. Click Yes, when you get the question if you really want to remove the column.
12. Your TrialList window should now look as in figure 20.



ID	Weight	Nested	Procedure	StimulusW...	PrimeColour
1	1		TrialProc	tomato	colours:red.bmp
2	1		TrialProc	cucumber	colours:green.bmp
3	1		TrialProc	tomato	colours:yellow.bmp
4	1		TrialProc	cucumber	colours:blue.bmp
5	1		TrialProc	tomato	colours:green.bmp
6	1		TrialProc	cucumber	colours:red.bmp
7	1		TrialProc	tomato	colours:blue.bmp
8	1		TrialProc	cucumber	colours:yellow.bmp
9	1		TrialProc	cat	colours:red.bmp
10	1		TrialProc	dog	colours:green.bmp
11	1		TrialProc	cat	colours:yellow.bmp
12	1		TrialProc	dog	colours:blue.bmp
13	1		TrialProc	cat	colours:green.bmp
14	1		TrialProc	dog	colours:red.bmp
15	1		TrialProc	cat	colours:blue.bmp
16	1		TrialProc	dog	colours:yellow.bmp

Figure 20: This is what the TrialList looks like when the prime words have been replaced with links to pictures.

13. Close your TrialList window.

### 3.3 Change your TextObject Prime to be a SlideObject

1. Click on the object "TrialProc" in the Structure-window.
2. The window that opens up in the WorkSpace continues three text objects: Fixation, Prime and Stimulus.
3. Mark the object "Prime".
4. Press "Delete".
5. The object will be deleted from the window, but you can still see it in the Structure Window, where it has ended up under the header "Unreferenced E-objects" (in the bottom of the window). Just leave the object "Prime" there for the time being<sup>5</sup>.
6. Go back to the TrialProc window now open in the work space. There are now 2 objects there: Fixation and Stimulus. You are now going to add a Slide object.
7. Go to the Toolbox window to the left of the screen.
8. Choose the symbol for "Slide", and drag this to the workspace. Drop it between the objects "Fixation" and "Stimulus".

<sup>5</sup>If you want to delete it completely, you can click on it once in the structure window, and then press delete. However, it won't interfere with the experiment if it is placed under the "Unreferenced E-objects"

9. The object gets the name "Slide1".
10. Click once on the symbol for "Slide1", and rename it by changing the name in the Properties window. Give it the name "PrimeSlide". See figure 21.

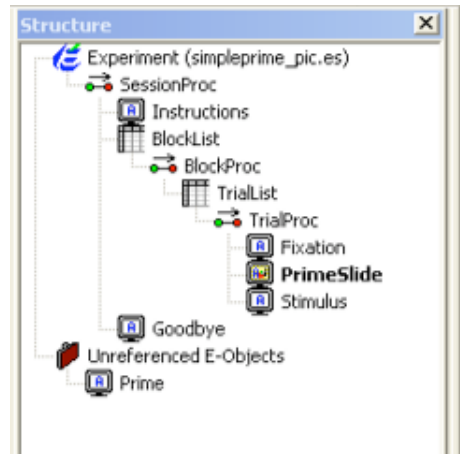


Figure 21: This shows the structure when the PrimeSlide has been added to the experiment.

11. Double click on the object "PrimeSlide".
12. A window opens up. This window is a kind of design window, where you can define the position of your various picture and text objects. (You can also add sound objects to the slide, although the location of the sound object on the slide is not that important).
13. Now, click on the symbol for adding a picture object at the top of the window (see figure 22).



Figure 22: This shows the structure when the PrimeSlide has been added to the experiment.

14. Then, click anywhere in the window, to place your object.
15. Click once on the picture object.
16. Then go to the Properties window and rename the picture. Instead of "Image1", name it "PrimeImage".

17. Then click in the white cell to the left of the property (Property Pages) to open the Property pages for "PrimeImage".
18. Choose the tabular "General".
19. After "Filename", type [PrimeColour].
20. Then, click the tabular Frame.
21. For Size, fill in width: 50 %, Height: 50 %.
22. For Position, make sure X, Y, XAlign and YAlign all are set to "center". See figure 23.

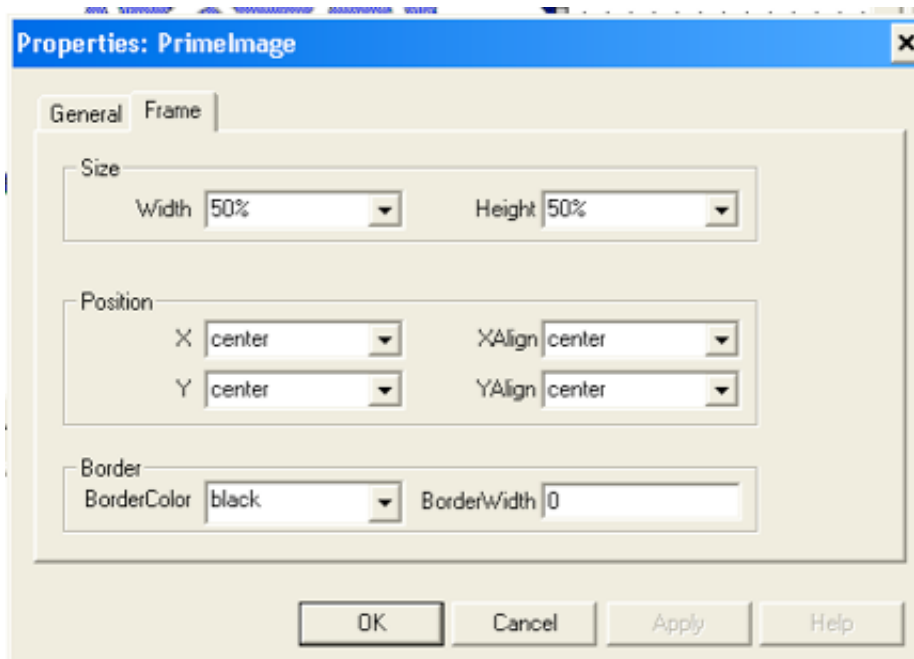


Figure 23: Fill in the frame settings for the PrimeImage like this.

23. Click OK, to close the window.
24. Now go back to the window "PrimeSlide" in the work space. From the menu on the upper right in this window, choose the option "(PrimeSlide)" (see figure 24). It is important to check this menu every now and then, since it is very easy to by mistake only specify settings for a subpart of the slide object, when you really mean to, i.e., set duration for the whole slide object.
25. Then open the property pages for this slide, by clicking on the cell to the right of (Property Pages) in the Properties window.





Figure 24: Choose an object on the Slide, or choose the whole Slide by selecting an option in the menu.

26. Select the Tabular "Duration/Input".
27. Set Duration to "250"
28. Then click OK.
29. Close all open windows in the work space and save your experiment (Ctrl+S).
30. Click on the object "Instructions" in the Structure-window.
31. The Instruction window opens up.
32. Change the text on the screen to be:

In this experiment you will see pictures followed by words.  
 After each picture-word pair, it is your task to decide whether  
 or not the word is a vegetable.  
 If it is a vegetable, press Y (for Yes).  
 If it is not a vegetable, press N (for No).  
 Try to answer as quickly as possible.  
 Press space to start the experiment.  
 Good luck!!

33. Close the window.
34. Then click the generate-button.
35. Then click the Run-button to test your experiment. Is the priming now pictures of colours, instead of words?

## 4 An experiment with pictures and sounds

### 4.1 Something about sound file format

You can in principle use very long sounds files as an input in E-prime, but it is often better to use as short files as possible. You are advised to have the sound files on the hard disk of the computer where you are running your experiment.

A problem that can occur is that the sounds files are saved in the wrong format. In the experiment below we use wav-files, recorded with 1 channel, 22050 samples, and 16 bits per sample. If your sound files don't meet these criteria,

you can open them in the program Audacity (which is also installed on the Epsilon computer; you will find it under the Startmenu/Programs/Audacity), and choose to export them in the desired format.

## 4.2 Adding sounds to the picture experiment

1. Copy the folder "Sound" from the folder "Shared Experiments" (you will find it under "Den här datorn"/Lokal disk(C:)/Documents and Settings/All Users/DOKUMENT), to the folder with your own name in "Shared Experiments".
2. Open your old experiment "simpleprime\_pic.es" from inside the E-studio (i.e., at start-up, choose the option "Open existing file"). This means that we will continue to build on our old picture experiment, when we add sounds to the experiment.
3. The experiment opens up.
4. Go to the filemenu and save your experiment under another name, e.g. "simpleprime\_picsounds.es").
5. Open the TrialList by double clicking on the object in the Structure window.
6. Add an extra attribute to the right (by clicking on the add attribute symbol, see figure 18).
7. Name the new attribute "PrimeSound".
8. Fill in the cells in the columns as below. Use the name of the colour pictures you used in the picture experiment to guide you to which sound name you should use (i.e., use the sound "red.wav", when you have used the picture file "red.bmp").

Weight	Nested	Procedure	Primeord	Stimulus	PrimeColour	PrimeSound
1		TrialProc	red	tomato	colours/red.bmp	sound/red.wav
1		TrialProc	green	cucumber	colours/green.bmp	sound/green.wav
1		TrialProc	yellow	tomato	colours/yellow.bmp	sound/yellow.wav
1		TrialProc	blue	cucumber	colours/blue.bmp	sound/blue.wav
1		TrialProc	green	tomato	colours/green.bmp	sound/green.wav
1		TrialProc	red	cucumber	colours/red.bmp	sound/red.wav
1		TrialProc	blue	tomato	colours/blue.bmp	sound/blue.wav
1		TrialProc	yellow	cucumber	colours/yellow.bmp	sound/yellow.wav
1		TrialProc	red	cat	colours/red.bmp	sound/red.wav
1		TrialProc	green	dog	colours/green.bmp	sound/green.wav
1		TrialProc	yellow	cat	colours/yellow.bmp	sound/yellow.wav
1		TrialProc	blue	dog	colours/blue.bmp	sound/blue.wav
1		TrialProc	green	cat	colours/green.bmp	sound/green.wav
1		TrialProc	red	dog	colours/red.bmp	sound/red.wav
1		TrialProc	blue	cat	colours/blue.bmp	sound/blue.wav
1		TrialProc	yellow	dog	colours/yellow.bmp	sound/yellow.wav

9. Save your experiment (Ctrl+S) and close the window in Workspace.
10. Double click on the object "PrimeSlide" in the Structure window.
11. The PrimeSlide object opens in Workspace.
12. Click on the symbol for adding sound in the menu bar in the top of the PrimeSlide window (the picture looks like a megaphone).
13. Place the sound symbol anywhere on the SlideObject.
14. Click *once* on the sound symbol.
15. Go to the Properties window and find the property "Filename" in the left column. In the cell to the right you should write "[PrimeSound]". Observe the capitalized letters, and the square brackets (no quotation marks).
16. Press enter.
17. Go to the PrimeSlide window that is open in the Workspace, and choose the option "(PrimeSlide)" from the menu in the top (cf. figure 24).
18. Then go back to the Properties window, and open the property pages by clicking in the cell to the right of the property "(Property Pages)".
19. A display window opens.
20. Go to the tabular "Duration/Input", and set the duration to 1500. Click OK to close the window.
21. Close the windows in Workspace.

22. Go to the Structure window and double click on the object "Experiment (simpleprime\_picsounds.es)".
23. Choose the tabular Devices.
24. Check the box in front of "Sound".
25. Then double click on the word "Sound".
26. A display window opens up.
27. Specify the information in the box as follows:
  - (a) Channels: 1
  - (b) Samples: 22050
  - (c) Bits Per Sample: 16
28. Then click OK to close the window.
29. Click OK to close the window "Properties: Experiment Object Properties".
30. Generate your script, and test run the experiment. Does it work?
31. You probably also have to adjust the Instructions given in the beginning of the experiment, to account for the fact that there is now also sounds included in the experiment.

## 5 Running the experiment

When you have finished building your experiment, and checked it could be a good idea to save the experiment (along with folders with pictures and sounds or other objects included in the experiment) in a new folder.

You can also clear away (i.e., delete) the results from the test runs you have made during the experiment building.

When an experiment is finished it is not necessary to run it on the same computer where it is created. There is a special version of E-prime that is called *E-run*, and this program is installed on several other computers in the lab. With E-run you cannot create or change your experiment, but you can run the experiment.

Before you move your experiment to one or more of the computers that only have E-run on them, you should make sure that the experiment works properly. Once you have placed your experiment on the E-run computer, you cannot change it. (Well, you can - if you go back to the Epsilon computer.).

Do like this:

1. Finish and test run your experiment and make sure you don't want to do any changes.

2. Click on the generate button to generate a script.
3. Go to the folder<sup>6</sup> where you have saved your experiment, and copy this folder (e.g., to a USB-memory).
4. Copy this folder to the hard disk on any of the computers Beta, Gamma or Alpha (in the Humlab). Copy it to the same place on these computers, i.e.,  
"Den här datorn"/Lokal disk(C:)/  
Documents and Settings/All Users/DOKUMENT/  
Shared Experiments/[FolderWithYourName]".
5. Open the folder, and choose the version of your experiment that ends on ".ebs".
6. Right click on this version, and choose to open it with "E-run".
7. The experiment opens up as a script version.
8. Go to the Build meny, and choose the option Run.
9. This will make the experiment run, and you will be asked the same questions about subject and session numbers as before.

## 6 An Eye-tracking experiment

If you plan to use your experiment together with an Eye tracking experiment, you can look at the experiment "ETtemplate.es" in the folder "Eprimekurs" in the folder Shared Experiments. The ETtemplate contains calibration points that you can use for your test persons before you start the actual E-prime-test. You are free to copy this ETtemplate, to include it in your own experiment.

In this template you first have a page of instructions. You leave this page by pressing the space bar.

Thereafter follows 15 calibration pictures, and you move between them with a mouse click.

It is not very easy (actually - as far as I have experienced it is impossible) to copy a part of one experiment into another experiment. Therefore, it might actually be best to start with this template, and save it under another name (in your own folder). Thereafter you build up your own experiment after the ready-made structure in the template.

The other option is to see how the experiment in the template is built-up, and thereafter copy the structure in your own experiment. There are one or two things you should remember to look at:

1. You have to make sure that the serial port device option is installed and set. Do like this:

---

<sup>6</sup>You will probably find this under "Den här datorn"/Lokal disk(C:)/Documents and Settings/All Users/DOKUMENT/Shared Experiments/[FolderWithYourName]"

- (a) Go to the Structure Window, and choose to click on the top object called "Experimental Object".
  - (b) A window opens.
  - (c) Choose to click on the tabular called "Devices".
  - (d) Click on the button called "Add..."
  - (e) A window opens, and you should choose to click on the symbol called "Serial"<sup>7</sup>.
  - (f) Click OK, so that the window closes.
  - (g) The new object "Serial" has now appeared in the window under the tabular "Devices".
  - (h) Make sure that the box in front of "Serial" is checked.
  - (i) Double click on the word "Serial", so that a new window opens up.
  - (j) Here you can specify the settings for the Serial Port. Specify as below:
    - COM Port: 1
    - Bits per second: 9600
    - Data Bits: 8
    - Parity: Odd
    - Stop Bits: 1
  - (k) Then click OK so that the window closes.
  - (l) And click OK once more to close the last window.
2. You also have to copy the pictures for the calibration from the folder to your own experiment folder. The folder is called "bilder", and located in the folder "E-primekurs" in "Shared Experiments".

Also, take a look at the previous ET-experiments that have been made. You can for instance look at the experimens from Richard or Philip in the Shared Experiments Folder.

## 7 Output data

After each run with E-prime, an output file is created, with the filename based on the input you gave when the experiment started (i.e., the subject number and the session number). As long as you are test running it doesn't matter that you overwrite your output over and over again (by using the same subject number and session number over again), but when you have test persons doing the experiment, it is important that you give every test person a unique number.

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<sup>7</sup>If there already is an object called "Serial", you should just make sure that it is checked, and that the settings are correct

The output files are by default saved in the same folder as the experiment. After each run, two files are created, with the file names

```
"experiment_name"-subjectnumber-sessionnumber.txt  
and "experiment_name"-subjectnumber-sessionnumber.edat
```

**.edat** The file you are interested in has the extension [.edat]. You can double click on it and it will open up in the program E-dataAid.

**.txt** Which is a text file and rather uninteresting.

The best way to learn about how to analyse your output data is to read and follow the instructions in the book "Getting Started Guide", which (should be) located next to the Epsilon computer. Follow the two guides Merging Data Files and Preparing Data for Analysis to learn more!!

## 8 Support

If you get stuck in designing your experiment there are some ways of getting help:

- Go through one or more of the tutorials in the book Getting Started Guide (located next to the Epsilon computer in the lab).
- Look in the user's guide and tutorials in the three books located next to the Epsilon computer in the lab.
- Check out E-primes webpage at [www.pstnet.com/products/e-prime](http://www.pstnet.com/products/e-prime). If you want to ask questions to the E-prime support, the user name and password for the license is found on the inside of the Getting started guide.
- Download scripts from the net, for instance from the e-prime website, or from the "STEP" homepage: <http://step.psy.cmu.edu/>
- Look at old experiments made in the labb - most of them are found in the folder "Shared Experiments"
- Ask the IT-pedagogue - I might know the answer, or I might give you the name of a researcher or student that have solved a similar problem: [it-pedagog@sol.lu.se](mailto:it-pedagog@sol.lu.se).

If you want to discuss the experimental design, you can also contact the IT-pedagogue on e-mail: [it-pedagog@sol.lu.se](mailto:it-pedagog@sol.lu.se).