

LLAMA Language Aptitude Tests The Manual

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1: INTRODUCTION

The materials described in this manual have grown out of a series of projects carried out by students of English Language and Linguistics at the University of Wales Swansea. The materials are a set of exploratory tests designed to assess aptitude for learning foreign languages. The tests are loosely based on pioneering work by John Carroll (e.g. Carroll and Sapon 1959) but over years we have been running these projects, the design of the tests has significantly diverged from the originals on which they were based. Our first attempt at works in this area appeared as Meara, Milton and Lorenzo-Dus (2002). That publication included a set of five tests, unimaginatively named Lat_A, Lat_B, Lat_C, Lat_D and Lat_E. The most successful of these tests were Lat_B, a test of vocabulary learning, Lat_C, a test of grammatical inferencing, and LAT_E, a test of the sound-symbol associations. Lat_A, a self-test of phonetic memory and Lat_D, a test of memory for unusual sound sequences, were less satisfactory.

Since the publication of MM&L-D in 2002, we have been surprised by how much interest these tests generated in the research community. A number of colleagues asked us if it would be possible to adapt the tests for people whose first language was not English, and this resulted in Swedish, Hungarian and French versions of the tests. However, we subsequently got requests from Japan, Greece, Russia and Georgia to produce versions of the test in languages which did not use the Roman alphabet. Our attempts to rework the program code to cope with these problems were not entirely successful. An additional problem that developed as the take-up of the tests expanded was that some of the materials developed as part of the original tests turned out to be familiar to potential test-takers. For example, one of the 2002 tests contained materials loosely based on Polish, and on Turkish. These languages are not widely recognised in the UK, but are, of course, more familiar to test-takers whose L1 is Hungarian or Azeri. These problems prompted us to develop a version of the tests which was to a large extent independent of the L1 of the test-takers. The Llama tests are the result of this work.

Three new tests are presented in this collection of LLAMA tests.

Llama_B is a new version of the original Lat_B tests. It is based on picture stimuli, rather than the verbal stimuli of the original Lat_B.

Llama_F is a new version of the original Lat_C tests. It too is based entirely on picture stimuli, and has eliminated the need for an L1 data-base.

Llama_D is a new version of the original Lat_D tests. The 2002 version of this test used stimuli loosely based on Turkish, which has turned out to be familiar to many of our test takers. The new version uses stimuli based on a dialect of a language spoken in Northern Canada. The new sound strings are actually phonetic realisations of these words generated by a speech engine, and they therefore differ significantly from any language that the test takers are likely to know in practice, unless they have extensive familiarity with the languages of North West British Columbia.

2: INSTALLING THE PROGRAMS

The programs that comprise the LLAMA suite can be down-loaded from the _lognostics web site: <http://www.swan.ac.uk/cals/calsres/lognostics.htm>

Each of the Llama programs is downloadable separately, and it is only necessary to download this manual and the programs that you actually want to use. (In previous version, you had to download the entire -very large- suite of programs.) As a result, the programs are slightly redundant. If you download two or more programs, you will be asked if you want to replace some files that exist already. Answer NO to this question.

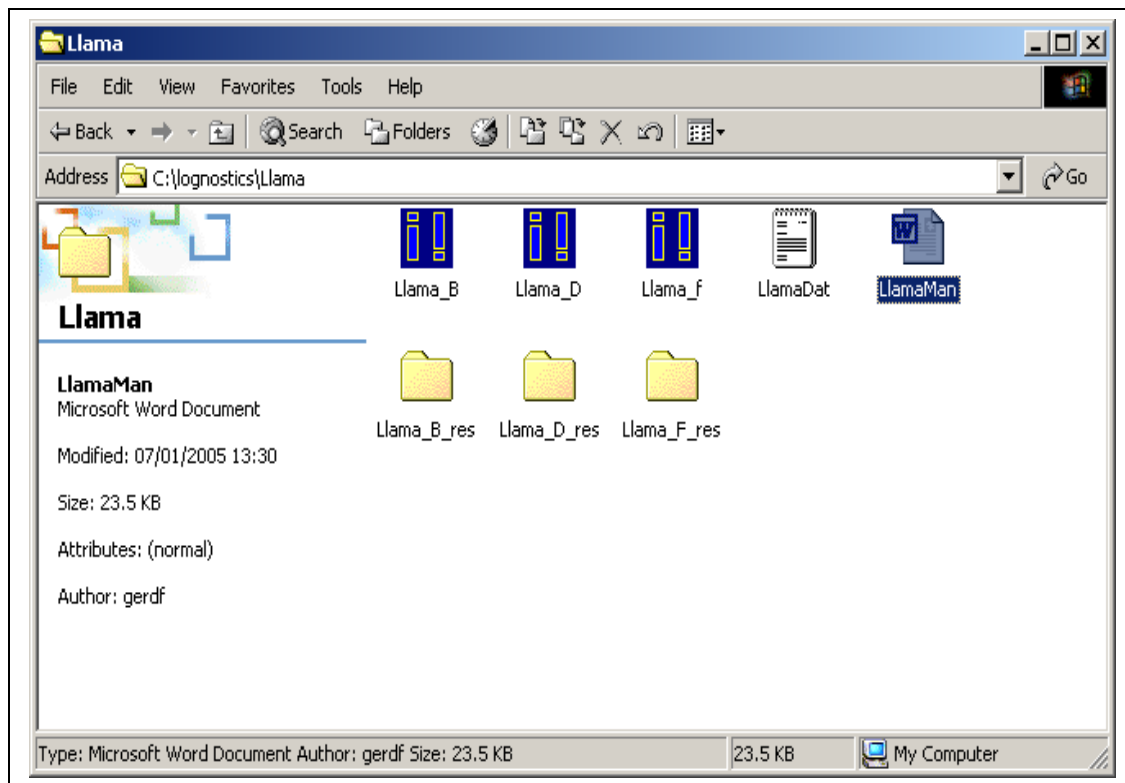
The programs are supplied in the form of a zip file. Each file contains:

Llama_X.exe an executable file which actually runs the test (where X=b,d,or f)
Llama_X_res a folder that contains sound files and images used by the test
Llamadat.txt a text file that stores data from the LLAMA tests

To download the programs, go to the `_lognostics` download page and click on the relevant links. This will download a copies of the zip files to your computer. Place these files in a convenient directory. We recommend that you place them in a directory called **c:\lognostics\llama**

This will usually avoid problems that arise with different versions of the Windows operating system.

Next, unzip the programs using a utility program like WinZip. This will unpack the programs for you. When the programs have been unpacked, you should have a folder called `c:\lognostics\llama` that looks something like this:



No other files are saved as part of the installation progress, and no changes are made to your computer's registry or configuration settings.

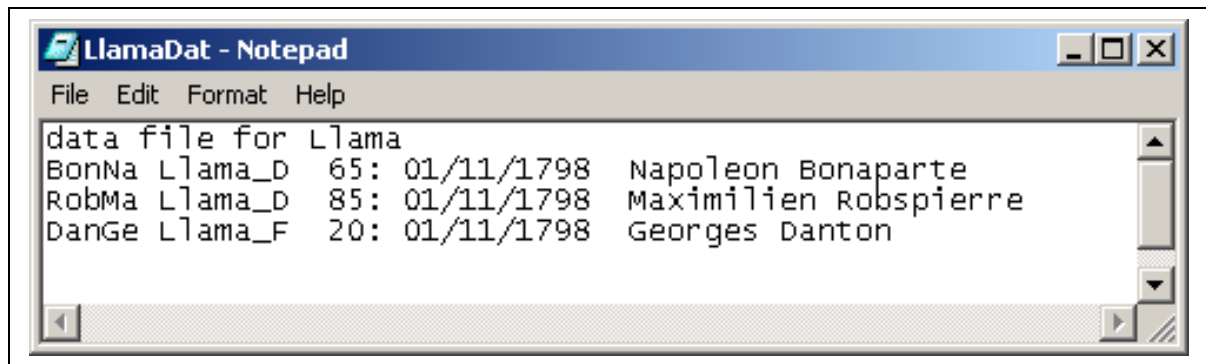
If you need to delete the programs, simply move them to the recycle bin.

3: RUNNING THE PROGRAMS

The Llama programs are designed to run under the Windows operating system. They should work with Windows 2000 and Windows XP. The programs do not run on Macintosh or other operating systems. We are looking at the possibility of developing Linux versions.

The LLAMA programs are written in a spare programming style that minimises the use of on-screen instructions. All the programs follow a similar sequence of events, however. In order to begin the program you must enter your name in the boxes at the top of the screen, and click the arrow alongside your name to begin the test. Testing starts immediately. You continue the test until you reach the conclusion, at which point your score will be displayed on the test screen. You then exit the test. Generally speaking, the test will force you to follow this sequence. A full set of instructions is provided in this manual for each test. You will also find on-screen help in the form of a small blue and yellow icon which indicates what you have to do next. Explanations for these icons will be found in the documentation for each test. Depending on the conditions under which you use the LLAMA programs, you may want to develop a formal set of instructions in the L1 of your test-takers. The best way to do this is to familiarise yourself with the tests and write your own instructions for your students. You probably know them better than anybody else does.

When you run a LLAMA program, data is automatically saved to the LlamaDat.txt file. This is a simple text file that records the scores of any test user. The data is stored as a simple text file, and you can read it using any word-processor. The simplest thing is to open this file in Notepad, in which case, you will find a file that looks like this:



```
LlamaDat - Notepad
File Edit Format Help
data file for Llama
BonNa Llama_D 65: 01/11/1798 Napoleon Bonaparte
RobMa Llama_D 85: 01/11/1798 Maximilien Robespierre
DanGe Llama_F 20: 01/11/1798 Georges Danton
```

These data indicate that Napoleon Bonaparte took the Llama_D test on 01/11/1798 and scored 65%. Maximilien Robespierre took the same test on 10/11/1798 and scored 85%. Georges Danton took the Llama_F test on 12/11/1798 and scored 20%.

If you require something more formal than this basic record, then you can use the LATRDR program, also downloadable from the _lognostics site.

4: LLAMA_B A vocabulary learning task

background

Llama_B is a simple vocabulary learning task, which measures your ability to learn relatively large amounts of vocabulary in a relatively short space of time.

The program is loosely based on the original vocabulary learning subtask of Carroll and Sapon (1959), but uses a completely new interface. This version no longer requires any L1 input, so the test is suitable for use with testees of any L1. The words to be learned are real words taken from a Central American language, and they are arbitrarily assigned to the target images.



running LLAMA_B


Click on the LLAMA_B icon. This opens the program, and presents you with the screen below.




All the LAT programs share a set of common design features.

The panel immediately below the program title contains any parameters that you may wish to vary before you start test. For LLAMA_B there are two parameters that you can adjust.

- The box marked  controls the randomisation sequence of the program. If you change the number in box, by clicking the up or down arrows, then the order in which the words are tested is changed. This can be useful if you want to make sure testees don't just learn off by heart a particular testing sequence.
- The box marked  controls the length of time you have to learn the words in the test. The number in the box tells you the number of seconds you have available for the test. This is normally set at 120 secs, i.e. two minutes. You can adjust this figure by clicking on the up or down arrows on the box. You will not normally want to adjust the time available for the test. However, a very short time - e.g. 20 seconds can be useful for demonstration purposes, and this is the main reason why this facility is provided.

Once you have reset the program parameters, you can initialise the program by entering your name in the two boxes marked . The LLAMA programs use this information to generate a code that identifies your personal data.

You start the program by clicking the  button in the start panel.

Clicking this button starts the timer, and activates the buttons in the main panel. Click on one of these buttons, and the program will display in the centre of the panel the name of the object that you clicked.

Your task is to learn the names of as many of the twenty objects as you can in the time available. You can click the objects as many times as you like, but you should not take notes as you work.

The clock in the centre of the main panel shows how much time you have left to complete the task.

When your time is up, the program will warn you by playing a bleep sound, and all the main buttons will be deactivated.

You can start the test sequence by clicking the  button.

When you do this, the program will display the name of an object in its central panel, and wait for you to identify the correct object by clicking on it.

The program gives you feedback in the form of a *ding* for a correct answer, and a *bleep* for a wrong answer.

The screen displays your score as you work through the test.

Results

At the end of the test, your score is displayed on the bottom panel.

Scores for LLAMA_B range between 0 and 100. Scores should be interpreted as follows:

0-20	a very poor score
25-45	an average score; most people score within this range
50-70	a good score
75-100	an outstandingly good score. Few people manage to score in this range unless they are using a formal mnemonic system.

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Background Research







LLAMA_B is currently being evaluated as part of the LLAMA Project at University of Wales Swansea. This project is designed to teach research skills to undergraduates by getting them to work on real research projects with commercial applications.

A full report will be published on the project website:

<http://www.swan.ac.uk/cals/calsres/llama/>

Summary instructions:

All the LLAMA programs carry a small box which tells you which button to click next. For LLAMA_B these indicators are as follows:

	fill in your personal details and start the program
	timer has started; click the objects to discover what they are called
	Click this button to start the test phase
	Select your answer
	Continue the test
	Click to exit the test and record your score

5: LLAMA_D A sound recognition task

background

Llama_B is a new task that does not appear in the work of Carroll and Sapon (1959). It is designed to test if you can recognise short stretches of spoken language that you were exposed to a short while previously.

The program is loosely based on work by Service (e.g. Service 1992; Service and Kohonen 1995) and it also owes something to Speciale (Speciale, Ellis and Bywater 2004). These writers suggest that a key skill in language ability is your ability to recognise patterns, particularly patterns in spoken language. If you can recognise repeated patterns, then you are more likely to be able to recognise words when you hear them for a second time. This helps you to acquire vocabulary. It also helps you to recognise the small variations in endings that many languages use to signal grammatical features.


The sound sequences used in this program are computer generated. The words they are based on are the names of flowers and natural objects in a British Columbian Indian language. The sounds have been synthesised using the AT&T Natural Voices (French). This makes for a difficult set of stimuli which are unlikely to be recognised as belonging to any major language family.

running LLAMA_D


Click on the Llama_D icon. This opens the program, and presents you with the screen below.



All the LAT programs share a set of common design features.

You initialise the program by entering your name in the two boxes marked .


The LLAMA programs use this information to generate a code that identifies your personal data.

You start the program by clicking the  button in the start panel.


Clicking this button causes the program to play a set of 10 words in a language that are unfamiliar to you.

Your task is to listen carefully to these words. In the test phase of the program, you will hear these words alongside other words that you have not heard before. You score points for recognising the words that are repeated in both parts of the program.

When the program has finished playing all the new sounds, you will hear a *bleep* sound, and the buttons on the main panel will be activated.

Click the  button to hear the next word.

If you think it is a word that you have already heard, click the  button.

If you think that is is a word you have not heard before in this test, click the  button.

You score points every time you are right, but you will lose points if you make a wrong judgement.

The program gives you feedback in the form of a ding for a correct answer, and a bleep for a wrong answer.

The screen displays your score as you work through the test, and shows you how many items you still have to complete.

Results

At the end of the test, your score is displayed on the bottom panel.

Scores for LLAMA_D range between 0 and 100. Scores should be interpreted as follows:

0-10	a very poor score
15-35	an average score; most people score within this range
40-60	a good score
75-100	an outstandingly good score. Few people manage to score in this range.

Background Research







LLAMA_D is currently being evaluated as part of the LLAMA Project at University of Wales Swansea. This project is designed to teach research skills to undergraduates by getting them to work on real research projects with commercial applications.

Llama_D is based on our earlier Lat_D programs. There were two versions of Lat_D: v1.0 used sequences of Polish words, while v2.0 used sequences of Turkish words. Both programs worked well under normal conditions of use. However, increased international use of the programs caused problems with the target languages: Poland is a popular camping destination for your young Europeans, and this meant that many testees had some exposure to Polish. At the same time, our Russian colleagues had extensive exposure to Turkic languages. The choice of a NorthAmerican Indian language for Llama_D is intended to avoid these problems.

A full report of the formal evaluation of Llama_D will be published on the project website: <http://www.swan.ac.uk/cals/calsres/llama/>

Summary instructions:

All the LLAMA programs carry a small blue and yellow box which tells you which button to click next. For LLAMA_D, you will find this box in the bottom left-hand corner of the display. The indicators are as follows:

	fill in your personal details and start the program
	listen to the sound file
	start the test phase
	Select your answer: 😊 = a new word; 😊 = a familiar word you have heard already
	play the next test word
	Click to exit the test and record your score

6: LLAMA_E A sound~symbol correspondence task

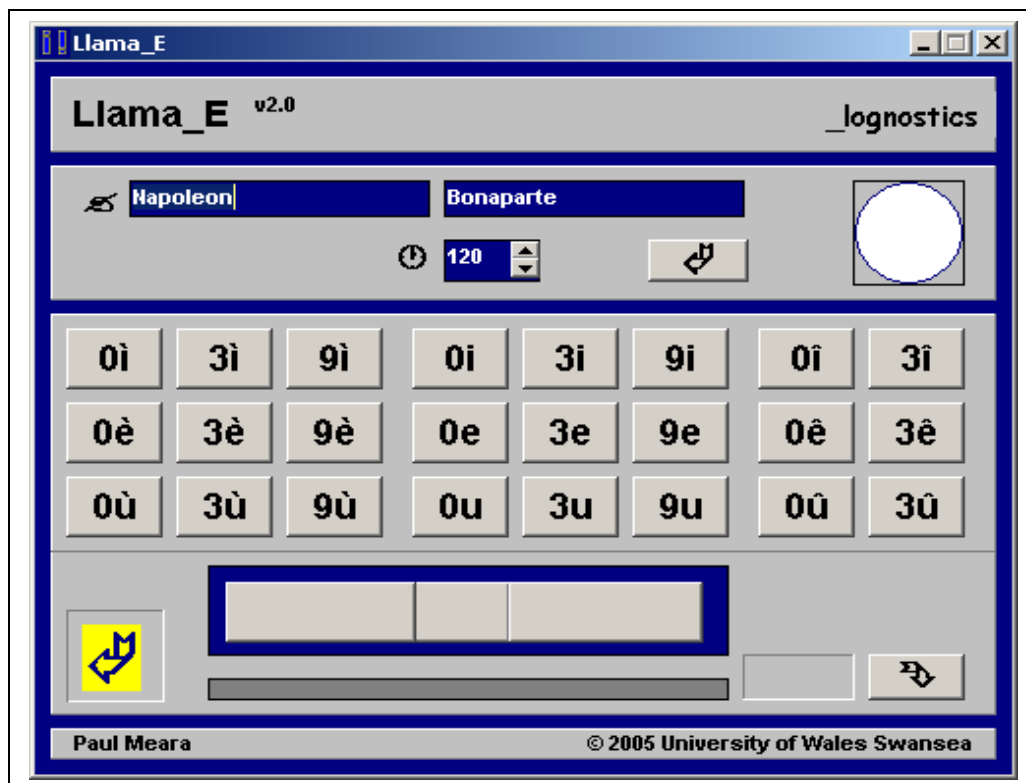
background

Llama_E is virtually unchanged from our original Lat_E sound~symbol correspondence task. It presents a set of 22 recorded syllables, along with a transliteration of these syllables in an unfamiliar alphabet. Your task is to work out the relationship between the sounds you hear and the writing system.

Lat_E worked well in our original evaluation of the tests, and was particularly good at picking out learners who were able to dissociate sounds from the way they are normally written in English. A number of small changes have been made in the new version. These mostly concern the way the data is stored and recorded, and should therefore be invisible to the user. However, we have also changed the way the test is scored, in order to bring it in line with the other tests in this set.


running LLAMA_E


click on the llama_E icon. This opens the program and presents you with the screen shown below.



All the LLAMA programs share a set of common design features.

The panel immediately below the program title contains any parameters that you may wish to vary before you start test. For LLAMA_E there is just one parameter that you can adjust.

- The box marked  controls the length of time you have to learn the links between the sounds you are going to hear and their spelling. The number in the box tells you the number of seconds you have available for the test. This is normally set at 120 secs, i.e. two minutes. You can adjust this figure by clicking on the up or down arrows on the box. You will not normally want to adjust the time available for the test. However, a very short time - e.g. 30 seconds can be useful for demonstration purposes, and this is the main reason why this facility is provided.

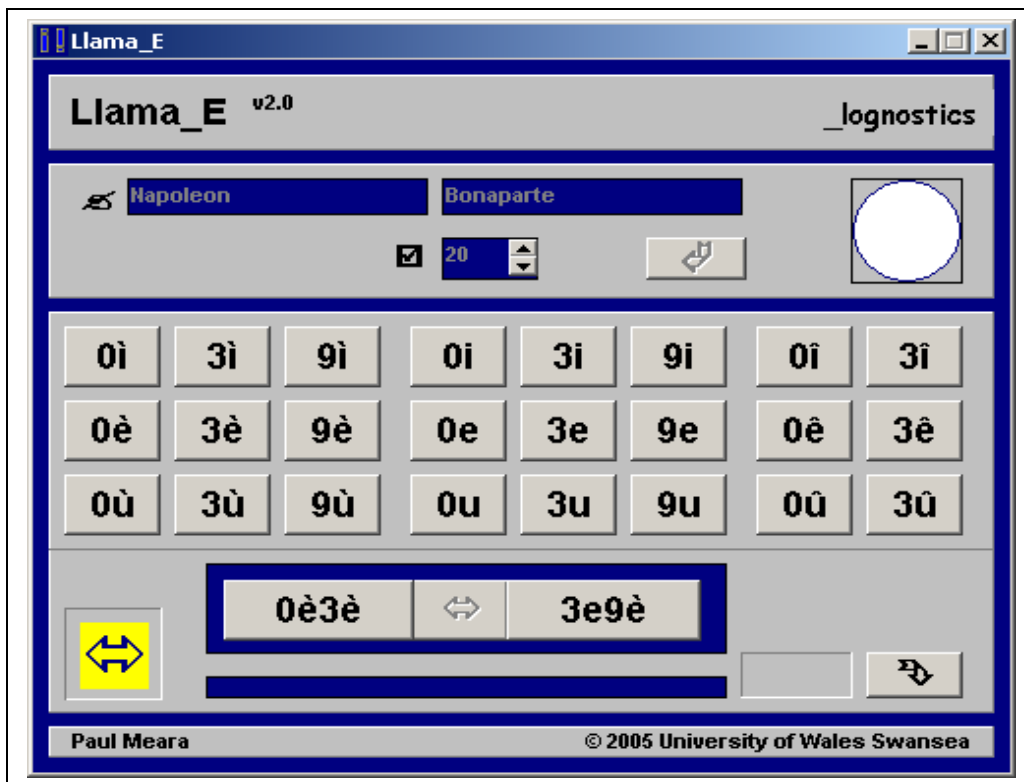
You initialise the program by entering your name in the two boxes marked . The LLAMA programs use this information to generate a code that identifies your personal data.

You start the program by clicking the  button in the start panel. Clicking this button activates the array of buttons in the main panel, and starts the timer.

Your task is to use the time available to you to learn how the spelling system of this language works. You do this by clicking on the small buttons in the main panel. Each button plays a short sound file. The text on the button tells you how that particular sound is written in the language. You have two minutes for this phase of the program, and you can take any written notes that you need.

When program times out, you will hear a *bleep* to signal that you are entering the test phase.

Click the  button to start testing. This second phase is not timed.



Each time you click the ⇨ button the program will play a new word for you. At the same time, it displays two possible spellings for this word. In the screen shot above, the program has just played a sound file. It has also displayed two possible spellings **0è3è** and **3e9è**. One spelling is correct, the other is wrong. Click on the spelling that you think is correct. The program will give you feedback in the form of a *ding* for a correct answer, and a *bleep* for an incorrect answer. You will score points for every item you get right, and lose points for incorrect answers. The screen displays your score as you work through the test

Click the ⇨ button to see the next test item. There are twenty test items in total.

Results

At the end of the test, your score is displayed on the bottom panel.

Scores for LLAMA_E range between 0 and 100. Scores should be interpreted as follows:

0-15	a very poor score, probably due to guessing
20-45	an average score; most people score within this range
50-65	a good score
75-100	an outstandingly good score. Few people manage to score in this range. Those who do are mostly trained linguists

Background Research

LLAMA_E is currently being evaluated as part of the LLAMA Project at University of Wales Swansea. This project is designed to teach research skills to undergraduates by getting them to work on real research projects with commercial applications.







Llama_E is based on our earlier Lat_E programs. The original LAT_E program worked well in that it identified people who were easily fazed by an unfamiliar spelling system. Most of our testees produced scores which were close to chance levels. The test was also good at identifying analytical linguists - particularly those with formal training in phonetics.

Llama_E differs from the sound~symbol correspondence test used by Carroll and Sapon in significant ways, and we don't know if the two tests produce equivalent data.

A full report of the formal evaluation of Llama_F will be published on the project website: <http://www.swan.ac.uk/cals/calsres/llama/>

Summary instructions:

All the LLAMA programs carry a small blue and yellow box which tells you which button to click next. For LLAMA_E, you will find this box in the bottom left-hand corner of the display. The indicators are as follows:

	fill in your personal details and start the program
	the timer has started: use the time to learn as much of the spelling system as you can. Click the main panel buttons to do this.
	start the test phase
	Select your answer: choose one of the two displayed words
	play the next test word
	Click to exit the test and record your score

7: LLAMA_F A grammatical inferencing task

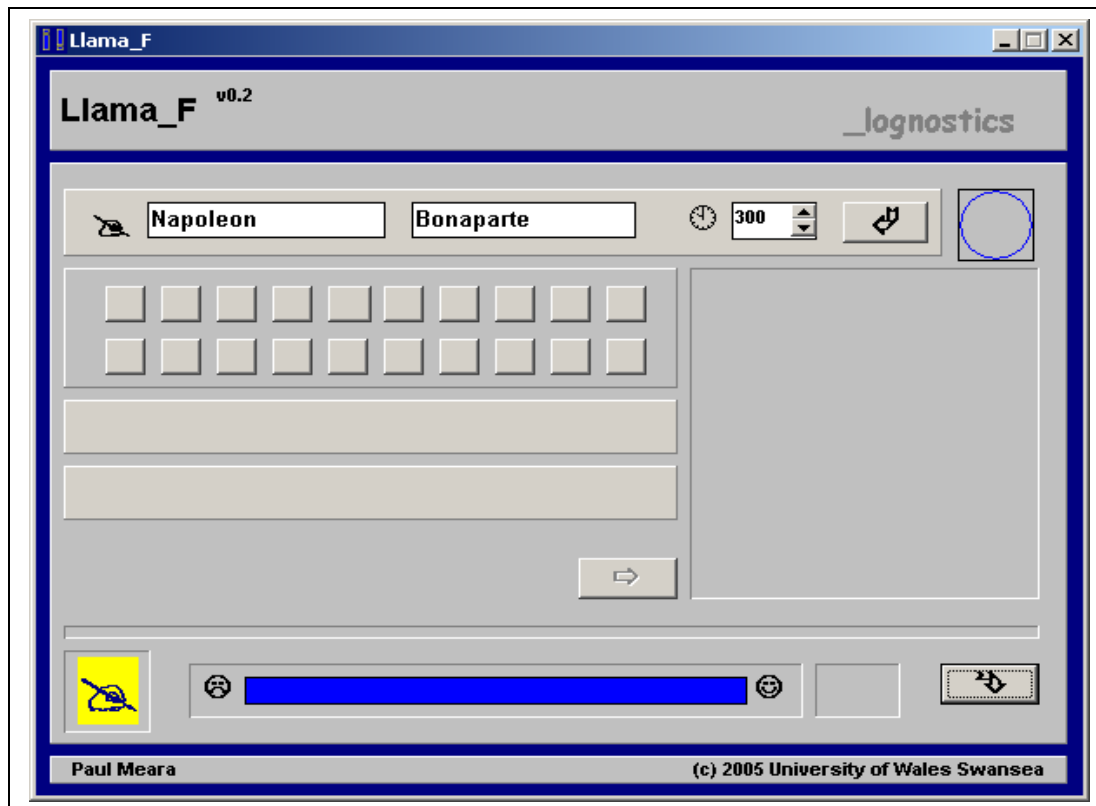
background

Llama_F is an updated version of our original Lat_C task. Lat_C was a simple grammatical inferencing test that presented you with sentences in an unknown language, and translations of these sentences in your L1. Your task was to work out the grammatical rules that operated in the unknown language.

Lat_C worked extremely well in our original assessment of the tests, but it has become increasingly difficult to adapt this task to the needs of different L1 speakers. Llama_F has therefore been designed with a new interface that requires no L1 input.

running LLAMA_F

Click on the LLAMA_F icon. This opens the program, and presents you with the screen below.




All the LLAMA programs share a set of common design features.

The panel immediately below the program title contains any parameters that you may wish to vary before you start test. For LLAMA_F there is just one parameter that you can adjust.

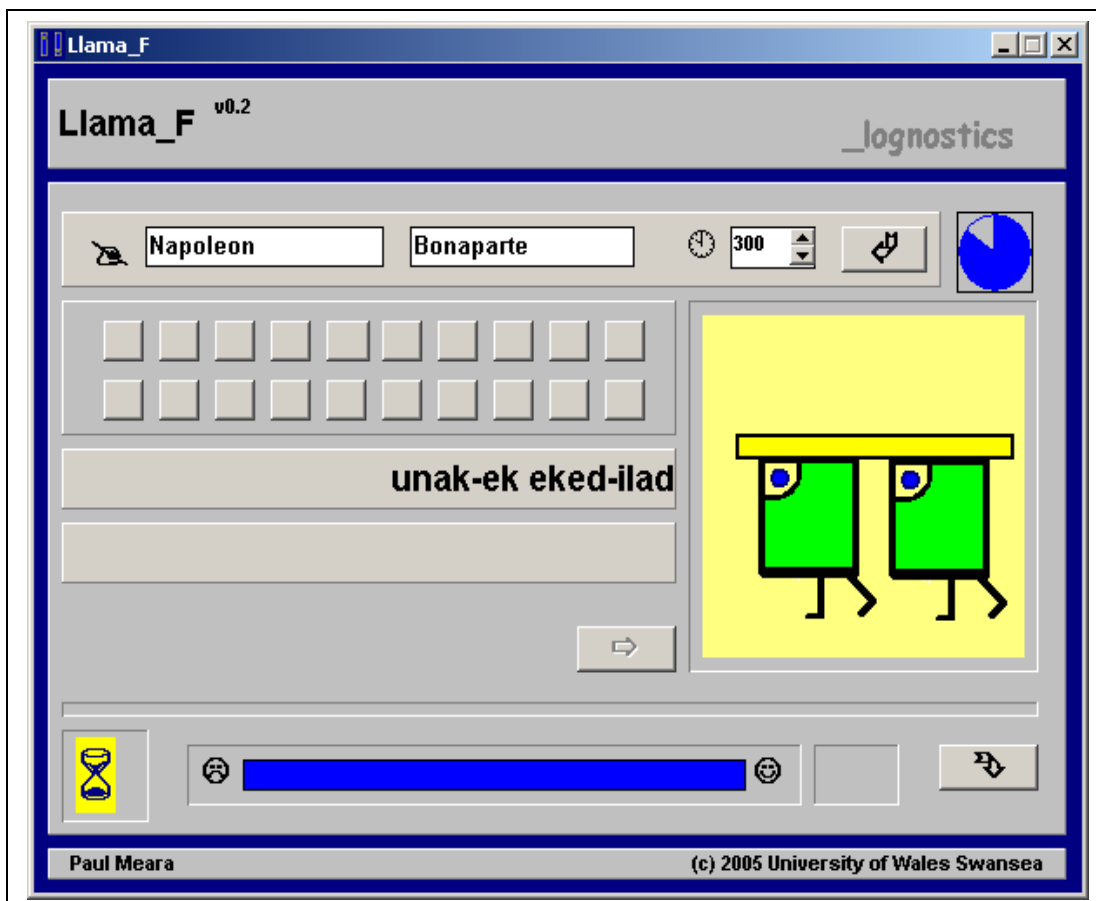
- The box marked ⌚ controls the length of time you have to learn the grammar of the new language. The number in the box tells you the number of seconds you have available for the test. This is normally set at 300 secs, i.e. five minutes. You can adjust this figure by clicking on the up or down arrows on the box. You will not

normally want to adjust the time available for the test. However, a very short time - e.g. 60 seconds can be useful for demonstration purposes, and this is the main reason why this facility is provided.

You initialise the program by entering your name in the two boxes marked . The LLAMA programs use this information to generate a code that identifies your personal data.

You start the program by clicking the  button in the start panel. Clicking this button activates the array of buttons in the main panel, and starts the timer.

Your task is to use the time available to you to learn as much as you can about a new language. You do this by clicking on the small buttons in the main panel. For each button you click, a picture and a sentence that describes it will be displayed, as in the screen-shot below. **unak-ek eked-ilad** is the sentence that describes the picture. You have five minutes for this phase of the program, and you can take any written notes that you need.



When program times out, you will hear a *bleep* to signal that you are entering the test phase.

Click the  button to start testing. This second phase is not timed.

During the test phase, the program will display a picture and two sentences. One sentence is grammatically correct, while the other contains a major grammar error. You have to click on the sentence that you think is correct. The program will give you feedback in the form of a *ding* for a correct answer, and a *bleep* for an incorrect answer.

Click the ⇨ button to see the next test item. There are twenty test items in total. The screen displays your score as you work through the test, and shows you how many items you still have to complete.

Results

At the end of the test, your score is displayed on the bottom panel.

Scores for LLAMA_F range between 0 and 100. Scores should be interpreted as follows:

0-15	a very poor score, probably due to guessing
20-45	an average score; most people score within this range
50-65	a good score
75-100	an outstandingly good score. Few people manage to score in this range.

Background Research

LLAMA_F is currently being evaluated as part of the LLAMA Project at University of Wales Swansea. This project is designed to teach research skills to undergraduates by getting them to work on real research projects with commercial applications.

Llama_F is based on our earlier Lat_C programs. The original LAT_C program worked extremely well, and was particularly good at identifying outstanding analytical linguists. The only reason we have replaced it here is that it was becoming increasingly difficult to maintain the original program in a range of different languages. This version, Llama_F does not require any L1 input, and it should work with L1_speakers of any language.







Lat_C was principally concerned with word order effects. Because of the limitations of the picture format, Llama_F is primarily concerned with agreement features, with word order features taking a lesser role. The stimuli used Llama_F are also more ambiguous than those used in our Lat_C program. These factors combined make Llama_F rather more difficult and challenging than the original program.

If your main purpose is to identify really good analytical linguists, then this test is a good place to start.

A full report of the formal evaluation of Llama_F will be published on the project website: <http://www.swan.ac.uk/cals/calsres/llama/>

Summary instructions:

All the LLAMA programs carry a small blue and yellow box which tells you which button to click next. For LLAMA_F, you will find this box in the bottom left-hand corner of the display. The indicators are as follows:

	fill in your personal details and start the program
	the timer has started: use the time to learn as much of the language as you can. Click the main panel buttons to do this.
	start the test phase
	Select your answer: choose one of the two displayed sentences
	play the next test word
	Click to exit the test and record your score

8: The Llama DataReader

background

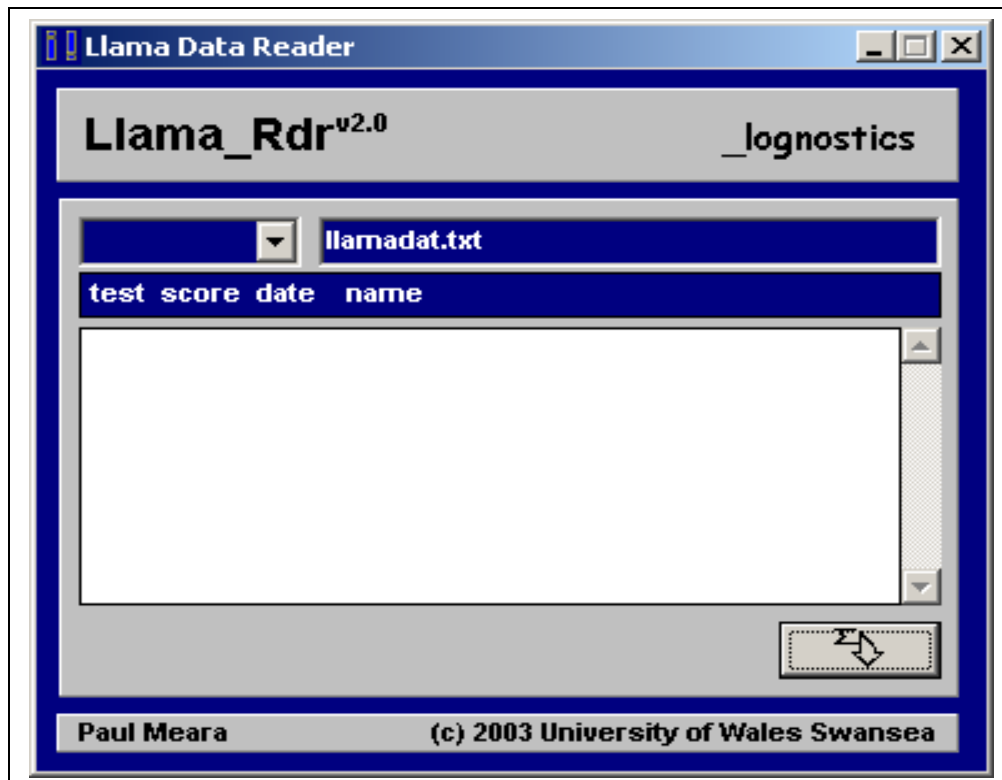
The Llama DataReader program is a small utility program that you may find useful if you are handling large amounts of data collected by the Llama programs.


All the Llama data is collected into a single text file, which you can read and print out using any word processor. The data is stored as an ASCII file. Each line in the file records one subtest taken by one testee. The Llama DataReader lets you gather together all the data generated by a single person.

Each test taker is identified by a five letter code, called a Halter Code. This code consists of the first three letters of the test taker's family name, and the first two letters of their given name. Thus, Napoleon Bonaparte would be identified as BonNa. Maximilien Robespierre would be identified as RobMa. These codes are normally sufficient to identify test takers uniquely in small groups. You may need to be careful if you have large numbers of test takers with the same family name. For example, Roger Jones, Robert Jones, Roland Jones and Robin Jones would all be assigned the code JonRo.

running Llama_Rdr

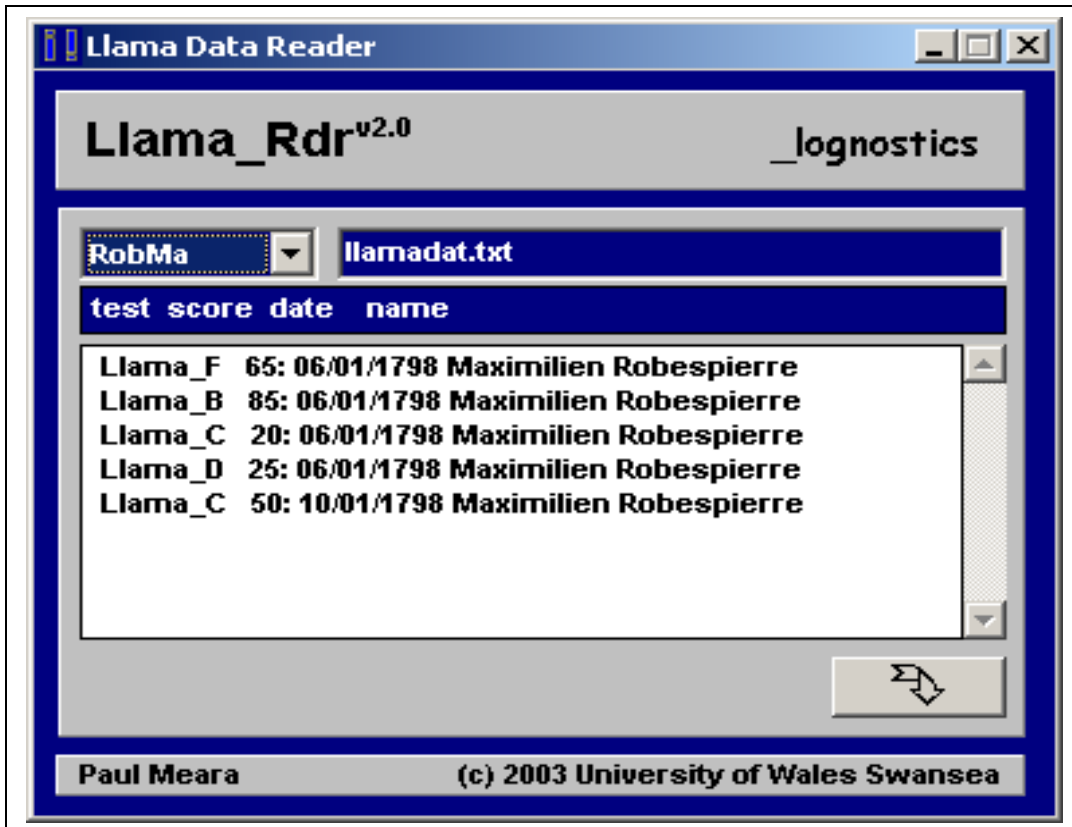
Click on the Llama_Rdr icon. This will open the program window.




LlamaRdr will open a file called llamadat.txt by default. This is where the Llama data is normally stored. You can override this by entering a new file name, and clicking the button marked .

Click on the drop down menu in the top left hand corner of the display. This menu will give you a complete list of all the test takers included in the main data file. Choose one of these codes by clicking on it. The program will the automatically display the test results for that person.

In the screen shot below, Maximilien Robespierre's data is displayed. Robespierre has a total of five tests. The scores he obtained and the date he took the test are shown on the screen. The screen showed that Robespierre actually took the Llama_C test twice.



Exit the test by clicking on the exit button .

Notes and Caveats

The development of the Llama tests was sponsored by **Comerint SpA in Kazakhstan**.

The Llama tests are provided free of charge to bonafide researchers. If you find them useful, then please consider joining the Swansea Research Club. This will give you privileged access to other material that we have developed in the area of vocabulary testing.

The Llama tests are provided on the strict understanding that the authors accept no liability of any kind for any damages arising out of the use of the tests. The materials provided to you are exploratory versions of on-going research, and they should NOT be used in high-stakes situations where accuracy and reliability are at a premium. By installing these programs on your computer, you are agreeing to this condition.

The programs should work trouble-free once they are installed. If you have problems, then contact p.m.meara@swansea.ac.uk.

We will make every effort to resolve your technical problems, but please bear in mind that we are not in a position to offer a 24 hour technical back-up service.

Technical Notes

The Llama tests are written in Delphi 6.

The programs are designed to work on stand-alone desk-top computers. They have not been extensively tested on networks. Any feedback on how the tests perform in these environments would be gratefully received.

Citations

If you need to cite this work, then the preferred form is:

P.M. Meara

Llama Language Aptitude Tests. Swansea: Lognostics. 2005,

please let us know what sort of results you get using the tests, as this helps us to calibrate the tests for further development.

References

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