



BCS

**READABILITY PROJECT
FINAL REPORT**

**produced for the
British Computer Society**

**by
Patoss
The Professional Association of Teachers
of Students with Specific Learning Difficulties**

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Personnel

Project coordination & management

Lynn Greenwold

Chief Executive, Patoss; for a number of years a learning support tutor with additional responsibilities for examination arrangements for students with learning difficulties and disabilities at Evesham College; member of the DfES Working Party on Dyslexia.

Analysis and report production

Sarah Fitzalan-Howard

Sarah originally taught in Primary Schools before moving to work with the secondary and adult ranges. A specialist teacher in SpLD she now assesses for learning difficulties and works as a learning support teacher, often for those facing public examinations and hoping to gain professional qualifications of varying sorts.

Katherine Kindersley

Director of the Dyslexia Teaching Centre, London; Dyslexia Consultant to the Royal College of Art, Royal College of Music, Royal Academy of Dramatic Art

Kath Morris

Formerly scheme manager for OCR Specific Learning Difficulties training schemes, and OCR External and Assistant Chief Verifier for these schemes. An experienced learning support tutor, responsible for many years for carrying out diagnostic assessments for SpLD at both Evesham and North East Worcestershire Colleges.

INTRODUCTION

On behalf of the British Computer Society, Patoss undertook this Readability Project. As one of the UK's leading computing awarding bodies the British Computer Society has the intention to ensure that their examinations and assessments are written in a fair and accessible manner.

As part of this activity BCS have worked with PATOSS to create effective standards for the development of assessment material specifically for computing, IT and ICT tests. BCS implements these guidelines in the European Computer Driving Licence (ECDL) as well as qualifications offered by the Information Systems Examination Board (ISEB).

In sharing the report and associated guidelines with other awarding bodies BCS hope that they can support their Royal Charter objectives as the leading professional body for the computing industry.

Aims of the project

These were the stated aims at the beginning of the project:

- To present questions which are clear, unambiguous and readable for a wide population of readers
- To address the needs of candidates with dyslexia and other specific learning difficulties
- To identify and use methods which are reliable, time effective and easy to use
- To prepare a presentation of these methods for examiners

Issues to be considered

The following general issues were identified as important:

- **The target candidate population**

The European Computer Driving License (ECDL) qualification is taken by students aged from 8 to 80+. In the UK, ECDL is increasingly viewed as a benchmark of IT competency. Students are drawn from all sectors including education, industry and commerce as well as the unemployed seeking IT skills to improve their job opportunities.

- **Literacy standards and levels of functional literacy**

In the UK the Moser Report (DfES1999) claimed that 1 in every 5 adults was functionally illiterate.

- **Needs of dyslexic candidates**

The British Dyslexia Association claims there are 6 million people with dyslexia in the UK (BDA 2006).

In setting tests which do not aim measure literacy skills but IT skills, it is clear that the needs of those with limited reading must be met.

Other issues which were identified as important initially and will be addressed in the following Sections of this report:

1. Usefulness of Readability formulae
2. Different approaches for multiple choice and non-multiple choice papers
3. Principles of Good Practice for setting all questions in all test papers in relation to:
 - i. Layout and presentation of test papers
 - ii. Structure and format of questions
 - iii. Wording
4. Implications for training test-setters, trainers and candidates
5. Identification of existing good practice

Protocol used for review

The protocol we planned at the beginning of the project has been followed and found effective. Papers from each module were reviewed by three reviewers working separately, but meeting frequently to review progress and moderate methods in order to achieve consistency. The project co-ordinator has overseen work and given guidance throughout, organised meetings and liaised with representatives of the British Computer Society (BCS).

Each reviewer evaluated both multiple choice and extended questions. The reviewing team consulted regularly by phone and Email. We met on three occasions for working sessions to review the process, to consult on issues arising, and to compare approaches in order to refine the protocol.

Strict security was maintained with regard to test materials which were kept in secure surroundings at each site where they were being used. No test material was transferred by Email. No test papers were shown to others outside the project team.

The protocol which we followed required the reviewers to

- apply readability formulae to tests
- identify any barriers to readability
- analyse and record difficulties in questions using a working grid
- redraft questions to meet recommendations for readability, giving guidance as to reasons

We consider the protocol has been effective and has enabled the team to complete the project efficiently and promptly. The usefulness of readability formulae is considered in Section 1 of this report.

The redrafting of questions was completed initially within the working grid, but as a final step, revised questions were produced in the required format for a test paper.

SECTION 1:

USEFULNESS OF READABILITY FORMULAE

The readability formula used was the Flesch Reading Ease formula which has become a US governmental standard. It comes as part of Microsoft Word. The same package gives a Flesch-Kincaid reading level tied in to USA Grade levels. We used the Reading Ease score rather than the Flesch Kincaid reading level as we did not feel Grade levels were useful for our purpose.

Like other readability measures the Flesch is primarily based on factors such as the number of words in the sentences and the number of letters or syllables per word (i.e. as a reflection of word frequency).

The output of the Flesch Reading Ease formula is a number from 0 to 100, with a higher score indicating easier reading. The average document has a Flesch Reading Ease score in the range 60-70. The formula is as follows:

$$206.835 - 1.015 \left(\frac{\text{total words}}{\text{total sentences}} \right) - 84.6 \left(\frac{\text{total syllables}}{\text{total words}} \right)$$

Flesch identifies **65** as the Plain English score. Scores below this indicate text which is less readable.

The **advantage** of readability tests is they can serve as an early warning system to indicate that writing is too dense. They can give a quick, on-the-spot assessment and act as "screening devices" to indicate the need for revisions in wording.

A major **disadvantage** for the purpose of the reviewers was that they only work successfully on longer passages of text, i.e over 100 words.

They can also only measure the 'surface' characteristics of text. Many important factors cannot be measured mathematically. These include:

- the difficulty of vocabulary
- whether the vocabulary is appropriate to the audience (e.g. essential subject vocabulary)
- whether the text is logical in structure
- whether the language is factual or figurative
- whether the layout and presentation of text helps or hinders the reader
- whether there is any cultural bias in the language

Readability formulae can therefore only be considered as predictors of reading ease and must be considered along with other criteria which must be measured in qualitative terms rather than using a mathematical formula.

The reviewers used the Flesch Reading Ease formula and found it helpful for longer passages of text. For shorter questions it provided only a limited prediction of readability and we relied much more on our own judgement about readability based on the Barriers to Readability table (Appendix 4) which was further developed in the reviewing process. In multiple choice questions we used the readability formula only for the stems.

How to calculate Flesch Reading Ease score using the Tools menu of Microsoft Word

Enable the Readability tool in MS Word by ticking '**Show readability statistics**' under Grammar settings in Options tools.

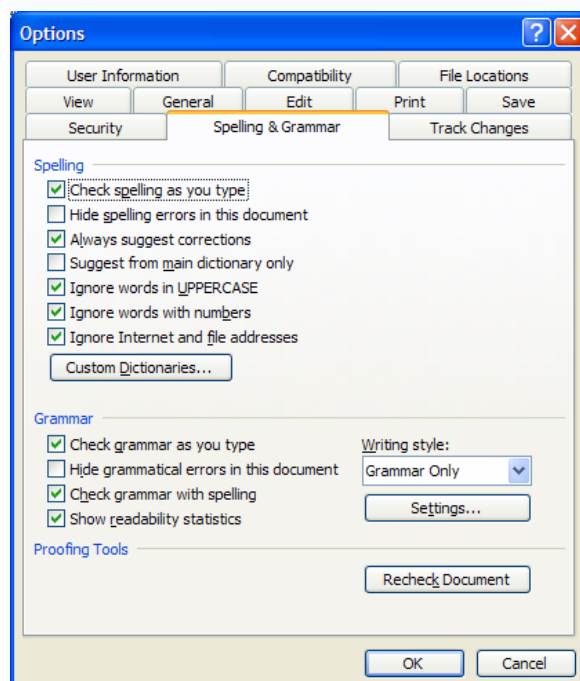


Figure 1

Highlight text to be analysed and press key F7. When prompted 'Do you want to continue checking the entire document,' click NO.

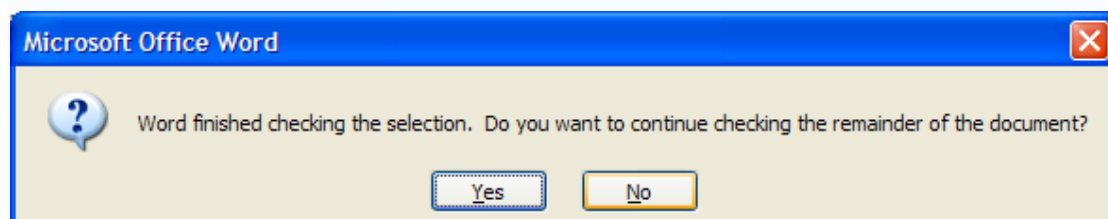


Figure 2

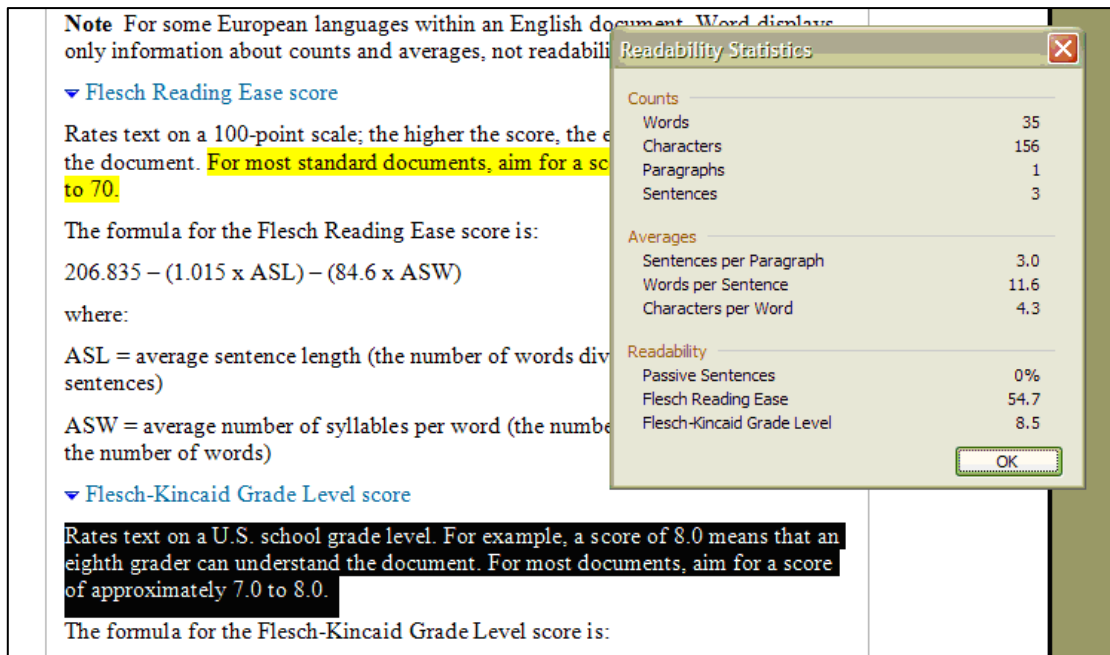


Figure 3

It should be noted that MS Word gives different readability scores on the same text depending on whether or not there is text following the selected text. See Figure 4 below

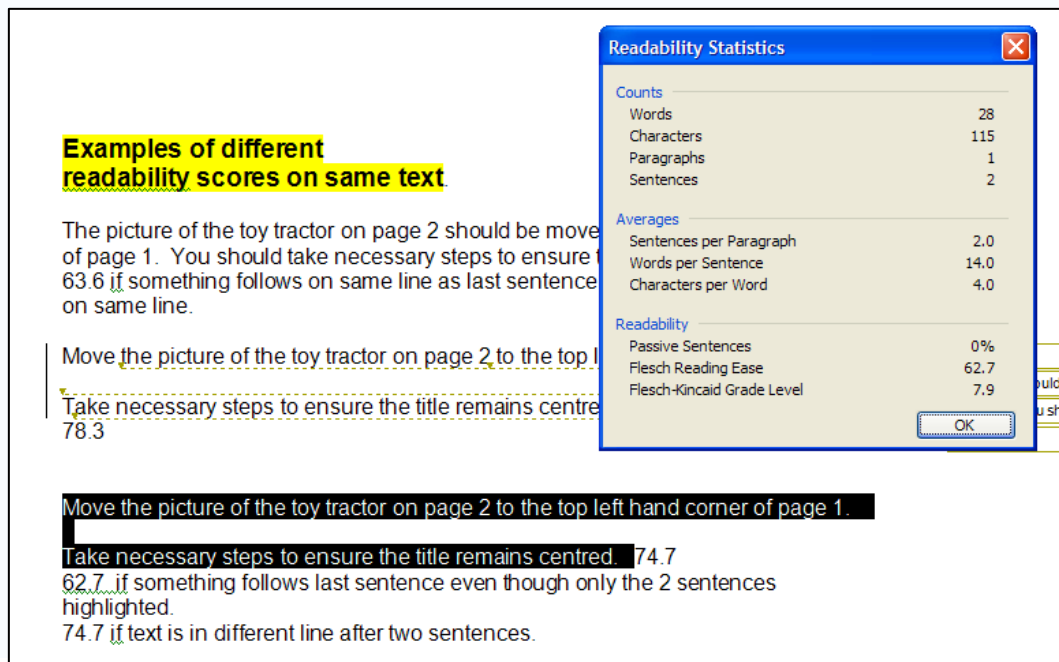


Figure 4

SECTION 2:

DIFFERENCES OF APPROACH FOR MULTIPLE AND NON-MULTIPLE CHOICE QUESTIONS

There are particular issues relating both to multiple choice and non-multiple choice questions in test papers. These were identified at the beginning of the project as recorded below. They have been explored in more depth, and addressed in Section 3, Principles of Good Practice for Readability.

Multiple Choice Questions

To aid understanding and readability multiple choice questions should aim to incorporate the following guidelines:

- i. In order to test subject understanding and knowledge, multiple choice questions need to be clear, readable and unambiguous.
- ii. The **stem** or **lead-in** to the questions is particularly important. The stem must be understood by candidates with a wide range of reading abilities so they are able to choose from the options and give evidence of their knowledge and understanding. Holding the stem in working memory whilst processing the **options** in relation to it, places heavy demands on working memory. This is very often a weak area for students with dyslexia. The analysis is therefore carried out on the stems.
- iii. The stem should be a sentence – either a statement or a question.
- iv. The **options** should not be longer than the stem. They very often consist of one word or a short phrase. Options only need to be analysed for readability if they consist of sentences or if they appear opaque.
- v. Knowledge of essential subject vocabulary is intrinsic to knowledge and understanding of the subject. It is expected that candidates would have learnt this and be able to read it in a clear context. This should be taken into account when assessing readability.
- vi. Candidates who have difficulty in accessing essential subject vocabulary in written form might be entitled to a reader.

Non-Multiple Choice Questions

- i. For extended questions, layout is particularly important. Long blocks of continuous text are more difficult to access than short paragraphs with white space around them.
- ii. Obviously it is helpful if candidates are able to read and understand all the material contained in a work file, but this is not what is being assessed. The assessment criteria are based on the candidate's ability to organise and manipulate the text in the work file following the

instructions contained in the question. The readability analysis does not therefore cover work files.

- iii. Knowledge of essential subject vocabulary is intrinsic to knowledge and understanding of the subject. It is expected that candidates would have learnt this and be able to read it in a clear context. This should be taken into account when assessing readability.
- iv. Candidates who have difficulty in accessing essential subject vocabulary in written form might be entitled to a reader.

SECTION 3:

PRINCIPLES OF GOOD PRACTICE FOR READABILITY IN TEST PAPERS

These were developed within the project and applied to the revised papers. The same principles (in summary form) are contained in the checklist to be found in Appendix 1. For ease of reference the checklist follows the same numbering system as this section

PRESENTATION AND LAYOUT

The revised papers follow the guidelines for layout set out below. These could be used as a template for future papers.

All Questions

1. All papers should have a clear easy to read sans serif font and at least 12pt font size. The British Dyslexia Association (BDA) recommends Arial as it does not run letters closely together. It is a familiar and readily available font.
2. The BDA also recommends cream paper, matt rather than shiny.
3. Each page should have plenty of white space rather than being 'busy'. If text is dense it is easy for some dyslexic students to see 'rivers of white' on the page which distract from the text and cause visual discomfort.
4. Text alignment should be left aligned with ragged right edge.
5. Single spacing should not pose particular problems as long as the text is not a dense block. We recommend however that there should be a 6pt gap between different stages of a question. See Example 1.
6. Emboldening and italicising text can be very helpful. In Example 1 it is used for filenames – a good practice. To use it for other keywords in this case would be confusing – which is why we recommend that emboldening and italicising should be used only for file and folder names.
7. Simple emboldening should be used judiciously. It is helpful to embolden keywords or words which might be easily confused. This is applicable to MC papers. **NOT**, for example is a key word and it can be useful to make it bold.

e.g. Which of the following is **NOT** an example of

Advantages and disadvantages can be confusing and again it is useful to embolden.

e.g. Which of the following is a **disadvantage** of
8. To help those with visual tracking difficulties we recommend using a tabular format for all papers with three columns for:

Question No.	Question	Marks allocated
--------------	----------	-----------------

9. In all papers lines to separate different questions were judged by all the project team to aid clarity and make it easier to track. Many people like to use a paper or reading frame to move down the text paper in order to make tracking easier. In the table cell there should be 0.5cm gap between line and text below.
10. We recommend a single column of text rather than two columns. Two columns make the page more crowded and the second column could easily be missed.
11. The title of the paper should be a heading at the top of the paper rather than in the text. For example:

Using the Computer and Managing Files

rather than:

The following is a test for Module 2, Using the Computer and Managing Files.

Non-Multiple Choice Questions

1. In non-multiple choice questions there is often a quite long passage of text setting the context. This is less dense and therefore more readable if separated into short paragraphs. (See Example 2)
2. As well as breaking this into smaller paragraphs, we recommend ragged right edge rather than justified text alignment. Justified text all too easily creates rivers of white. (See Example 2)

Original version

You work as the administrator for a Toy Store and as your manager is away at a conference he has left you with some work to do. He has provided you with some files on a candidate disk, one of which is a marketing newsletter to send to existing customers. The newsletter is in draft format and, as your manager does not have very good word processing skills, he has left instructions for you on improving the presentation before you send it out. There are several other files on the candidate disk some of which may require editing

Revised version

You work as the administrator for a Toy Store.

Your manager is away at a conference and he has left you with some work to do.

He has provided you with some files on a candidate disk. One of these is a marketing newsletter to send to existing customers. The newsletter is in draft format.

Your manager does not have very good word processing skills. He has left instructions for you on improving the presentation before you send it out.

There are several other files on the candidate disk some of which may require editing.

Example 2

3. As the standard setting we have used single line spacing with a 6pt. gap after stages of a question and after each short paragraph.
4. We have used the following formula:
Bold and italic to be applied to file names and folder names -
health.ppt
Bold only to be applied to text which has to be located or added to the file
– Enter the title **Holiday**

Multiple Choice Questions

1. We have used single spacing with a 6pt. gap after the paragraph as the standard setting. There are 2 returns after the stem and 1 return after each option.
2. In these papers there are fewer filenames and titles which need to be emboldened and italicised. We therefore recommend emboldening key word/s.
 - The purpose of punctuation is to separate phrases, sentences etc. within continuous prose in order to clarify meaning. For purely paper versions of tests it is not therefore necessary to use punctuation to separate options in

a MC question. The separation is made clear by the layout.

Full stops, however, are recommended by the RNIB in electronic versions of multiple choice papers. This will be necessary for older versions of screen reader software or material in DAISY format. Therefore the layout of each multiple choice question in any e-version format should incorporate a full stop after:

- the question number
- each answer option
- the mark allocation

3. One column is preferable to a 2 column layout.
4. Options should be designated by capital letters, dispensing with the need for brackets.

STRUCTURE AND CONTENT

All Questions

1. **Signposting** is a way of providing clues for candidates as to what to expect from the questions. The knowledge and skills required to answer them, of course, remains the same. At the beginning of the paper it is useful to provide an initial signpost by stating the number of questions contained in the paper and the time allocated. Currently this information is given in MC papers but not on others. We suggest that it should be applied to all papers. We suggest initial guidance to candidates on these lines:

There are 26 questions which must be completed in 45 minutes.

Note that numbers are clearer if expressed as digits are rather than words.

2. At the end of a paper it is useful to state: **This is the end of the paper.**
3. Repetition in question papers can be helpful and can be another way of signposting what is required. Variety of language is likely to confuse rather than help those with poor reading skills. For this reason syntax and phrasing should be as consistent as possible. Some frequently used signpost phrases are shown in Example 3.

Which of the following is ...?...
Which of the following is **NOT**?
What are the **advantages** of?
What are the **disadvantages** of?
Find the paragraph beginning
What does stand for?
What would you use to?

Example 3

4. It is a useful convention to start a paper with straightforward questions and leave harder questions to the second half of a paper. Candidates with poor reading skills approach tests with fragile confidence.
5. A simple sentence in the grammatical sense contains a single clause. The more embedded clauses there are in a sentence, the less accessible it is. In Example 5, the original version is a compound sentence containing 3 embedded clauses and an embedded participial phrase, 'On improving'. The revised version splits the sentence and inserts a full stop. This slows the thought of the sentence down and allows one idea to be assimilated by the reader before s/he proceeds to the second sentence. The most frequent change made in revising the ECDL papers was to split longer sentences.

Original version

The letter is in draft format as your manager does not have very good word processing skills, so she has left instructions for you on improving the presentation before you send it out.

Revised version

Your manager has left a letter for you in draft format. She has given instructions for you on improving the presentation before you send it out.

Example 4

6. We prefer to use full stops rather than colons or semi-colons which are less definite breaks.
7. We also took out bracketed phrases which interrupted the flow of a sentence. The information given in a bracketed phrase was usually clearer made into another sentence.

Non-Multiple Choice Questions

1. As stated above in LAYOUT AND PRESENTATION we recommend short single-spaced paragraphs with a 6pt gap between paragraphs. This applies especially to non-multiple choice papers.
2. We recommend short sentences.
3. The questions should be staged to reflect the sequence of processes which the candidate will need to consider.
4. The sequence of information must be logical, following the order in which the candidate will need to approach or consider it.
5. Non-multiple Choice questions are usually set within a work-based context. The information included about the work context should be confined to what is strictly relevant to answering the test, both in the introduction and the questions which follow. It is possible to omit 'scene setting' descriptions without impairing the integrity of the question.

Multiple Choice Questions

1. Some papers included 2 issues within the one question:
 - i. the nature of hardware
 - ii. the nature of software

Whilst each of these is basic to understanding of the subject, a question which combines the two is wordy and therefore less accessible as part of a MC paper. The same knowledge could have been tested in the framework of 2 questions rather than one. This practice creates a significant challenge for dyslexic candidates.

2. In options it is often helpful to repeat phrases, in order to reinforce familiar territory.
3. Each stem should be a sentence rather than a phrase followed by options which complete the question. A sentence reflects a complete thought. The full stop or question mark indicates a pause to assimilate the meaning of the sentence. It signposts the need to stop and take the question on board before proceeding to the options and so lessens the memory load.
4. The options should not be longer than the stem. Long options increase the memory load of a candidate who is trying to process four long pieces of information in working memory whilst making a choice between them.

WORDING

All Questions

1. 'The short words are the best' (Winston Churchill). Although we take these words from the great man on board, consistency of wording is important and there are cases where a longer word is better than a short word which does not quite have the same meaning OR is easily confused. For example, in choosing whether to use *alter* rather than the longer word ***manipulate*** (in relation to files, documents) we decided that ***manipulate*** was better as ***altering*** files or documents could be more easily misunderstood. Dyslexic students often take meanings very literally and phrasing needs to be not only consistent but exact. There is the point too that longer words are sometimes more easy to recognise. (***Elephant*** in a children's reader is more easily recognised than a word like ***through***.) It is long abstract nouns and adverbs which seem to be more problematic to read.

In most cases a simpler word is a better option than a more complicated one. For example, ***good*** can often replace ***appropriate***. However, in choosing whether to use ***bought*** or ***purchased***, it might be better to use ***purchased*** as although longer, it does not have the problem of being easily confused as ***bought*** is with ***brought***. These are issues on which it is difficult to make a general ruling and on which different candidates would have different preferences. There is no body of research to support decisions.

2. Use of abstract words makes comprehension more difficult. Instead of a phrase like '***Make modifications to.....***' write simply '***Change.....***'.
3. Passive verbs are more difficult than active verbs. Use '***Insert a text box***' rather than '***You are required to insert a text box***'; '***Change the font to Ariel***' rather than '***the font should be changed to Ariel***'.
4. Modal verbs (i.e. should and would, as in the example above '***should be changed***') have an indefinite and confusing feel to them and should be avoided. Very often, again as in the example above, the simple imperative is a good option.
5. Compound forms of verbs are more complicated than simple forms. Use '***Remove the report title and date at the top of the document***' rather than '***You will need to remove the existing report title and date at the top of the document***'.
6. We have already made the point that repetition of key words and phrases can be helpful. However, unnecessary words can be omitted. '***Save the file***' rather than '***Please save the file at this stage***'.

7. IT subject vocabulary is complicated and has to be learnt in training. Different applications have their own specific vocabulary (e.g. *transition effects* in PowerPoint). A lot of this is contained in the menus of the application. It would be useful therefore for there to be an agreed list of application-based subject vocabulary, which would be available to question setters, trainers and candidates. See **Training Implications**, below.
8. Negatives can cause confusion both to dyslexic and non-dyslexic candidates. Some questions use the formula

*Which one of the following is **NOT***

Where this is the case the **NOT** should be capitalised, highlighting it as a keyword. Similarly questions involving advantages and disadvantages can confuse and we recommend treating these also as key words.

*What are the **disadvantages** of ...?*
9. Figures of speech such as '*in the body of the text*' are confusing to candidates who take language very literally. There were very few examples of these in the original papers – most of the language used was factual.

SECTION 4:

TRAINING IMPLICATIONS

Improving readability has implications for the broader examination procedure and training environment. For example, lists of essential vocabulary should be made available to question authors, trainers and candidates.

Subject specific vocabulary

There is a wide range of subject specific vocabulary, e.g. *application, operating system, capture*. There is also vocabulary specific to particular applications e.g. *transition effects* in PowerPoint. Such vocabulary should be available to candidates, trainers and examination question authors so that there is a measure of agreement on what candidates are expected to know. It would then be expected that candidates would have training and practice in using this vocabulary,

A further consideration is to avoid the use of jargon and specialist vocabulary candidates would not have been exposed to at their level of learning.

Examination terminology

There are phrases which are commonly used in examinations. These should be identified and made available for training candidates in developing examination skills. Examples include '*Which one of the following is...*'; '*What does _ _ _ stand for?*' (Example 3, above.)

SECTION 5:

BCS EMBEDDED GOOD PRACTICE

We have noted examples of good practice embedded in the production of test papers which should be encouraged. These include:

- use of Arial font
- use of bold and italics to set out folder and file names
- use of bold to set out names of specific text or images to be located
- use of bold for key words like **not**
- laying out information for data input clearly, for example Module 5, databases
- laying out visual images clearly, for example Module 2 icons to be identified.
- freedom from cultural and gender bias
- a standard of English which in many tests is functional and clear and would be accessible to candidates

CONCLUSIONS

The revised papers represent the views of the project team, who worked closely together throughout to achieve a consistent approach. We believe the revised papers are clear and readable and would be appropriate for general use as well as for candidates who have reading difficulties.

The reviewers relied on their experience as language teachers and specialist teachers of dyslexic students. One team member is herself dyslexic. All reviewers are experienced computer users and have some knowledge of the ECDL subject matter. This was a great help.

The Flesch Reading Ease formula was used only as an initial screening device to indicate the readability of questions. Its usefulness was limited.

Useful guidelines exist both for writing clear English and for devising multiple choice questions. There is, as far as we are aware, no research which has specifically addresses the difficulties dyslexic students might have in doing multiple choice and short answer questions, which rely heavily on reading comprehension.

It would have been helpful to try out the revised questions on a group of dyslexic students in order to obtain some feedback. As the questions were live this was clearly impossible.

APPENDICES

- 1. Checklist of Readability Principles***
- 2. Procedure for Multiple Choice Questions***
- 3. Procedure for Non - Multiple Choice Questions***
- 4. Possible Barriers to Readability***
- 5. Working Grid Format***
- 6. References and Background Information***

CHECKLIST LIST FOR READABILITY IN TEST PAPERS

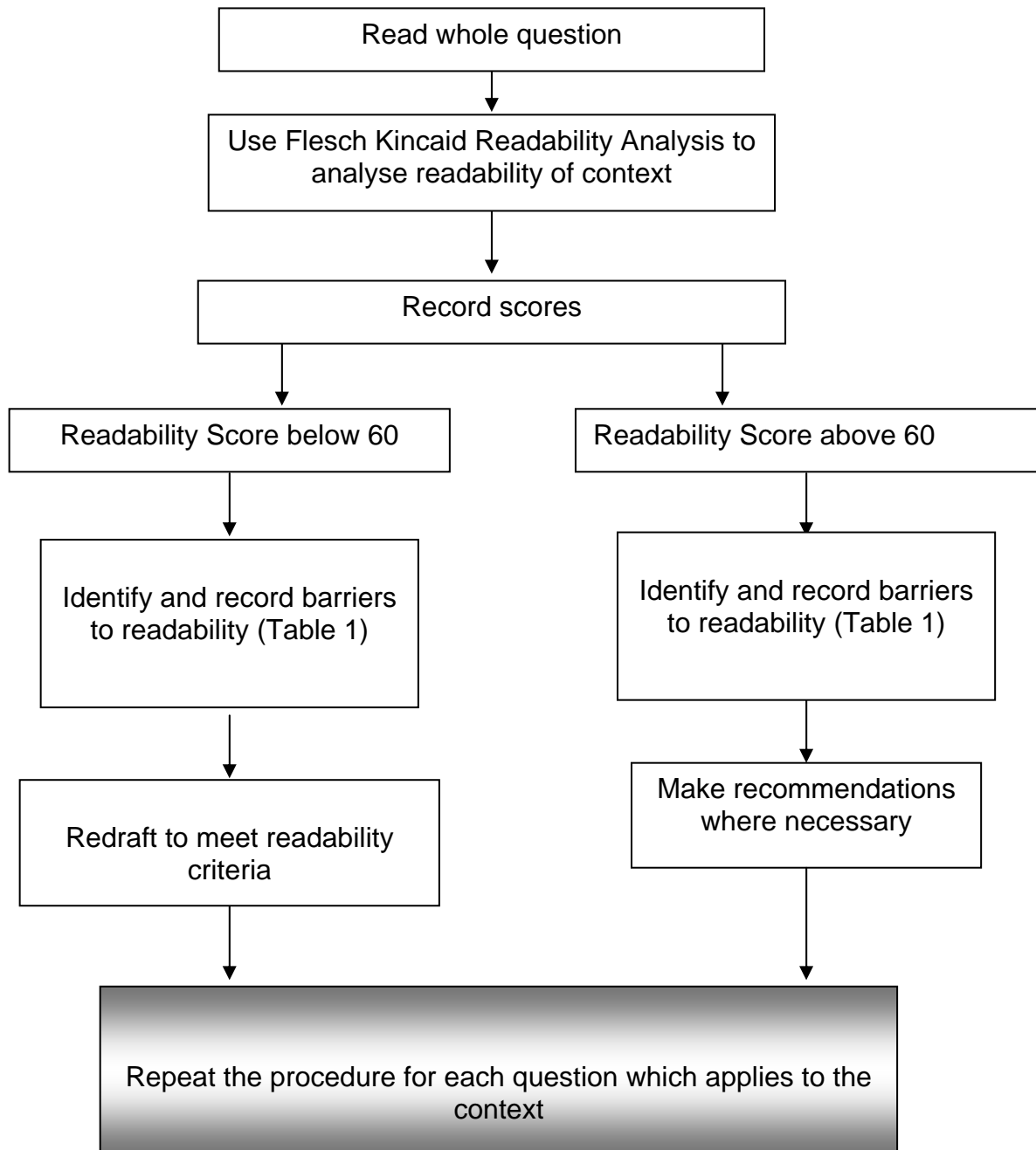
PRESENTATION AND LAYOUT		
ALL PAPERS	NON MULTIPLE CHOICE PAPERS	MULTIPLE CHOICE PAPERS
<ol style="list-style-type: none"> 1. Font – use Arial Font. Font size :12pt minimum 2. Paper off white, matt 3. White space - allow plenty of space on each page 4. Text alignment - left aligned, ragged right edge 5. Line spacing - single spacing but with 6pt. gap between stages of a question. 6. <i>Emboldening and italicising</i> – names of files and folders 7. Table format - use 3 column table to provide framework for questions. (question no./ question / points) 8. Matrix lines - use between questions. 5cm margin at top of cell. 9. Columns - full page spread rather than columns 10. Title – at top of question paper 	<p>As ALL PAPERS plus:</p> <ol style="list-style-type: none"> 1. Split long dense blocks of text Make short paragraphs 3pts between them 2. Text alignment Ragged right edge rather than justified in passages of continuous text. 3. Line spacing Single spacing but with 6pt. gap between stages of a question. 4. Emboldening Use for file names and text to be found or added. Not for key words. 	<p>As ALL PAPERS plus:</p> <ol style="list-style-type: none"> 1. Line spacing Single spacing. 6pts spacing after paragraph. 2 returns after stem, 1 return after each option. 2. Emboldening Embolden key words and words which might be confused. 3. Punctuation No full stops after each option. FS only where option has 2 statements. 4. Columns One column only. 5. Capital letters to designate the options

STRUCTURE AND CONTENT		
ALL PAPERS	NON MULTIPLE CHOICE PAPERS	MULTIPLE CHOICE PAPERS
<p>1. Initial signposting At beginning of paper give number of questions and time allocated.</p> <p>2. Signpost end of paper</p> <p>3. Repetition Repeat phrases which act as signposts and be as consistent as possible in syntax and phrasing.</p> <p>4. Harder questions later in paper</p> <p>5. Simple sentences without embedded clauses.</p> <p>6. Full stops rather than semi-colons</p> <p>7. No bracketed phrases mid – sentence</p>	<p>As ALL PAPERS plus:</p> <p>1. Short paragraphs with 6pt. space between</p> <p>2. Short sentences</p> <p>3. Staged questions – reflecting processes required</p> <p>4. Processes required in logical order</p> <p>5. Relevant context information Only include what is useful to clarify action required.</p>	<p>As ALL PAPERS plus:</p> <p>1. Single issue questions Just one topic each question</p> <p>2. Repetition Repeat key phrases in options</p> <p>3. Stem is a sentence</p> <p>4. Options not longer than stem</p>

WORDING		
ALL PAPERS	NON MULTIPLE CHOICE PAPERS	MULTIPLE CHOICE PAPERS
<ol style="list-style-type: none"> 1. Short words – Use wherever possible without sacrificing clarity. 2. Concrete rather than abstract words 3. Active verbs – use simple imperative form of verb for directions 4. Avoid modal verbs 5. Simple forms of verb rather than compound 6. Repetition in wording - repetition can be useful but miss out unnecessary words 7. Include subject vocabulary but not unnecessary jargon 8. Avoid negative statements and commands 9. Avoid figures of speech 	<p>As ALL PAPERS</p>	<p>As ALL PAPERS</p>

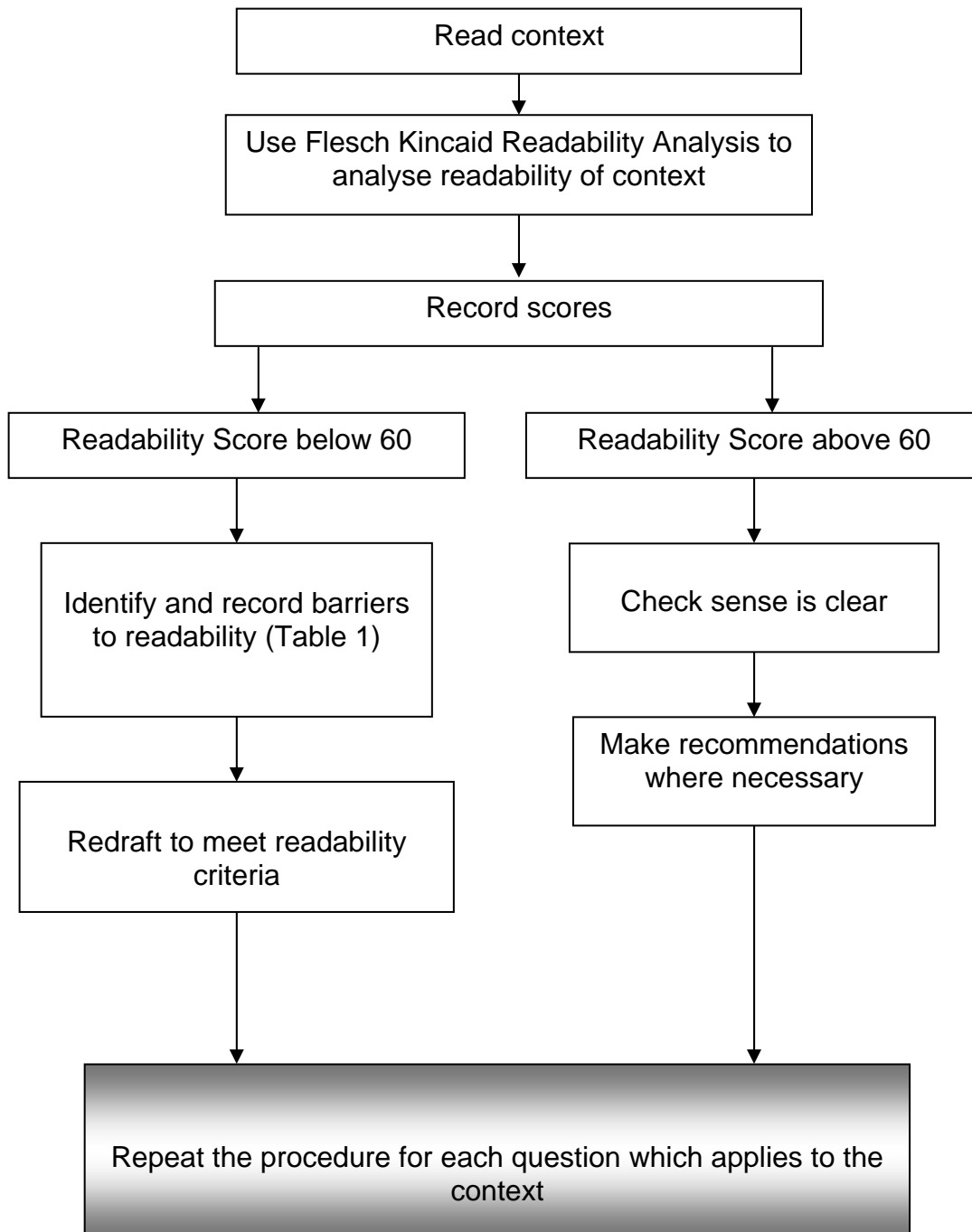
Appendix 2: Procedure for Multiple Choice Questions

Use Working Grid to record scores and analysis



Appendix 3: Procedure for Non-Multiple Choice Questions

Use Working Grid to record scores and analysis



Appendix 4: Possible barriers to readability

Long sentences
Multisyllabic words (over 4 syllables) (essential subject vocabulary excluded)
Unfamiliar abstract words (e.g. modifications, occurrences)
Use of unnecessary words making questions longer than needed
Use of passive voice (e.g. What would be considered?)
Embedded clauses (e.g. He has provided you with some files, one of which is)
Complicated syntax
Modal verbs (should, could, might)
Use of continuous verb tense rather than simple tense (you are upgrading .../ you upgrade...)
Easily confused words (e.g. advantage, disadvantage; input, output)
Figures of speech (e.g. the body of the text)
Negative stems (Which of the following is not correct?)
Inaccessible format (e.g. blocks of dense text; unfamiliar font)
Unnecessary punctuation (e.g. semi-colons at the end of multiple choice answers)
Long paragraphs
Questions which do not reflect sequence of actions required
Brackets interrupting flow of sentence
Illogical sequencing within question.

The 4 shaded paragraphs were added during the development of the project.

Appendix 6: References and Background Information

Functional Literacy

DfEE 1999 *A Fresh Start - improving literacy and numeracy* known as the Moser Report, published by DfEE.

<http://www.lifelonglearning.co.uk/mosergroup/fore.htm>

BDA 2006 *The Dyslexia Handbook*, published by the British Dyslexia Association

Designing Multiple Choice questions

<http://www.specialconnections>

<http://www.is.bangor.ac.uk/ets/testpilotresources/mcq.php>

Thomson, Patience 2003 *Problems with language experienced by Teenage Readers with particular reference to examinations* unpublished paper, May 2003

Readability

<http://www.basic-skills.co.uk/site/page.php?cms=1&p=1205>

<http://plainlanguage.com/newreadability.html>