

1996

# Health C.H.I.P.s scriptwriters' manual

Lucille Moran

*Hunter Centre for Health Advancement*

Sallie Newell

*Southern Cross University*

---

## Publication details

Moran, L & Newell, S 1996, *Health C.H.I.P.s scriptwriters' manual*, prepared for Hunter Centre for Health Advancement, Newcastle, NSW.

ePublications@SCU is an electronic repository administered by Southern Cross University Library. Its goal is to capture and preserve the intellectual output of Southern Cross University authors and researchers, and to increase visibility and impact through open access to researchers around the world. For further information please contact [epubs@scu.edu.au](mailto:epubs@scu.edu.au).

**HEALTH C.H.I.P.s**

**SCRIPT WRITERS' MANUAL**

**PRODUCED BY**

**Lucille Moran & Sallie Newell**

**HUNTER CENTRE FOR HEALTH  
ADVANCEMENT**

**April 1996**



# TABLE OF CONTENTS

<b>What are Health C.H.I.P.s? .....</b>	<b>3</b>
Current Health C.H.I.P.s Topics .....	3
<b>The Steps Involved in Writing a Health C.H.I.P.s Program .....</b>	<b>4</b>
Establishing a Working Group.....	4
Setting the Aims & Objectives of the Program .....	5
Drafting an Outline of The Program Components.....	6
Drafting the Program Content.....	7
Presentation Tips .....	7
Language Tips .....	8
Screen Design Tips.....	9
Colour Tips .....	13
Graphics Tips .....	13
<b>The Final Checklist.....</b>	<b>14</b>
<b>What Happens Next?.....</b>	<b>15</b>
<b>APPENDIX 1:The SMOG Formula for determining Reading Age.....</b>	<b>16</b>
<b>APPENDIX 2:Calculating &amp; Interpreting the Flesch Reading Ease Score .....</b>	<b>17</b>
<b>APPENDIX 3:Simplifying Text .....</b>	<b>18</b>
<b>APPENDIX 4:Standard Screen Templates .....</b>	<b>19</b>
<b>References.....</b>	<b>20</b>

## What are Health C.H.I.P.s?

Health C.H.I.P.s represent an innovative approach to providing community health information and education on a variety of topics. It involves placing interactive touchscreen computer programs, in user-friendly kiosks, into locations where large proportions of the general community gather. Health C.H.I.P.s kiosks have been permanently placed in locations such as shopping centres and hospitals and can be taken to special events, such as the Easter Show.

### **Current Health C.H.I.P.s Topics**

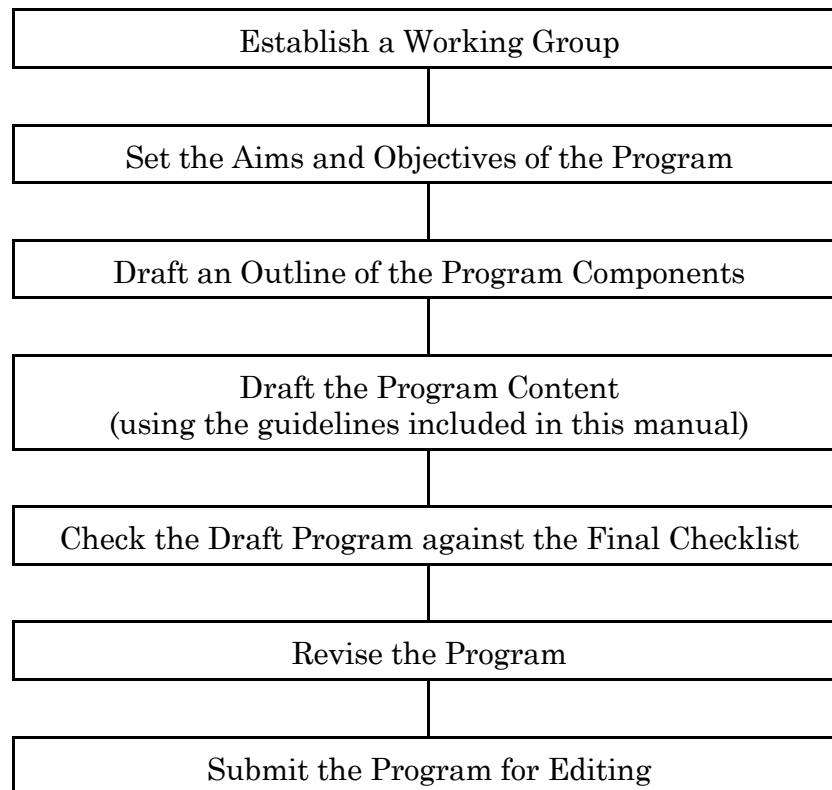
- \*Asthma
- \*Breads & grains
- \*Blood pressure
- \*Drink driving
- \*Mental health
- \*Sexual health
- \*Cervical cancer
- \*Immunisation

Each program has been designed to be easy to read and has incorporated a combination of learning techniques. These techniques include:

- \***using quizzes to increase knowledge:** studies have shown that people like this format of presenting information and that it helps them to remember the information.
- \***using local data:** studies have shown that people relate better to information which is tailored to their region than to global or Australia-wide data.
- \***optimal presentation of the information:** the presentation guidelines in this manual are based on many studies which have explored ways of maximising the comprehension, recall and adoption of educational messages.

## **The Steps Involved in Writing a Health C.H.I.P.s Program**

The figure below summarises the steps involved in writing a Health C.H.I.P.s program. Each step is discussed in more detail in the remainder of this manual.



### **Establishing a Working Group**

Although one person may take primary responsibility for writing the Health C.H.I.P.s program, it is important to do so in conjunction with a working group. This group should be involved in each step described above. Their involvement will help to ensure that more potential issues and problems are explored. It is recommended that the working group should include:

- \* a local expert.
- \* a person with content expertise.
- \* a person with educative experience in the content area.

Other members may also be considered appropriate, depending on the program's content. The Hunter Centre for Health Advancement can also provide support as the program develops and will arrange an expert review of the script prior to programming.

## Setting the Aims & Objectives of the Program

The first task of the working group is to set the aim of the program. Issues to consider include:

- \*Why are you doing it?
- \*What do you hope to achieve?
- \*Do you want to provide information?
- \*Do you want to change people's attitudes?
- \*Do you want to stimulate some sort of action?

Having set the aims of the program, the second task of the working group is to set objectives which will allow you to determine whether or not the program is meeting the aims. Objectives should be concrete statements which can be measured, demonstrated or tested. It is likely that one aim may be associated with a number of objectives.

The table below gives some examples of aims and objectives.

<b>Aims</b>	<b>Objectives</b>
To increase community awareness about heart disease.	To increase the proportion of the community who identify heart disease as a major health problem.
	To increase the proportion of the community who can identify the risk factors associated with heart disease.
	To increase the proportion of the community who are aware of ways heart disease can be prevented &/or reduced.
	To increase the proportion of the community who know their own risk status in relation to heart disease.
	To increase community awareness about specific programs available to help people reduce their risk of heart disease.

### Drafting an Outline of The Program Components

Having determined the aims and objectives of the program, the next task facing the working group is to decide how they expect the program to meet each of the objectives. Data from the existing Health C.H.I.P.s programs indicate that quizzes are a popular way of gaining information. We also know that it is better to have multiple short quizzes than one long quiz: about 5% of people drop-out at each question. This also makes it important to include the most important information at the beginning of the quizzes. The table below gives some examples of ways the aim and objectives outlined above could be addressed.

<b>Aim</b>	<b>Objective</b>	<b>Specific Message</b>	<b>Education Strategy</b>
To increase community awareness about heart disease.	To increase the proportion of the community who identify heart disease as a major health problem.	Heart disease is the leading cause of death in Australia.	*Basic Facts Section *Test Your Knowledge Quiz
	To increase the proportion of the community who can identify the risk factors associated with heart disease.	Risk factors include: age, sex, family history, being overweight, smoking, etc.	*Basic Facts Section *Test Your Knowledge Quiz
	To increase the proportion of the community who are aware of ways heart disease can be prevented &/or reduced.	Prevention techniques include: not smoking, drinking alcohol in moderation, having healthy diet, etc.	*Basic Facts Section *Test Your Knowledge Quiz
	To increase the proportion of the community who know their own risk status for heart disease.	Individual risk profile.	*Am I At Risk Quiz
	To increase community awareness about specific programs available to help people reduce their risk of heart disease.	Programs available include: gutbusters, BP & cholesterol screening, QUIT courses, etc.	*Further Information Section

## Drafting the Program Content

### **Presentation Tips**

- \***Always put the most important information at the beginning of each section of your program:** the first pieces of information provided are easier to remember. Also, data from existing Health C.H.I.P.s has shown that people often do not complete the programs and quizzes (Kintsch et al, 1975; Loman & Mayer, 1983).
- \***Use titles and sub-titles:** using titles has been found to result in better recall of information (Lorch & Lorch, 1986).
- \***Visually emphasise the key points:** using visual cues (bolding, colour, underlining, etc) has been found to result in better recall of the information (Collins & Lerner, 1982; McAteer, 1992; Peeck, 1987).
- \***Don't be afraid of repetition:** as discussed earlier, most people do not complete the entire program - therefore, repetition of the key points will increase the proportion of people exposed to your main message. Repetition of key points has also been found to result in better recall of information and in larger attitude changes (Batra & Ray, 1986; Kintsch et al, 1975).
- \***Use graphics and illustrations on all screens:** using appropriate illustrations has been found to result in improved recall and comprehension of information (Levin et al, 1987; Moll, 1986).
- \***Avoid using uncommon symbols or abbreviations:** using unfamiliar symbols and abbreviations has been found to result in poorer comprehension and recall of and compliance with information (Hardie et al, 1979).
- \***Don't overcrowd the screens:** including too much information on one screen makes it more difficult to read and understand (Russell & Redhead, 1991). This issue is discussed in more detail in the "Screen Design Tips" section.
- \***Always use a mixture of upper and lower case letters:** text is more difficult to read if it is presented entirely in upper case (Ley, 1994).
- \***Use only left justification of your text:** it has been shown that text which is left ragged along the right hand side is easier to read than right-justified text (Ley, 1994).
- \***Always use a simple font:** fancy fonts are more difficult to read. Health C.H.I.P.s programs all use a standard font (insert details). Any proposed variations to this font should be discussed with the Health C.H.I.P.s co-ordinator.

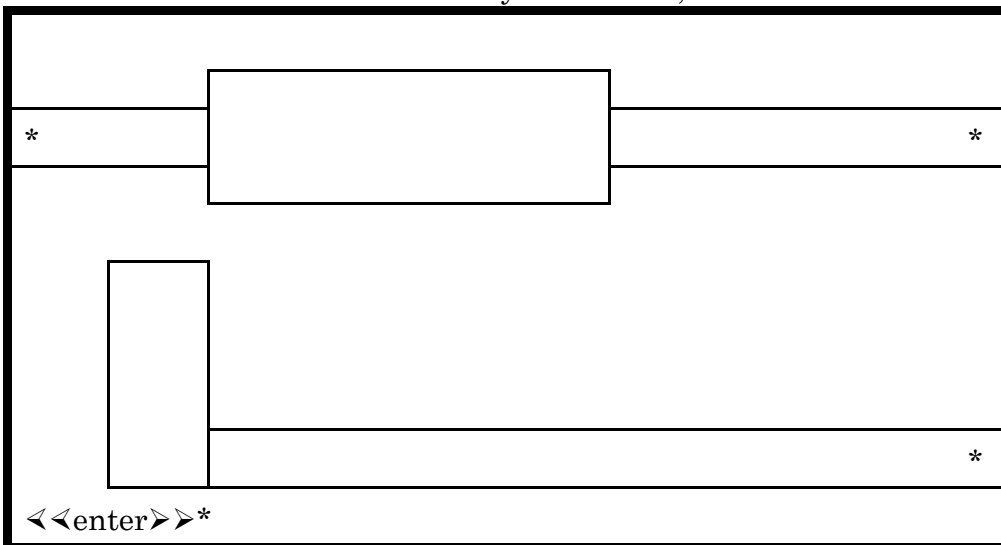


## Language Tips

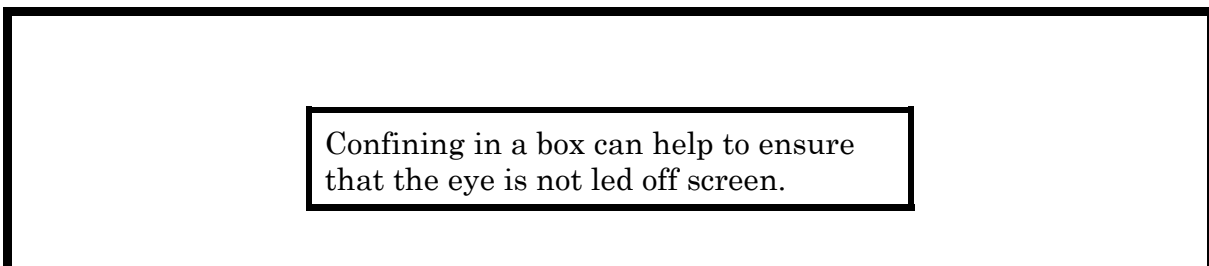
- \***Always use the shortest words possible to convey your message:** using shorter words has been found to result in improved recall and comprehension (Ley, 1988; McGaw & Sturme, 1989).
- \***Keep your sentences as short as possible:** using shorter sentences has also been found to result in improved recall and comprehension (Ley, 1988; McGaw & Sturme, 1989). It is better to use two short sentences than one long one.
- \***Always write in the active voice:** using the active, as opposed to the passive, voice has been found to result in improved comprehension (Slobin, 1966). Eg: Smoking causes cancer (active voice). Cancer can be caused by smoking (passive voice).
- \***Always write in the positive voice:** using the positive, as opposed to the negative, voice has been found to result in improved comprehension (Paivio, 1971; Wright & Barnard, 1975).
- \***Check the reading age of your program:** you should aim for a Grade 7 level of education. This will ensure that 90% of people aged 25+ and 77% of people aged 65+ will be able to understand your program (Ley, 1988). Two popular methods of manually determining reading age are included in Appendices 1 and 2. Many word processing packages also include programs to assess documents' reading ages.
- \***Always express percentages as fractions:** many people are not familiar with the concept of percentages. It is likely that many people will understand the idea of 1/10 or one in ten better than they will 10%.
- \***Always explain any unusual terms:** if you can't avoid using "jargon", give an alternative explanation in brackets. Eg: hereditary (passed down through families).
- \***Use non-sexist and non-racist examples:** the use of sexist or racist examples is likely to be offensive to many people and may result in people not completing your program.
- \***When using a quiz, always provide feedback with every question.** Feedback can be used to tell the user whether or not they were correct and, if they answered incorrectly, the correct answer. A simple explanation should reinforce the message. For example: 'How many middies of normal beer are equal to one standard drink?' The answer is one. Even if the respondent answered correctly, they should still be reinforced with the correct answer, eg. 'Yes, that's correct, one middy of normal beer is equal to one standard drink'. Studies have shown that when feedback is provided in this way, people learn and retain more (REF).

## Screen Design Tips

- \***Use the screen templates:** Appendix 4 contains some standard templates for you to use when drafting your screens - to ensure easy to follow screens.
- \***Make title screens interesting:** the title screen should attract attention and invite the user to go on. It should be interesting and visually pleasing.
- \***Keep the screen simple:** try to imagine the individual parts of the screen (text, illustration, choice buttons) as shapes and ensure they fit together well. Eg: '... a block of text is a rectangle, a title is a long thin rectangle, an illustration may be circular and an icon may be a small triangle' (Russell & Redhead, 1991).
- \***Position information from top left to bottom right:** most people read from top left to bottom right. Use this to control what you want the reader to see first. If there is a picture or larger area, this may take precedence over top left to bottom right, so be sure to plan your screen carefully.
- \***Use boxes and squares:** boxes and squares can be used to keep the reader's eye on the screen (Russell & Redhead, 1991). Avoid using arrows or lines all the way across the screen - these can lead the eye off screen, as shown in the example below.

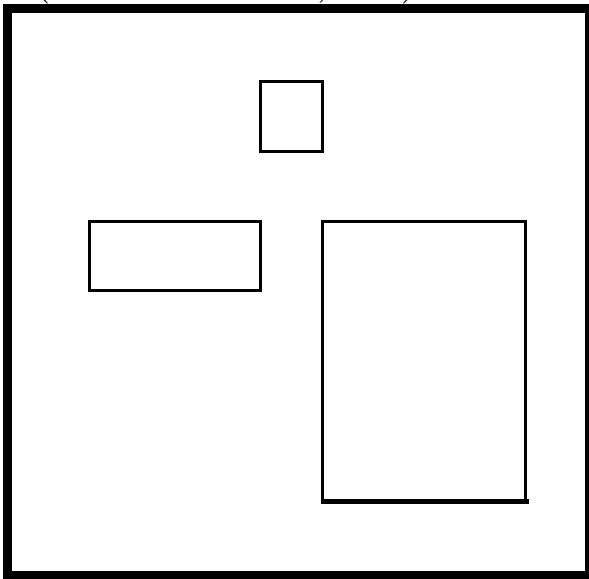


\*Eye is led off screen

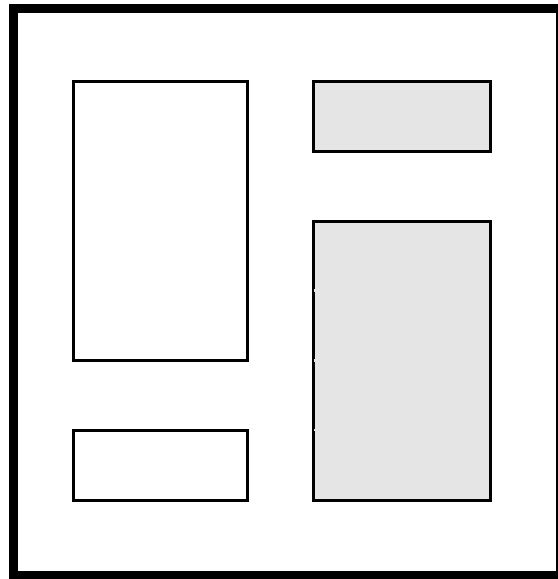


- \***Make sure each screen looks balanced:** a well balanced screen is easier to read. It can be difficult to know in what order someone will read a poorly balanced screen. Spacing is also very important: negative space (space with nothing occupying it) should also be considered. It may be advisable to direct the eye using a box or border

(Russell & Redhead, 1991).



A poorly balanced screen.



A well balanced screen.

The next two pages contain examples screens from the Drink Driving program's "Test Your Knowledge Quiz".

How many standard drinks per day is considered  
to be a safe maximum level?

**CHOOSE ONE BOX**

6 standard drinks

4 for women, 8 for men

2 for women, 4 for men

as many as you wish, without  
feeling drunk

**YOU'RE CORRECT!**

The safe daily alcohol intake is up to 2 standard drinks for women and up to 4 for men.

Insert appropriate graphic

**CONTINUE**

**FINISH**

## **Colour Tips**

- \***Choose your colours carefully:** some people are colour blind and cannot distinguish between red/green. Others have trouble with shades/tints.
  - \***Use a neutral background colour:** to make the screen more pleasant to look at - blue and grey make good background colours.
  - \***Don't overuse colour:** too many colours can become confusing. It is best to have two or three colours and change these with variations in lightness and darkness.
  - \***Use warm colours sparingly:** Warm colours (reds, oranges, yellows) can tend to create an uneasy, tense feeling in the user (Russell & Redhead, 1991).
- NOTE: Your choice of colours should be discussed with the Health C.H.I.P.s Co-ordinator and the programmer.

## **Graphics Tips**

- \***Position graphics carefully:** graphics catch the eye, so you need to take care that they don't distract people from the text. Graphics don't necessarily look best when they are placed in the middle of the screen. They may appear more balanced if positioned slightly off centre (Russell & Redhead, 1991). If you do use graphics, it is best to place them down the left hand side or in the top third of the screen.
- \***Use illustrations and photographs carefully:** they should only be included if they serve a purpose as they take up a lot of memory on the computer.
- \***Keep photographs simple:** if using photos, you must pay attention to the lighting. The screen is a light source and so anything on the screen will be affected by the light. Dark, busy photos are not suitable. Pictures may be scanned, but these must be relatively simple in design and colouring.
- \***Use only good quality illustrations:** poor quality illustrations may detract from the overall impression and credibility of your program.
- \***Put graphics in boxes:** this helps to separate the text from the graphics. Making the box a shade lighter in colour than the background also helps.
- \***Keep tables simple:** large tables may confuse people more than they help them. It is generally best to use only two colours.
- \***Check for any copyright issues:** copyright issues can apply to photographs or copied graphics. If using photos, you may need the permission of those photographed. With copied graphics, you will, at least, need to acknowledge the original source and may need to gain permission to use the graphic.

## **The Final Checklist**

Before sending your program off to be edited, check that you have complied with the following guidelines:

### **Generally**

- 1.You have defined your target audience.
- 2.You have defined the aim of your program.
- 3.You have defined your objectives.

### **For each screen**

- 5.Is it interesting?
- 6.Does it relate **directly** to the user?
- 7.Would you want to read it all the way through?
- 8.Is it nice to look at?
- 9.Do the words have only one or two syllables?
- 10.Are the sentences short?
- 11.Have you made yourself clear?
- 12.Does the user learn anything, if so, what?
- 13.Does this relate to your aim/goal?
- 14.Is the program the right length? Can anything be cut out?
- 15.Have you used simple terms (or explained technical ones in brackets)?
- 16.Are your graphics, photos, illustrations relevant?
- 17.Is the information correct?
- 18.Have you organised copyright if needed?
- 19.Have you done as much as you can to improve the script?
- 20.**Are you happy with the script?**

Well done, send it in for editing!

## **What Happens Next?**

Below is a brief overview of what happens to your program after you submit it for editing.

- 1.**Expert Review:** copies of your program will be sent to 3 content experts for review - to ensure the credibility and the accuracy of the information being presented. The 3 experts will comprise one local and two national experts, all with national recognition of their expertise.
  
- 2.**Reviewers' Comments Returned for Answering:** you will receive a copy of all reviewers comments - to give you an opportunity to address any issues arising prior to the commencement of the program's conversion.
  
- 3.**Conversion into Computer Program:** the program you supplied will be converted into the standard computer format and a draft version developed for testing.
  
- 4.**Testing of the Draft Version:** you will receive a copy of the computerised program to check - this will represent your last chance to make any changes to the program.
  
- 5.**Finalising the Health C.H.I.P.s program:** the final changes will be made and checked.
  
- 6.**Distribution of the Health C.H.I.P.s program:** the final version of the program will be loaded onto all the operational Health C.H.I.P.s kiosks.



## **APPENDIX 1: The SMOG Formula for determining Reading Age**

### **The Smog Formula**

Hawe et al (1990) describes the SMOG formula as follows:

1. Mark off the text in three ten-sentence sections, one section at the beginning, one towards the end and one in the middle of the text. It doesn't matter if the sentences are long or short. If your text is only about thirty sentences long, or if it has less than thirty sentences, use the whole text as your sample.
2. Circle all the polysyllabic words (words with three or more syllables) in the thirty sentences you have marked off, including any repetitions of the same word. Add up the number of words you have circled.
3. If you have 30 sentences in your sample, go straight to step 4. If you have less than 30, find the average number of polysyllabic words per sentence by dividing the total number of words you circle by the total number of sentences. Then multiply your answer by 30 to get an estimated number of polysyllabic words per 30 sentences.
4. Find the nearest perfect square to the number of words you circled, and write down its square root.
5. Add a constant of 3 to the square root. The number you get is the SMOG grade, or the estimated reading grade level a reader needs to have reached in order to be able to read and understand this piece of writing.

An example.

Step 1. Total no. sentences 30

Step 2. Total no. polysyllabic words 63

Step 3. (skip - there are 30 sentences)

Step 4. Nearest perfect square is 64.  $\sqrt{64} = 8$

Step 5. Add constant 3

Smog Score = 11

## APPENDIX 2: Calculating & Interpreting the Flesch Reading Ease Score

According to Ley (1988), the Flesch formula 'measures text difficulty by reference to word length and sentence length'.

$$\text{Reading Ease} = 206.835 - 0.846W - 1.015S$$

where: W = average number of syllables per hundred words;

S = average number of words in a sentence.

To use the formula, samples of 100 words of text are taken at random from the document being examined. Reading Ease is calculated for each passage so selected, and the average Reading Ease computed. (In the case of relatively short documents word and sentence lengths can be assessed for the whole text.) The value so obtained is then interpreted by reference to a table, which gives a verbal description of the difficulty level, the US school grade which should have been completed for understanding of the written material, and an estimate of the population likely to understand material at that level of difficulty. (Ley, 1988)

Following is a table which gives a rough guide for interpreting the Flesch Reading Ease Scores. If you find that your reading ease score is **low (0-50)**, your material is probably too difficult and may need to be simplified.

Reading Ease Score	Verbal Description	Typical Text	Completed Grade Level required to understand	Estimated % who would understand.	
				aged 25+	aged 65+
90 - 100	Very easy	Comics	4	97	91
80 - 90	Easy	Pulp fiction	5	95	88
70 - 80	Fairly easy	Slick fiction	6	90	77
60 - 70	Standard	Digests	7 - 8	90	77
50 - 60	Fairly hard	Quality	Some high school	77	50
30 - 50	Difficult	Academic	High school or some college	31	17
0 - 30	Very Hard	Scientific	College	7	3

(Ley, 1988)

### **APPENDIX 3: Simplifying Text**

McCabe et al (1989) demonstrate how a written communication can be simplified.

Paragraph A.

This is your liberal bland diet. Due to the wide variation of individuals' food tolerance, this diet has been prepared for long term maintenance of the patient with chronic gastrointestinal disturbances. This diet is liberal in most aspects, specifically restricting only those foods which are known to be irritating to the gastrointestinal tract. Alcohol, cola beverages, caffeine, cocoa, red and black pepper, and tobacco are all foods that stimulate acid secretion in your stomach and should be avoided. Intolerances to other foods are very individual and you must determine and avoid these yourself. A sample menu is given to serve as a guide in planning a suitable diet for you.

Paragraph B.

This is your liberal bland diet. People who have stomach problems may find that they cannot eat certain kinds of foods. This diet tells you the food you can enjoy without harming your stomach. You should not take alcohol, cola beverages, caffeine, cocoa, red and black pepper, and snuff as they all cause more acid in your stomach. Avoid foods that you know irritate your stomach. A sample menu is given to help you plan a diet. Ask a dietitian if you need help in planning your diet.

(McCabe et al, 1989)

## **APPENDIX 4: Standard Screen Templates**

Z,A,L templates

or versions from other programs.

## References

- Batra, R. & Ray, M.L., (1986). 'Situational effects of advertising repetition: the moderating influence of motivation, ability and opportunity to respond', *Journal of Consumer Research*, (12):432-445.
- Collins, B.L. & Lerner, N.D., (1982). 'Assessment of fire safety symbols', *Human Factors*, (24):75-84.
- Davey, B. (1987). 'Factors Affecting the Difficulty of Reading Comprehension Items for Successful and Unsuccessful Readers', *Journal of Experimental Education*, (56),1:67-76.
- Hardie, N.R., Gagnon, J.P. & Eckel, F.M., (1979). 'Feasibility of symbolic directions on prescription labels', *Drug Intelligence in Clinical Pharmacology*, (13):588-595.
- Hawe, P., Degeling, D. & Hall, J., (1990). *Evaluating Health Promotion; A Health Workers Guide*, MacLennan & Petty Pty Ltd, Australia.
- Hill Duin, A., (1988). 'Computer-Assisted Instructional Displays: Effects on Students' Computing Behaviours, Prewriting, and Attitudes', *Journal of Computer-Based Instruction*, (15),2:48-56.
- Kintsch, W., Kozminsky, B., McKoon, G. & Keehan, J.M., (1975). 'Comprehension and recall of text as a function of content variables', *Journal of Verbal Learning and Verbal Behaviour*, (14):196-214.
- Levin, J.R., Anglin, G.J. & Carney, R.N., (1987). 'On empirically validating functions of pictures in prose', In D.M. Willows & H.A. Houghton (eds.), *The Psychology of Illustration*, Springer-Verlag: New York.
- Ley, P., (1988). *Communicating with Patients; improving communication, satisfaction and compliance*, Croom Helm Ltd, Australia.
- Ley, P., (1994).
- Loman, N.L. & Mayer, R.E., (1983). 'Signalling techniques that increase understanding of expository prose', *Journal of Educational Psychology*, (75): 402-412.
- Lorch, R.F. & Lorch, E.P., (1986). 'On-line processing of summary and importance signals

in reading', *Discourse Processes*, (9): 489-496.

McAteer, E., (1992). 'Typeface emphasis and information focus in written language', *Applied Cognitive Psychology*, (6):345-359.

McCabe, B., Tysinger, J., Kreger, M. & Currwin, A., (1989). 'A strategy for designing effective patient education materials'; Perspectives in Practice; *Journal of the American Dietetic Association*,(89),9:1290-1295.

McGaw, S. & Sturmev, P., (1989). 'The effects of text readability and summary exercises on parental knowledge of behaviour therapy: the portage parent readings', *Educational Psychology*, (9):127-132.

Moll, J.M.H., (1986). 'Doctor-patient communication in rheumatology: studies of visual and verbal perception using educational booklets and other graphic material', *Annals of Rheumatoid Disease*, (45):198-209.

Paivio, A., (1971). *Imagery and Verbal Processes*, Holt, Reinhart & Winston: New York.

Peeck, J., (1987). 'The role of illustration in processing and remembering illustrated text', In D.M. Willows & H.A. Houghton (eds.), *The Psychology of Illustration*, Springer-Verlag: New York.

Pridemore, D.R., & Klein, J.D., (1991). 'Control of Feedback in Computer-Assisted Instruction', *Educational Technology Research & Development* (39),4:27-32.

Russell, A., & Redhead, K., (1991). *Style Manual; A Guide to Screen Design for Computer Based Training*, Queensland University of Technology, Computer Based Education Section.

Slobin, D.I., (1966). 'Grammatical transformations and sentence comprehension in childhood and adulthood', *Journal of Verbal Learning and Verbal Behaviour*, (5):219-227.

Wright, P. & Barnard, P., (1975). "'Just fill in this form": a review for designers', *Applied Ergonomics*, (6):213-220.