APPENDIX J:

Tools for Skills Development

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(plain•word)™

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SMOG: A readability assessment tool

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SAM: A suitability of materials assessment tool

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PMOSE/IKIRSCH: A document literacy assessment tool

(plain•word)™

Medium(s):   Available by:

- Web site: http://www.nald.ca/nlhp/pw.htm
- Print
- CD-Rom

Intended Audience: If communication is an important part of your profession or business, (plain•word)™ can teach you the principles of plain language that help you get your message across the first time.

Background: (plain•word)™ was developed by the Canadian Public Health Association's (CPHA) National Literacy and Health Program (http://www.nlhp.cpha.ca/). The National Literacy and Health Program (NLHP) promotes awareness among health professionals of the links between literacy and health. The NLHP provides resources to help health professionals serve clients with low literacy skills more effectively. The program focuses on health information in plain language and clear verbal communication between health professionals and the clients they serve. CPHA is committed to maintaining and improving personal and community health according to the public health principles of prevention, promotion, protection, and effective public policy. The National Literacy and Health Program has been in existence for ten years, and works with twenty-seven national health association partners to raise awareness about literacy and health.

Description: (plain•word)™ is easy to play. All you have to do is guess a (plain•word)™ for each Hard Word on a Word Card.

For example: If the Hard Word is manufacture, the (plain•word)™ is make. If the Hard Word is utilize, the (plain•word)™ is use.

Sometimes the (plain•word)™ may be more than one word.

For example: If the Hard Word is banned, the (plain•word)™ is not allowed.

If you guess an incorrect (plain•word)™ you must choose an Editor's Note Card. These cards teach principles of plain language and are designed to give or take away points in the actual game.

SMOG:

A READABILITY ASSESSMENT TOOL

Pros:

■ The SMOG is an efficient readability assessment tool if you want to do a quick assessment of materials and do not want to rely on charts or graphs. It is great for doing "field work" assessments.

■ Predicts 100% comprehension.

Cons:

■ The SMOG does not discriminate well at levels of literacy at the sixth grade and below.

Materials:

■ Two different color markers, highlighters, or pens

How to:

(If your document has 30 sentences or more.)

1. Highlight or circle the period (or other punctuation) at the end of 10 consecutive sentences that are at the beginning of your document. Do the same for another group of 10 consecutive sentences that are in the middle of your document and similarly for another group of 10 consecutive sentences towards the end of your document. In total you should now have 3 groups of 10 sentences each marked in your document. If your document just has 30 sentences, in total, then you can count this one grouping of 30 consecutive sentences.

   Tip:

   ■ A sentence is defined as a string of words punctuated with a period (.), an exclamation point (!) or a question mark (?).

   Tip:

   ■ Since difficulty may differ by content area, you may choose to select 3 groups of 10 sentences that cover different content topics.

2. Words with three or more syllables are called polysyllabic words. In your sample of 30 sentences, identify which words are polysyllabic. Highlight or circle these polysyllabic words using a color marker different from the one you chose for your punctuation (this makes it easier for you to track your work in case you need to go back and review what you have done).

Tip:

■ Hyphenated words are considered as one word.

Tip:

■ Numbers which are written out should also be considered, and if in numeric form in the text, they should be pronounced to determine if they are polysyllabic.

Tip:

■ Proper nouns, if polysyllabic, should be counted, too.

Tip:

■ Abbreviations should be read as unabbreviated to determine if they are polysyllabic.

3. Count each of the words that you highlighted (this is your total number of polysyllabic words for your 30 sentences).

4. Next, estimate the square root of the total number of polysyllabic words counted. This is done by finding the nearest perfect square, and taking its square root. For example, if your total number of polysyllabic words is 38 the nearest perfect square is 36. The square root of 36 is 6 (36=6).

5. Finally, you add 3 to the square root. So, in the previous example you would add 3 to 6 and get 9 (3+6=9). This number gives the SMOG grade, or the reading grade level assigned to text. In our example the SMOG Reading Grade Level for the text would be 9. This number helps you understand the "demand" of the text.

How to:

(If your document has less than 30 sentences.)

1. Highlight or circle the periods (or other punctuation) at the end of each sentence.

Tip:

■ A sentence is defined as a string of words punctuated with a period (.), an exclamation point (!) or a question mark (?).

Tip:

■ Since difficulty may differ by content area, you may choose to select 3 groups of 10 sentences that cover different content topics.

2. Count the number of the sentences in your document.

3. Words with three or more syllables are called polysyllabic words. In your sample of 30 sentences, identify which words are polysyllabic. Highlight or circle these polysyllabic words using a color marker different from the one you chose for your punctuation (this makes it easier for you to track your work in case you need to go back and review what you have done).

   Tip:

   ■ Hyphenated words are considered as one word.

   Tip:

   ■ Numbers which are written out should also be considered, and if in numeric form in the text, they should be pronounced to determine if they are polysyllabic.

   Tip:

   ■ Proper nouns, if polysyllabic, should be counted, too.

   Tip:

   ■ Abbreviations should be read as unabbreviated to determine if they are polysyllabic.

4. Count each of the words that you highlighted (this is your total number of polysyllabic words for your document).

5. Find the average number of polysyllabic words per sentence by dividing the total number of polysyllabic words by the total number of sentences in your document.

Example:

Total number of polysyllabic words in your text	= 67.0
Total number of sentences in your text	= 25.0
Average number of polysyllabic words per sentence	= 2.68

6. Determine how many sentences short of 30 you have.

Example:

Total number of sentences in your text	= 25
Number of sentences short of 30 (30-25)	= 5
Multiplication	= 13.4

7. Multiply the average number of polysyllabic words per sentence from Step 5 by the number of sentences short of 30 from Step 6.

8. Add your figure from Step 7 on to your total number of polysyllabic words.

   Example:

Step 7 figure	= 13.4
Total number of polysyllabic words in your text	= 67.0
Addition	*= 80.4*

9. Next, estimate the square root of the total number of polysyllabic words counted. This is done by finding the nearest perfect square, and taking its square root.

   Example:

Total number of polysyllabic words from Step 8	= 80.4
The nearest perfect square	= 81.0
The square root of 81 (81)	*= 9*

10. Finally, you add 3 to the square root.

    Example:

The square root from Step 9	= 9
Add 3	= 3
Addition	*= 12*

This number gives the SMOG grade, or the reading grade level assigned to text.
In our example the **SMOG Reading Grade Level for the text would be 12.**
This number helps you understand the "demand" of the text.

REFERENCES

■ McLaughlin, G.H. (1969). SMOG grading: A new readability formula. *Journal of Reading, 12,* 639-646.

■ Rudd, R.E. Assessing materials. Harvard School of Public Health: Health Literacy Web site. 2002. Available at: http://www.hsph.harvard.edu/healthliteracy/how_to/assess_mat.html

■ U.S. Department of Health and Human Services. (1999) *Writing and designing print materials for beneficiaries: A guide for state Medicaid agencies* (HCFA Publication No. 10145). Baltimore, MD: Author.

SAM:

A SUITABILITY OF MATERIALS ASSESSMENT TOOL

Pros:

■ Assesses many important aspects of materials such as organization, layout, and design as well as readability.

■ Although the SAM was developed for use with print materials, it has also been used to assess video- and audio-taped instructions to patients.

Cons:

■ The SAM is a subjective instrument and it is difficult to achieve a consistent score among reviewers.

■ You need to have the SAM score sheet as well as the SAM instrument guide with you when you are assessing your materials; therefore, it is not ideal for field work.

Caveats:

■ The SAM gives you a good idea of the important components of any text.

■ A readability score is not enough to determine the appropriateness of the materials. You need to consider many other variables such as font, white space, and organization.

■ You may choose to create your own assessment checklist using some of the key components that are listed in the SAM. We have created a checklist that we use. It is presented below:

　— Is the font size larger than 12 points?　　　Yes　　No

　— Are the margins at least 1 inch on all sides?　　Yes　　No

　— Is the text justified?　　　　　　　　　Yes　　No

NOTE:
By creating a list that has yes/no answers some of the subjectivity is eliminated and the checklist can be used by many reviewers.

Materials:

■   Doak, Doak, & Root's *Teaching Patients with Low Literacy Skills*, Second Edition.

■   Pen

How to:

1.   Read through the SAM factor list and the evaluation criteria.

2.   Read the material (or view the video) you wish to evaluate and write a brief statements as to its purpose(s) and key points.

3.   For short instructions, evaluate the entire piece. For long instructions, select samples to evaluate.

4.   Evaluate and score each of the 22 SAM factors.

   ORGANIZATION:

   a.   The cover is attractive. It indicates the core content and intended audience.

   b.   Desired behavior changes are stressed. "Need to know" information is stressed.

   c.   Not more than three or four main points are presented.

   d.   Headers and summaries are used to show organization and provide message repetition.

   e.   A summary that stresses what to do is included.

   WRITING STYLE:

   f.   The writing is in conversational style, active voice.

   g.   There is little or no technical jargon.

   h.   Text is vivid and interesting. Tone is friendly.

   APPEARANCE:

   i.   Pages or sections appear uncluttered. Ample white spaces.

   j.   Lowercase letters used.

   k.   There is a high degree of contrast between the print and the paper.

   l.   Print size is at least 12-point, serif type, and no stylized letters.

   m.   Illustrations are simple — preferably line drawings.

   n.   Illustrations serve to amplify text.

APPEAL:

o.   The material is culturally, gender, and age appropriate.

p.   The material closely matches the logic, language, and experience of the intended audience.

q.   Interaction is invited via questions, responses, suggested action, etc.

5.   Calculate total suitability score.

6.   Decide on the impact of the deficiencies and what action to take.

REFERENCES

■   Doak, L., Doak, C., & Root, J. (1996). *Teaching patients with low literacy skills* (2nd ed.). Philadelphia, PA: J.B. Lippincott Company.

■   Rudd, R.E. Assessing materials. Harvard School of Public Health: Health Literacy Website. 2002. Available at: http://www.hsph.harvard.edu/healthliteracy/how_to/assess_mat.html

PMOSE/IKIRSCH:

A DOCUMENT LITERACY ASSESSMENT TOOL

Pros:

■   The PMOSE/IKIRSCH is the first and only tool to assess the difficulty
     of documents.

Cons:

■   The PMOSE/IKIRSCH does not take into consideration the readability level
     of the prose that is contained within a particular document.

■   The tool can be somewhat cumbersome to implement.

About:

Grade-level readability is one of many factors that contribute to the overall readability
of materials. Even materials written on a low grade level may be difficult to comprehend
if proper attention is not also paid to organization, layout, and design. Readability tools
such as the SMOG are used for prose information presented through sentences
organized in paragraphs. However, adults encounter documents on a more regular basis.
Documents include forms, tables, graphs, charts, and lists. Until recently, we did not
have a tool to measure the readability of information organized in rows and columns.

Researchers Mosenthal and Kirsch developed a measure for assessing document
complexity, called the PMOSE/ IKIRSCH document readability formula (*Journal
of Adolescent & Adult Literacy, 41*(8), 1998). The formula uses the number of rows and
columns, the structure, and the number of labels and items to assess the chart or table.
Scores range from Level 1 to Level 5 *Proficiency*. The *Proficiency Level* can be translated
into a grade-level equivalent:

■   Level 1 Proficiency: range including Grade 4; equivalent to >8 years
                               of schooling

■   Level 2 Proficiency: range including Grade 8; equivalent to high school
                               degree

■   Level 3 Proficiency: range including Grade 12; equivalent to some
                               education after high school

■   Level 4 Proficiency: range including 15 years of schooling to college
                               degree equivalent

■   Level 5 Proficiency: range including 16 years of schooling to more
                               advanced post college degree

What makes some documents "easier" than others is based upon how complex the organization of information is. Mosenthal and Kirsch demonstrate that the information embedded within a document can be understood in the context of simple lists (as shown below). Depending on how these simple lists are arranged, the document can be either easy or hard to decode. Some of the more complicated list structures are called *combined*, *intersected*, and *nested*.

HOW-TO EXAMPLES:

Example 1: NALS Table 1.4

AVERAGE YEARS OF SCHOOLING, BY AGE

Age	Average Years of Schooling*
16-18 years**	10.8
19-24 years**	12.5
25-39 years	12.9
40-54 years	13.1
55-64 years	11.8
65 years and older	10.7

*in this country.
**Many adults in these age groups are still in school.
Source: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

APPLYING THE PMOSE/IKIRSCH DOCUMENT READABILITY FORMULA:

1. This Table is a **Combined List**, so it receives a score of **2**.

2. There are 2 labels, which corresponds to a score of **1**.

3. There are 12 items, plus 2 items (footnotes), for a total of **14 items** and a score of **1**.

4. The table contains **footnotes**, so the dependency score is **1**.

5. **If we add the previous scores, the total document complexity level for this Table is 5, or Level 1 Proficiency.**

Example 2: NALS Table 2.1

AMONG ADULTS WHO READ THE NEWSPAPER AT LEAST ONCE A WEEK, AVERAGE LITERACY PROFICIENCIES, BY NEWSPAPER READING PRACTICES

	Average Prose Proficiency		Average Document Proficiency		Average Quantitative Proficiency	
	Yes	No	Yes	No	Yes	No
News, editorials, financial	282	248	276	248	281	250
Home, fashion, reviews	284	267	277	264	282	271
Classified ads, listings	280	282	274	274	280	282
Comics, advice, horoscope	282	277	276	271	280	279
Sports	282	280	276	273	284	276

Source: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

APPLYING THE PMOSE/IKIRSCH DOCUMENT READABILITY FORMULA:

1. This Table has a **Nested List Structure**, so it receives a score of **4**.

2. There are **9 labels**, which corresponds to a score of **1**.

3. There are **35 items**, which corresponds to a score of **1**.

4. The table **does not** contain footnotes, so the dependency score is **0**.

5. **If we add the previous scores, the total document complexity level for this Table is 6, or Level 2 Proficiency.**

REFERENCES

■ Mosenthal, P. B., & Kirsch, I.S. (1998). A new measure for assessing document complexity: The PMOSE/IKIRSCH document readability formula. *Journal of Adolescent and Adult Literacy, 41,* 638-657.