

# Developing Written Communication for Populations with Limited Literacy Skills

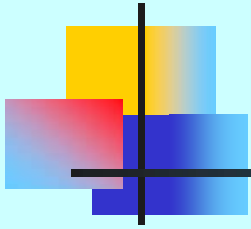


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Los Angeles, CA

*UCLA/Drew RCMAR/CHIME & Project EXPORT  
Work-in-Progress Seminar  
Monday 8/15/11*



# The Problem



# Literacy and Health

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## Non-Industrialized Nations

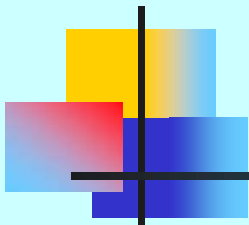
Illiteracy and Poor Health Status  
are Independently Associated

*UNESCO. Statistical Yearbook 1988 Paris*

## United States

Illiteracy and Poor Health Status  
are Independently Associated

*Weiss BD, et al J Am Board Fam Pract 1992:5*



**NAAL Level Capacity**

**% U.S. Adults**

<u>Below Basic:</u>	<u>Very simple, concrete tasks</u>	<u>14%</u>
<u>Basic</u>	<u>Simple everyday tasks</u>	<u>29%</u>
<u>Intermediate</u>	<u>Moderately challenging tasks</u>	<u>44%</u>
<u>Proficient</u>	<u>Complex tasks</u>	<u>13%*</u>

\* Significant drop from 1992



# Literacy vs. Functional Literacy

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## Literacy

Ability to decipher and comprehend written information

## Functional Literacy

Literacy skills needed to negotiate a given social system

Ability to comprehend written information used in that system



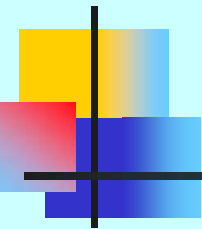
# Functional Health Literacy

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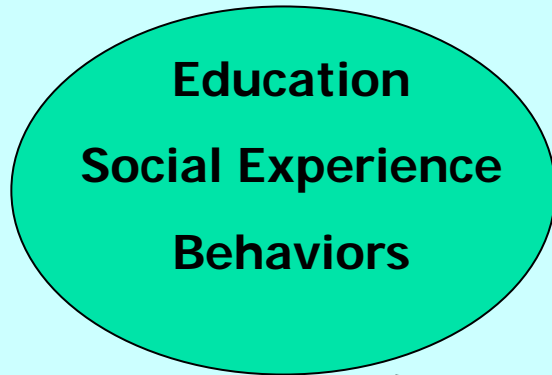
Literacy skills needed to negotiate the health care system

Ability to comprehend written information used in the  
health care system

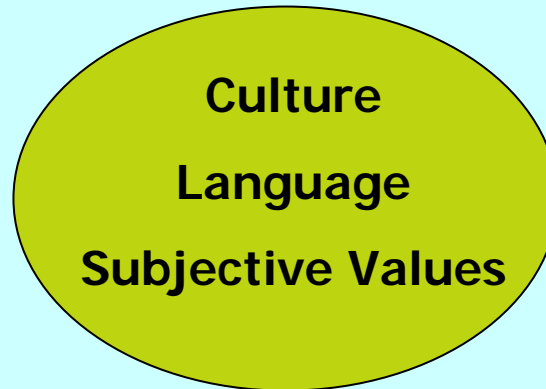
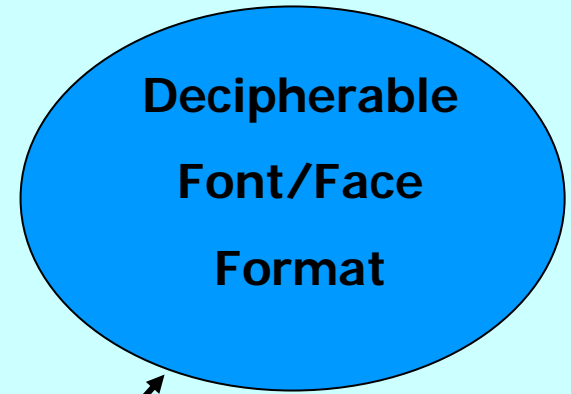
# Comprehension Requires Balance Between Three Components



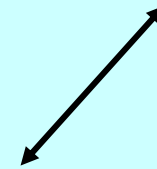
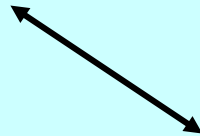
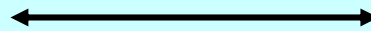
## Literacy Skills



## Readability



## Information Relevance





# Limited Functional Health Literacy

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Healthcare Access

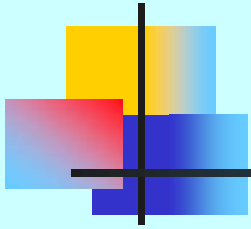
Primary and secondary prevention

Adherence

Self-efficacy

Health Outcomes





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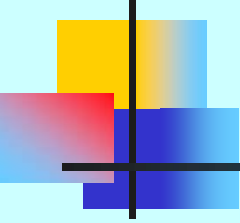
# Readability Formulas



## There are scores of readability formulas

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- Number of syllables in a sentence
- Number of words in a sentence
- Number of characters



# Flesh-Kincaid (F-K) Reading Score

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## Computerized Method

- Developed for the military
- Provides a reading grade level
- Available on MicroSoft Word Program



# Flesh Reading Ease Index (FREI)

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## Computerized Method

- Provides a score between 0 and 100
- The higher the score the easier document is to read
- Available on MicroSoft Word Program



# Readability Formulas On Windows

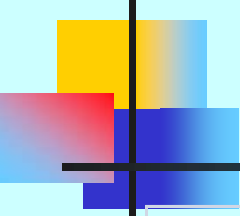
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To set up your computer to do readability testing on a document use  
**Micro Soft Word Program**

- Open a document
- On the standard tool bar select the 'Tools' silo
- Select Options
- Select 'Spelling and Grammar' in options dialogue box
- Select 'Show readability statistics'

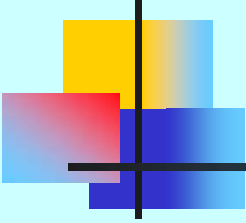
**YOUR SET. Now whenever you do a spell check you'll get readability statistics automatically displayed**

# Correspondence of Flesh Reading Ease Score, Flesch-Kincaid Reading Grade Level & Reading Difficulty



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<u>Reading Ease Score</u>	<u>Level of Reading Difficulty</u>	<u>Grade Level</u>
<b>Less than 40</b>	Very Difficult	Post Graduate
<b>40-49</b>	Difficult	College
<b>50-59</b>	Fairly Difficult	High School
<b>60-69</b>	Standard (Average)	8th - 9th Grade
<b>70-79</b>	Fairly Easy	7th
<b>80-89</b>	Easy to Read	5th - 6th
<b>90-100</b>	Very Easy to Read	3rd - 4th



# Write-ability

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Writing text that is more comprehensible

# Simplifying Text



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KISS it!

Keep It Simple and Solvent

Use mono- and bi-syllabic words

- Most common words in any language
- First words learned
- Last remembered?

USE A THESAURUS to find more simple words!





# Write Short Sentences

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Use simple sentences

One idea at a time

When possible use

**One noun**

**One verb**

**One object** to deliver a key message



## Use the Active Voice: a conversational tone

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**'Catherine was hit by the ball.'**

- Passive Verb: The subject receives the action

**'The ball hit Catherine.'**

- Active Verb: The subject performs the action



## Give Need to Know Information

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- Avoid loading with information with no practical value to patient
- Avoid technical terms



# Complex Sentences

Sentences containing more than one clause

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Johnny went home. [clause]

**1.3**

Johnny went home but first he stopped at the  
grocery store.

**3.7**

Johnny went home and did as he was told but  
first he stopped at the grocery store.

**4.9**



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# The FONBAYS\* Method for Simplifying Text

\*Also see "FONBAYS: A Simple Method for Enhancing Readability of Patient Information," published in the *Annals of Behavioral Science and Medical Education*. 2007, 13(1):20-24:

[www.absame.org/pubs/annals/pdf/Vol13No1Calderon.pdf](http://www.absame.org/pubs/annals/pdf/Vol13No1Calderon.pdf)



# Simplify Complex Sentences

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Identify words that connect independent clauses within a complex sentence.



# FONBAYS

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An acronym for words that **USUALLY** link clauses within a complex sentence.

For Or Nor But And Yet So

**Sometimes:**

Since To On With By



# Identifying Independent Clauses

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## Definition of Sentence

Structurally independent grammatical unit of one or more words in speech often preceded **and** followed by pauses **and** in writing begun with a capital letter **and** ended with a period **or** other end punctuation.

**16.0 F-K RGL**      **00.0 FREI** (Very Difficult to Read)





## Converting Independent Clauses

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- Structurally independent grammatical unit of one or more words in speech.
- Often preceded **and** followed by pauses.
- In writing begun with a capital letter.
- In writing ended with a period **or** other end punctuation.

**8.8 F-K RGL      46.4 FREI** (Average Difficulty)



# Creating Simple Sentences

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- A unit of grammar with one or more words.
- Can be preceded by pauses.
- Can be followed by pauses.
- Starts with a capital letter.
- Ends with a period **or** other end punctuation.

**4.2 RGL 76.0 RES** (Very Easy to Read)



## Eliminate Free Modifiers

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- These elements are not part of the basic sentence structure.
- May be omitted without changing the meaning of the sentence.
- They may be converted into an independent clause.
- They are separated from the rest of the sentence by a comma or commas.



## Eliminating Free Modifiers

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*Born to wealthy parents*, he was able to pursue his career without financial worries

9.2 RGL      52.6 RES

- He was born to wealthy parents.
- He was able to pursue his career without worries.

4.6 RGL      79.1 RES



## Eliminating Free Modifiers

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It is not important, *however*, to understand everyone's point of view.

10.1 RGL      41.8 RES

It's not important to understand every point of view.

7.5 RGL      56.7 RES



# Remove or Convert Text in Parenthesis

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- These are elements that are not part of the basic sentence structure.
- They may be omitted without changing the meaning of the sentence.
- They may be converted into an independent clause



## Bullet independent clauses when possible

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Johnny went home and did as he was told but first he stopped at the grocery store.

4.9

Johnny:

- did as he was told
- went home
- but stopped at the grocery store

2.8



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# Consent Form Example





## Anticipated Benefits to Society

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The researchers believe that the information collected will contribute to documenting the first aid preparedness of inner city school employees, and to identify their learning needs and attitudes toward acquiring and providing first aid skills. Furthermore, this information will serve as a basis for developing a curriculum for providing first aid skills to school employees.



## Anticipated Benefits to Society

---

The researchers believe that the information collected will contribute **to** documenting the first aid preparedness of inner city school employees, **and to** identify their learning needs **and** attitudes toward acquiring **and** providing first aid skills. Furthermore, this information will serve as a basis **for** developing a curriculum **for** providing first aid skills **to** school employees.

## STEP 1.

### Separate Clauses using FONBAYS

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#### ANTICIPATED BENEFITS TO SOCIETY

The information collected may contribute:

- to documenting the first aid preparedness
- of inner city school employees,
- and to identify their learning needs
- and attitudes toward acquiring
- and providing first aid skills.
- Furthermore, this information will serve as a basis
- for developing a curriculum
- for providing first aid skills to school employees.

## STEP 2

# Identify free modifiers and unneeded phrases

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### ANTICIPATED BENEFITS TO SOCIETY

**The researchers believe that** the information collected may contribute:

- to documenting the first aid preparedness
- of **inner city** school employees,
- and to identify their learning needs
- and attitudes toward acquiring
- and providing first aid skills.
- **Furthermore**, this information will serve as a basis
- for developing a curriculum
- for providing first aid skills to school employees.



## STEP 3.

Remove FONBAYS, Free Modifiers, Unneeded phrases

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### ANTICIPATED BENEFITS TO SOCIETY

The information collected may contribute to

- documenting your first aid preparedness
- learning your attitudes and learning needs
- help develop a curriculum

## STEP 4



Re-write clauses into simple sentences. Improve write-ability by using common words and phrases

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### **ANTICIPATED BENEFITS TO SOCIETY**

**Likely Good For Others**

## Another Rendition

### **Likely Good for Others**

The information you give us may help us to learn:

- How ready school employees are to give first aid
- What school employees need to learn about first aid
- How school employees feel about giving first aid
- How best to teach school employees first aid

# BEFORE FONBAYS



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## **Anticipated Benefits to Society**

The researchers believe that the information collected will contribute to documenting the first aid preparedness of inner city school employees, and to identify their learning needs and attitudes toward acquiring and providing first aid skills. Furthermore, this information will serve as a basis for developing a curriculum for providing first aid skills to school employees.

It contains 2 compound sentences, 55 words and 322 characters.

**Reading Grade Level 12**

**RGL 17**

**Reading Ease Score 22**

Flesch-Kincaid

Fry Graph Method

FREI



# AFTER FONBAYS



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## **Likely Benefits To Others**

The information you give us may help answer questions.

How ready you are to give first aid?

What do you need to learn about first aid?

How do you feel about giving first aid?

How best to teach you first aid.

It contains 5 simple sentences, 40 words and 185 characters.

**Reading Grade Level 3.0**

**Reading Ease Score 90**



# BULLETED FORMAT

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Formatting is key to ease of reading

The information you give may help us to learn:

- How ready you are to give first aid
- What you need to learn about first aid
- How you feel about giving first aid
- How best to teach you first aid.

# VISION FRIENDLY BULLETED FORMAT

The information you give us may help us to learn:

- How ready you are to give first aid.
- What you need to learn about first aid.
- How you feel about giving first aid
- How best to teach you first aid.

Reading Grade Level 1  
Reading Ease Score 100



# Congratulations!

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You are now ready to create Simple and  
Understandable patient information