

## Requirements for Training & Use of Voice Recognition Software

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## Voice Recognition Strategies

- Hands-free tool to accelerate typing
- Alternative access AAC tool
- Written language tool for adolescents with learning disabilities

## Selected Programs

- Dragon Naturally Speaking Standard
- Dragon Naturally Speaking Teen
- IBM Via Voice Gold
- L & H Voice XPress

## Assessment

- Intelligibility
- Grade Level
- Fluency of Dictation
- Attention to Task
- Writing/Dictation Environment

## Sentence Intelligibility Test

(Yorkston, Beukelman, & Tice 1991)

- intelligibility
- rate
- Ten unrelated sentences
- Transcribed by unfamiliar listener

## Literacy Requirements

Readability Stack Tice, B. (1990)

- Fry Readability Graph
- Dale-Chall Formula
- Flesch Index
- Dale Index

### Fry Readability

Yields Readability Grade Score based upon:

- Syllables per 100 words
- Sentences per 100 words

Average the RGS for 3+ random passages for reliable score

### Dale-Chall Formula

Reading Grade Score (RGS):

- average sentence length
- Dale Score
- $RGS = .1579 \times DS + .0496 \times SL + 3.6365$
- DS = % words not on Dale List of 3000
- SL = average sentence length in words

### Flesch Index

Rates text on a 100-point scale. High scores indicate easier reading levels.

Reading Ease based upon:

Mean Sentence Length  
Syllables per 100 words

$$RE = 206.835 - (1.015 \times \text{words/sentence}) - (84.6 \times \text{syllables/word})$$

### Dale Index

$$DI = 11.534 - (.053 \times RE)$$

### Conclusions

- Decreased intelligibility results in decreased success with voice recognition
- Intelligibility may NOT predict success with voice recognition
- Rate of speech may effect success with voice recognition

- 4th grade *minimum* literacy level required to train voice recognition programs (most require 6th to 8th grade reading level)
- Respiratory support required sufficient to produce sentences of  $\underline{M} = 10.44$  (or greater) words per sentence