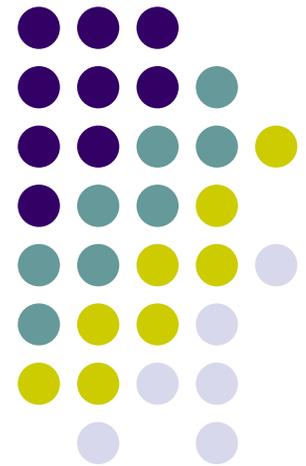# WordSift: Using Computer-Assisted Language Learning (CALL) to Increase ELs' Math and Science Literacy

Kenji Hakuta

and Diego Roman

Web Presentation for The National Clearinghouse for English Language Acquisition

September 24th, 2009

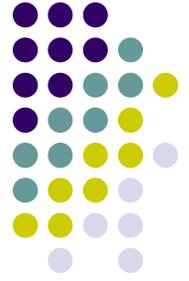# WordSift: General Overview
Dr. Kenji Hakuta

- **What is WordSift?**

- **Theoretical Background**

- **Features**

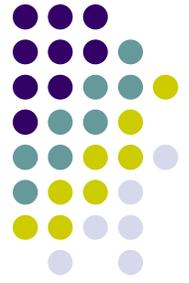- **Word Lists**

What is WordSift?

- Interactive tool designed to help teachers to support ELs
- Linguistic playground
  - Instantly captures and displays vocabulary structures of texts
- Quickly identifies important words that appear on texts
- Combines different methods of vocabulary acquisition:
  - Tag Clouds, images, context display from original text source

Theoretical Background

- Increasing attention to complexities of reading comprehension in adolescents
- Vocabulary involves reading skills connected to comprehension: decoding, sight-word recognition, reading fluency and accuracy
- Vocabulary knowledge might be the most widely shared problem among struggling readers
- ELs continue to have vocabulary challenges even after being "reclassified"

Theoretical Background (Cont.)

- Vocabulary performance can predict cognitive processing (phonological, orthographic) and reading rates

- High correlations between vocabulary scores and reading comprehension scores

- Vocabulary challenges include academic and subject-specific words

- Vocabulary instruction can have an important effect on students' word learning (especially for ELs)

- Language instruction is the responsibility of all teachers, not only ELA or ELD teachers
  - Teachers need tools to move into this direction

WordSift Features

- Tag Cloud
  - Mark word lists
  - Sort words by frequency in the English language
- Visual-Thesaurus® display
- Google image search
- Google video search
- Sample sentences

Word lists

- Stop words (not included in WordSift)
- Academic Word List (AWL)
- General Service List (GSL)
- Subject-specific word lists
  - Social Studies, Math, Science, Language Arts

Questions

WordSift Practical Demonstration
Diego Roman

- Potential Uses of WordSift

- Live Demonstration

- Other activities

- Questions

Possible Uses of WordSift

- Lesson preparation
  - Identify challenging words or concepts
- Previewing text
  - Whole class or individual students
- Group activities
  - Tag cloud games
- Literacy support
  - Summary responses
- Assessment
  - On-the-fly assessments (identify unfamiliar words, select images that represent words)

Live Demonstration

- ## Science lesson topic:
  - The Galapagos Islands
  - Text source: http://en.wikipedia.org/wiki/Gal%C3%A1pagos_Islands
  - Printable version
  - Select and copy text
  - Paste text into WordSift www.wordsift.com

WordSift Display

- 50 most frequent words on text
  - Largest font represents the most frequent
- Sort feature
  - Common-to-rare, rare-to-common, alphabetically
- Mark feature
  - Word lists
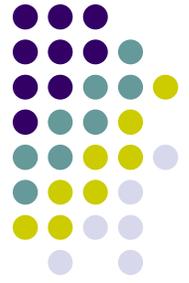- Squish and unsquish cloud

WordSift Display

- Visual Thesaurus® word web
  - Hover over words for definition
  - We recommend buying the full version of Visual Thesaurus®
- Google images and videos result
  - Based on two-most frequent words
  - Can be refined
- Examples from source
  - Sentences that allow users to gather information from context (expand or collapse additional text)
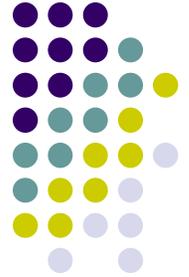
WordSift Display

- Clicking on any word changes the display
- Select any word list
  - Science for example
- Words that appear on the science word list are highlighted
- Any word list can be selected

Developing Glossaries using WordSift

- Create a table in Word
- Select a word from the word cloud (e.g. population)
- Write down that word in your glossary document
- Copy and insert a picture associated to this word from the Google images displayed
- Write down the definition of this word by hovering over the Visual Thesaurus® word web
- Choose a sentence from the sample sentences section to represent how the word can be used
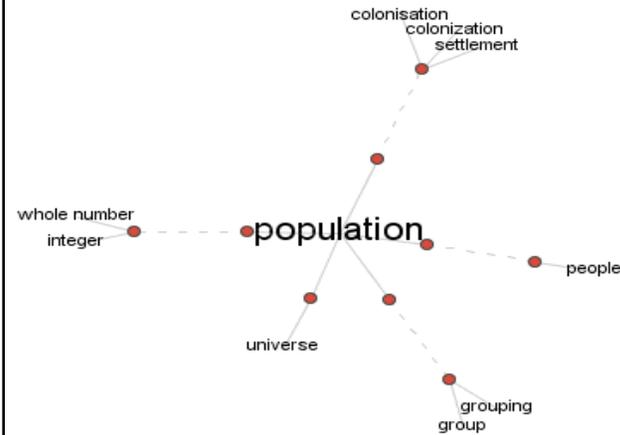
POPULATION

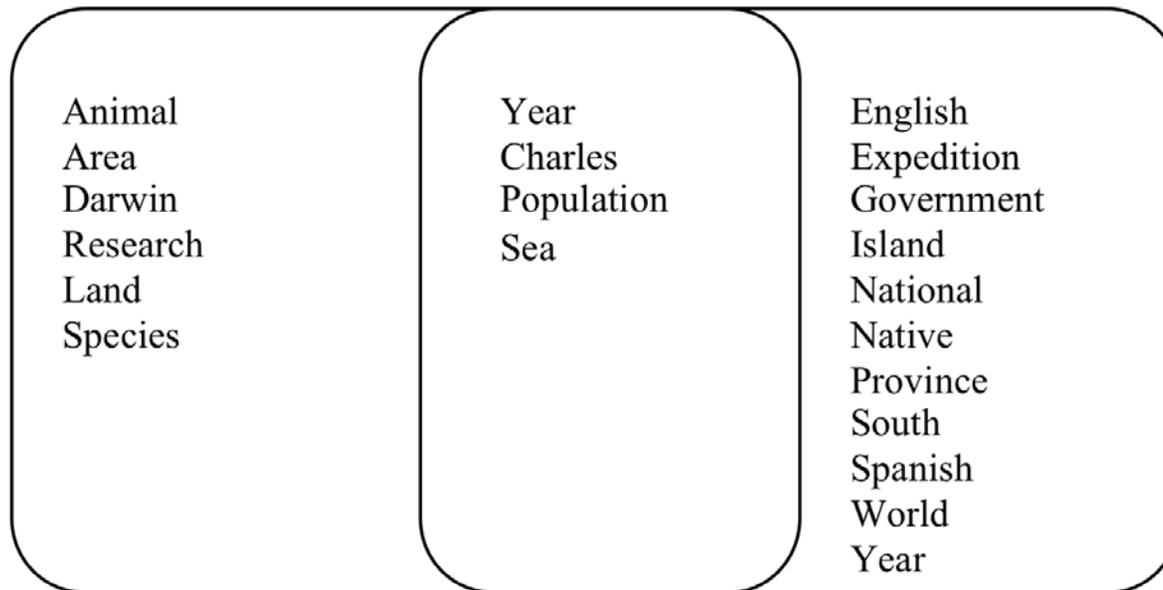| DEFINITION	WORD WEB
A group of organisms of the same species inhabiting a given area.	

PICTURE	EXAMPLE SENTENCE
	Along with whalers came the fur-seal hunters who brought the population of this animal close to extinction

Venn Diagrams using WordSift

SCIENCE **SOCIAL STUDIES**

Animal	Year	English
Area	Charles	Expedition
Darwin	Population	Government
Research	Sea	Island
Land		National
Species		Native
		Province
		South
		Spanish
		World
		Year

Questions