Speed and Granularity through Text Mining-based CBR when Teaching *Author's Craft* in ELA

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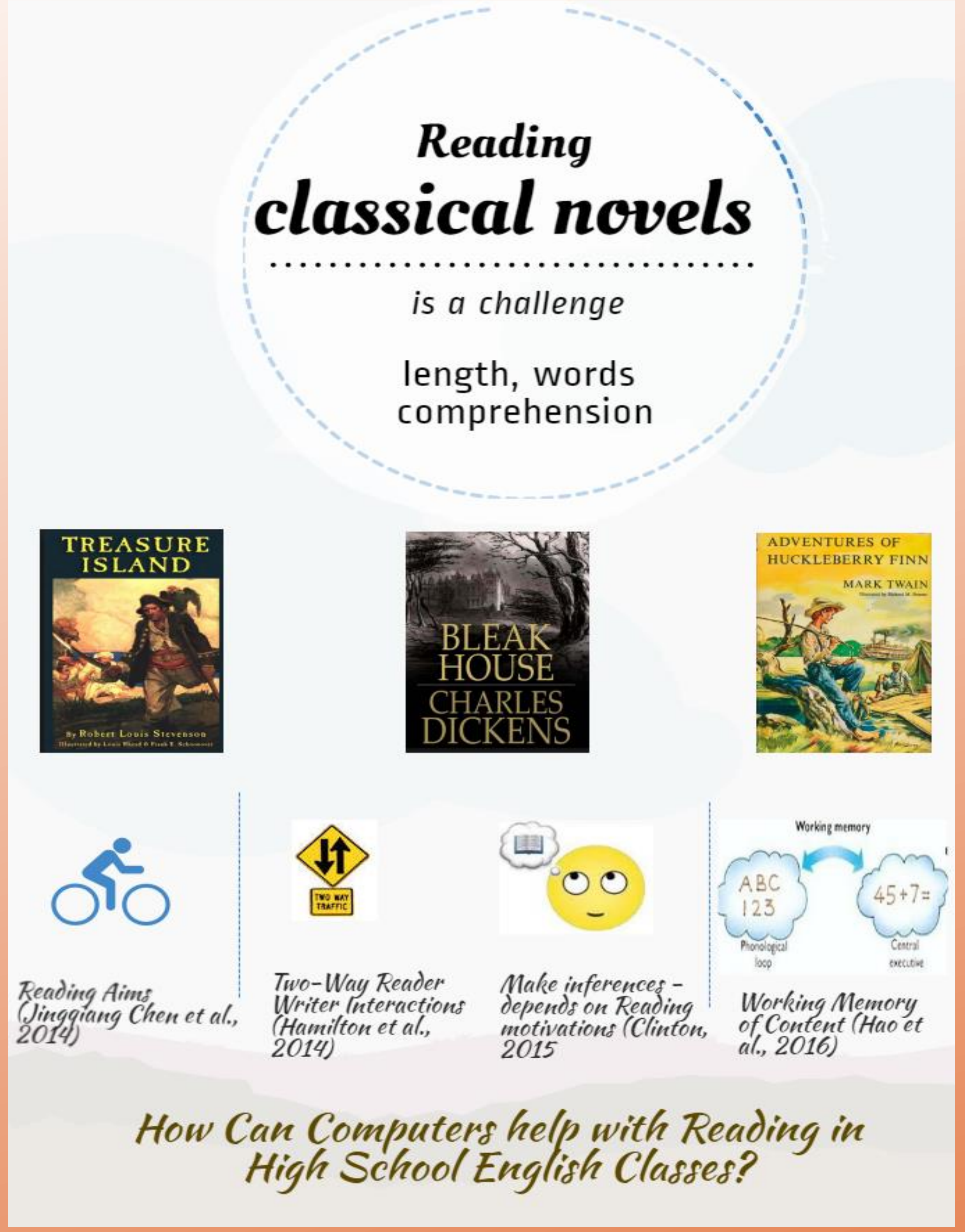
Intro: Traditional Reading (TR) vs. Computer-Based Reading (CBR)


Reading
classical novels
is a challenge
length, words
comprehension
TREASURE ISLAND
By Robert Louis Stevenson
BLEAK HOUSE
CHARLES DICKENS
ADVENTURES OF HUCKLEBERRY FINN
MARK TWAIN
TWO WAY TRAFFIC
Working memory
ABC 123
Phonological loop
45+7=
Central executive
Reading Aims (Jingqiang Chen et al., 2014)
Two-Way Reader Writer Interactions (Hamilton et al., 2014)
Make inferences - depends on Reading motivations (Clinton, 2015
Working Memory of Content (Hao et al., 2016)
How Can Computers help with Reading in High School English Classes?

CBR Research has found that:

- graphic organizers-based CBR – computers with spatial learning software increased students ' comprehension on compare-and -contrast texts (Ponce et al., 2013).

Research Gap:

- use computer software applications to derive text structure from novel surrogates (cleaned text).
- self-regulated reading comprehension: students create their own graphic organizer to show comprehension.

Method

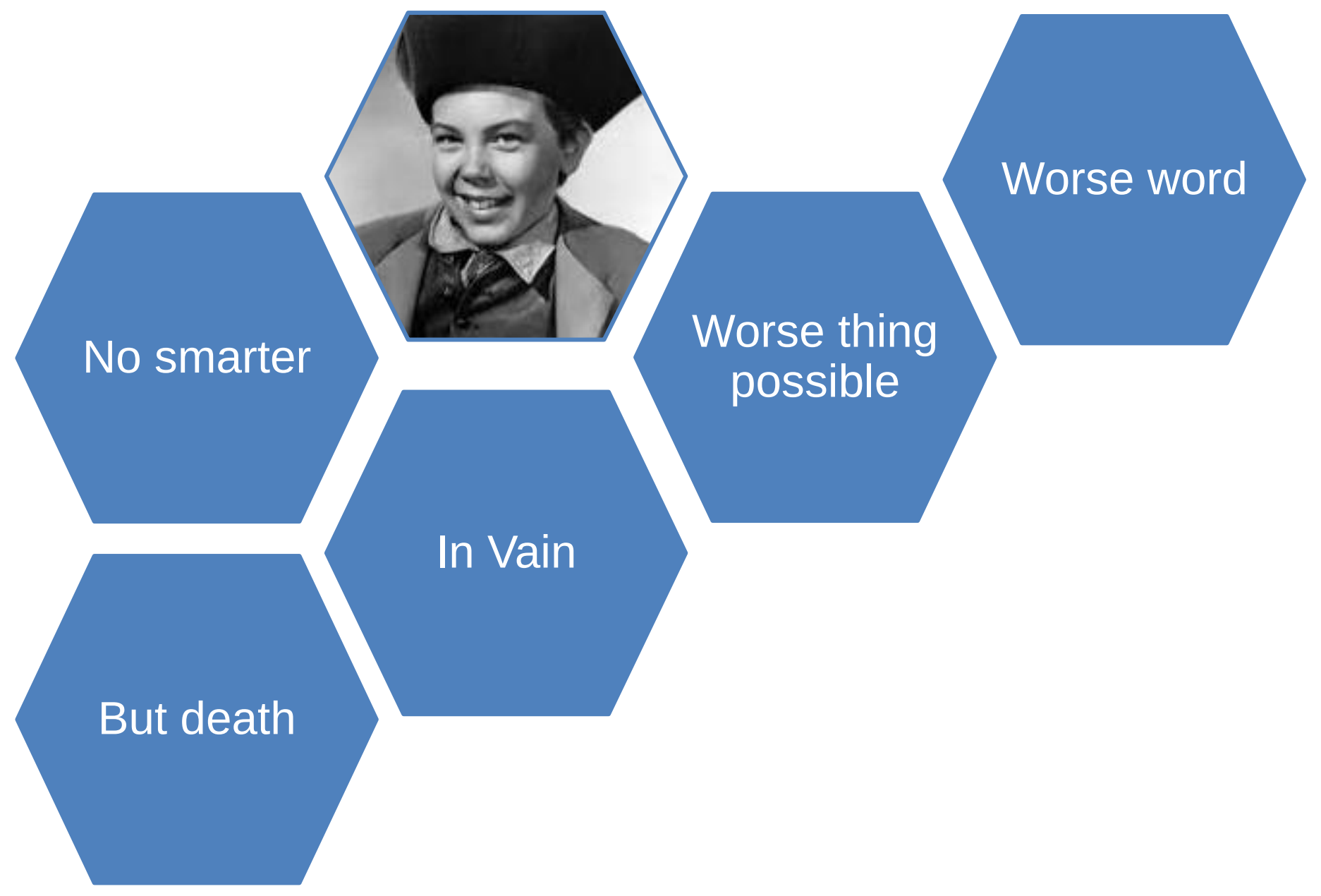
Data Collection

* Both groups have background knowledge about novel, read it, and analyzed it.

A. **The Experimental CBR Group***:* reading the RStudio computer-processed novel text integrated in a special computer software.

Step 1 Teacher explains the surrogate novel text, how it was obtained: measures of lexical variety, such as chapter titles stored as *names,* using word-usage means in a chapter of the novel, and the mean word frequency.

Step 2 Model for them how to derive the author's craft on the new CBR-text: language characteristics and a storytelling manner (ex. Jim Hawkins from *Treasure Island* by Robert Louis Stevenson).



Step 3 Model how to derive an organizer to include the gender representation in the novel using the *which* function for he/ male names/him/his/their and for she/her/female names. Ex: *Jim Hawkins's experiences:*

Chapter	Words Usage	Thinking Prompts	Word / Expression
2	tried	Jim's powerlessness	In vain

B. **The Control TR Group**: reading two paragraphs, one with word-targets related to the inference linking the preceding paragraph and chapter title, and one with word-targets unrelated to the passage.

Testing Procedures:

We use standardized tests to check reading comprehension, starting with type and content of novel, a short descriptive text about two characters, and an argumentative text explaining a position on a topic.

Predictions:

According to the Generative-Cognitive Learning Theory (Mayer, 2009), guided practice through coding-embedded software is better for students' comprehension skills than learning novel-mining through coding directly. Students will focus on how to select the relevant words/expressions, and represent the results in a graphic organizer of their own making.

Results:

We anticipate difficulties for students when creating a complex organizer, but we expect creativity in seeking connections between the contents of a vector.

Bibliography

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