

iCALL vs ICALL or what ambitions for “intelligent” CALL software?

ICALL in CALL

- ICALL at the origins of CALL

- cf. PLATO (Hart, 1995, 25)

- But →

Journal	Articles referenced in google scholar	Mentions of NLP
CALICO	1740	70
ReCALL	1920	48
ALSIC	349	22

- EuroCALL 2017: ICALL workshop
- CALICO 2018: Panel & “topic of interest”
- NLP founded over hubris of the “Georgetown-IBM” experiment
 - (Bar-Hillel 1964) “judicious and modest use of mechanical aids”?

Building expectations

Common goal of
Language teaching/learning
Software engineering

Building expectations

Applied linguistics

- Notion of interlanguage
 - An interlanguage analysis provides an analysis of learner language as an independent system. Rather than evaluating an utterance as “right” or “wrong,” an interlanguage analysis attempts to describe learner production. There are often many developmental stages between “wrong” (the assumed starting point) and “right” (the targeted endpoint), and every step along the way represents progress. (Bardovi-Harlig 2017, 231)

Building expectations

Applied linguistics

- Usage Based Grammar
 - In this view, as users of language experience tokens of language use, they categorize them at varying degrees of abstractness. This categorization process creates a vast network of phonological, semantic and pragmatic associations that range over what has traditionally been designated as lexicon and grammar. The network resulting from these categorized experiences is affected by repetition (frequency of use) [and] contains both specific and generalized information about form, meaning, and context of use of words and constructions. (Bybee 2008, 216–217)

Building expectations

Software engineering

- Ideological bias (Bruillard 2012)
- Ergonomics
 - Ergonomic criteria (Scapin and Bastien 1997)
 - Guidance “to know what the possible actions are as well as their consequences”
 - User-control (Control) “As a consequence, the computer becomes more predictable”
 - Consistency “In these conditions the computer system is more predictable, learning and generalization are facilitated, and the number of errors made is reduced.”
 - Instrumental genesis (Rabardel 2002)

What about CALL?

- CALL mean to create systems that will fuel the evolution of the users' expectations regarding
 - The way the software works
 - **The way language works**
- Access granted through
 - Interaction with other users through the system
 - Modeling of said users
 - Direct interaction with the system
 - Language models



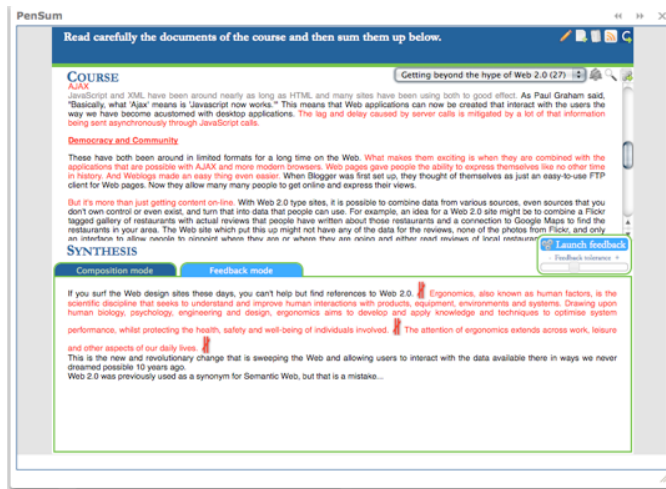
Consequence of system understanding

- Caricatural (yet true) examples
 - Google translate...
 - Grammar checker
 - Former “nous nous” error
- Less caricatural...
 - influence of understanding the teachers' evaluation criteria on the success of learners
(Rust and Price 2003)

Je je dors beaucoup.

Vous vous dormez beaucoup.

(Loiseau, Dupré, and Dessus 2011; Dupré et al. 2012; Dessus et al. 2011)



- Attempt at aiding text synthesis

- 3 types of feedback
 - Missing idea
 - Not present idea
 - Semantic gap
 - → Improve clarity of *feedback* status



- Data-Driven Learning (Johns 1991, 1986, 2002)
- Didactic triangulation (Blanchard, Kraif, and Ponton 2009)
- Magic Word
 - Simple inflected forms dictionary
 - Link to wiktionary
- Game of words
 - User Generated Content
- Towards a definition of iCALL
 - Any CALL system that encapsulate a language model...



As a conclusion

- Would ICALL need
 - Open source software?
 - Collaboration between CALL practitioners, Teachers, Linguists, Ergonomists, AI computer scientists, Cognitive scientists ? (Portine 2013)
- In the meantime, not to neglect iCALL...



Questions, observations, comments, etc.

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