Combining interactional and psycholinguistic approaches to language use by persons with dementia

Anne Marie Landmark and Pernille Hansen
Closing conference MultiLing Dementia, October 2020
Behind the scenes
Bridging the gap

Elizabeth Lanza (2014). *It takes two to tango*: Bridging the classical gap between psycholinguistic and sociolinguistic research in multilingualism. Keynote
Bridging the gap

MultiLing's Socio-Cognitive Laboratory

The laboratory brings together research questions and methodologies from cognitive linguistics, psycholinguistics and sociolinguistics.
Our two three-year postdoc projects

- Strategies for co-constructing meaning in talk with multilinguals with dementia
- Lexical access in multilinguals with dementia

Conversation Analysis
Psycholinguistics
The MultiLing Dementia project group

- **MultiLing core group:**
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- **International collaborators:**
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## Overview of the two approaches

<table>
<thead>
<tr>
<th>Theoretical background:</th>
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</tr>
</thead>
<tbody>
<tr>
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</tr>
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<td></td>
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</tr>
<tr>
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That wasn’t what it said e:: (2.0) in the note- e: what’s it called? (0.5) from the doc (.)

Medical journal?

Individual performance

Mental processes

Interactional accomplishments

Observable behavior
Lost in translation?

Use 'word finding problems'

**Word finding** describes the mental process, whereas **word searching** describes how struggling to find words surfaces in interaction.
Combining approaches step 1: The code-switching study

- Multi-case-study combining approaches to understanding patterns, functions and appropriateness of code-switching in testing and conversation.

- Methodological contribution:
  - Approach a phenomenon from both perspectives
  - Inform psycholinguistics with interactional perspectives
Code-switching

Alternating between 2+ languages/varieties in conversation
• Common practice among multilinguals
• May be treated as appropriate or inappropriate, depending on
  – the participants’ language competence
  – the context for the conversation
  – attitudes towards the languages involved

What is going on?
The man is climbing up to l’oiseau
Research questions

• Which kinds of linguistic units are involved?

• What are the communicative functions of code-switching in multilinguals with dementia?

• How appropriate is the code-switching to the situation and the interlocutor’s linguistic background?

• To what degree may the code-switching patterns be related to cognitive decline associated with dementia?
Main findings

• mPWDs code-switch low-frequency content words
• Primarily used as a resource for overcoming word-finding problems in an L2
• Most instances of code-switching are treated as appropriate by the interlocutors
  – Display competence in evaluating the language background of the interlocutors
  – Only a small residue may be interpreted as resulting from cognitive decline
• Code-switching in dementia functions as a remedy for anomia, a typical dementia-related problem, rather than a symptom of lacking inhibition or reduced cognitive control
Functions of code-switching

1 JJ: (3.5) e::: (. ) en (det) er e::: (3.0) goat, e:n a (it) is goat((ENG)) a

2 H: "ja.h", yes

3 JJ: hva det er kalt (. ) Hhh [(jeg)] what is it called I

4 H: [nei, neimen] det er- no no but it is

5 JJ: (det) vet jeg ikke HHhHh (that) I don’t know

1 K: en: mann som (0.5) s:kjære: med (2.5)
2 ((tja hva var sag igjen da-JAP))(.) s:age?
Appropriateness of code-switching

1 PWD:    det er hvit? 
*it is white?*

2 NRS:    ja, den er hvit, 
*yes, it is white,*

3 PWD:    men e jeg vanligvis bruker den e [pink.]
*but I usually use the pink*(ENG)

4 NRS:    

5 NRS:    ja  pink  ikke sant, 
*yes pink*(ENG) *right,*

6     

7 NRS:    da skal jeg ordne i morgen, 
*then I will fix tomorrow,*

8 PWD:    takk takk, 
*thanks thanks,*

9 NRS:    den pink 
*the pink*(ENG)

10 PWD:   takk takk 
*thanks thanks*

→ code-switching treated as appropriate, 
English word adopted by the nurse
Combining approaches step 2: The main study

• Lexical access and word search strategies in testing

• Methodological contribution:
  – Merging perspectives into a new analytical framework
  – Developing and combining coding schemes
Research questions

• How do the participants perform in the naming task?
  – How do results across languages relate to language histories and the type/severity of their dementia?
  – What characterises the words that the multilinguals with dementia display problems accessing?

• When searching for a Norwegian word, which interactional strategies and resources are mobilised by the persons with dementia and their interlocutors?

• Are there word-search strategies that index and contribute to lexical retrieval processes?
Combining approaches in the making
## Scoring word finding

<table>
<thead>
<tr>
<th>No</th>
<th>Response category</th>
<th>Target word</th>
<th>Response example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Correct</td>
<td>fish</td>
<td>fish</td>
</tr>
<tr>
<td>2</td>
<td>Semantically related</td>
<td>goat</td>
<td>sheep</td>
</tr>
<tr>
<td>3</td>
<td>Phonologically related</td>
<td>whale</td>
<td>wheel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>a woman try to fix her cushion covers or something with a pin</td>
</tr>
<tr>
<td>4</td>
<td>Description</td>
<td>sowing</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Visual perception</td>
<td>shell*</td>
<td>fan</td>
</tr>
<tr>
<td>6</td>
<td>No answer</td>
<td></td>
<td>((laughing))</td>
</tr>
<tr>
<td>7-11</td>
<td>Code switching: scored acc. to six categories corresponding to 1-5 above</td>
<td></td>
<td></td>
</tr>
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</table>
Naming scores across languages
How often did they initiate a search?

% search

0% 10% 20% 30% 40% 50% 60% 70% 80%

Ali  Gabriel  JJ  Koki  Laura  Rey  Sven

Engelsk  Norsk
Example of coding X

((stimulus/picture))
1  G: (2.5) .hh e:: kj- ((hand to neck gesture, gaze towards P))
2  P: ((micro nods, smiles))
3  G: kje:d,
4  P: m:m, ((nods))

Search marker
Phonetic search
Iconic gesture (B)
Correct
### Example of coding X

**Ali-norsk-T-3 06:22-06:35 WHEEL**

<p>| | | | | | | |</p>
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<tbody>
<tr>
<td>1</td>
<td>A: (0.8) å::h (0.4) e: [(det) hva kaller vi wheel (er det.◦)] o::h (0.4) e: [(cit) what call we wheel((ENG)) (is it.◦)]</td>
<td></td>
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<td>2</td>
<td></td>
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<td>3</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td>A: [↑wheel hh [(eller nei det)] er () hjul, [↑wheel((ENG)) hh [(or no it)] is () wheel, [((gaze at M)]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>M: [ja(h), hh hh hh] [yea(h), hh hh hh]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>M: j(hh)a(h), y(hh)e(a(h),</td>
<td></td>
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<td></td>
<td></td>
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<tr>
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Distribution of resources used during searching

- iconic (B)
- iconic (A)
- onomatopoeia
- code
- search
- search (phonol)
- search (E)
- semantic
- self-address (account)
- self-evaluate
- self-correct (repair)
- alternative
- invite (E)
- invite (V)
Preliminary findings: Which words are difficult?

- Less than 50% score in naming across languages
  - Often via word searches
- Easier to find words with low age of acquisition
- No word class differences on group level
  - More word searching in verbs
  - But also longer responses → difficult to conceptualize alone
Preliminary findings: Which search strategies are used?

• A range of strategies used by the **participants**
  – Some mainly mental?
    • e.g. search via semantic associations
  – Some mainly interactional?
    • e.g. search markers buying time, involving co-participant
  – **Code-switching and iconic gestures as demonstrations of understanding?** Also a resource for searching in the lexicon?
  – **Co-participants** prompt instead of suggesting words – clear difference between tests and conversation
  – But test-administrators give signals on language choice and (in)sufficient, correct and incorrect answers.
  – Testing as interaction
Combining approaches

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Ways forward…

• What characterises words that trigger searching?
• Which strategies contribute to word finding?
• Specific strategies used for specific types of words?
  – Iconic gestures and imageability?
  – Code-switching and cognates?
  – More semantic searches when words have many semantic neighbours?
  – More phonetic searches when words have many phonological neighbours?
  – Displays of epistemic uncertainty when responding something else than the target word? Relation to diagnosis?
• Similar strategies used in conversations?
• Co-participant behaviour that may affect word finding?
• Potential for intervention?