

Aphasia Research Newsletter

Issue 3: December 2016



Our Mission:

We aim to understand the language problems of people with aphasia and to make treatments more effective.

We also investigate the harder questions - how and why treatments work.

More generally, we want to understand how language works, especially in cases when it is impaired like in aphasia.

What happened for us in 2016?

We conducted many research projects. Thank you to everyone who has participated! Thank you to the new people with aphasia who have agreed to participate in future research.

Finally, thank you to all the speech pathologists who have supported us a lot!

Our team is always changing. PhD students come from all around the world (Australia, Germany, France, Portugal, USA and UK).

As always, we presented our work at conferences in Australia (for example, at the Aphasiology Symposium of Australia, in Adelaide) and worldwide. We also published some of our work.

2017 looks to be an exciting year with lots of new projects. We hope you enjoy reading about our work!



Professor Lyndsey Nickels
Macquarie Aphasia Group Leader



Macquarie Aphasia Group

New publications this year

Using volunteers to provide aphasia therapy

Nickels, L., & Osborne, A. *Constraint Induced Aphasia Therapy: Volunteer-led, unconstrained and less intense delivery can be effective. Neurorehabilitation. Published online June 2016*

“Constraint induced aphasia therapy” (CIAT) is an intensive type of therapy (several hours every day). It is delivered in small groups. Participants have to speak and are not allowed to gesture or write. This therapy is apparently effective, but is very heavy to implement.

This paper is about a study conducted by Lyndsey Nickels and Amanda Osborne at Royal Rehabilitation Centre Sydney. They showed that CIAT was still effective even when less intensive. They also found that CIAT still worked when trained volunteers replaced speech pathologists to run the sessions.

Primary Progressive Aphasia (PPA) is a type of dementia that affects communication and everyday activities. Inga Hameister also showed that CIAT can be effective with those people with PPA. Her work was also accepted for publication in 2016:

Hameister, I., Nickels, L., Abel, S., & Croot, K. (2017). “Do you have mowing the lawn”: Improvements in word retrieval and grammar following constraint induced language therapy in primary progressive aphasia. *Aphasiology*, 31(3), 308-331.

Conversation in aphasia

Barnes, S. (2016). *Aphasia and open format other-initiation of repair: Solving complex trouble in conversation. Research on Language and Social Interaction*, 49, 111-127.

People with aphasia have difficulties communicating with their family and friends. Sometimes they use words like “what?”, “huh?”, and “sorry?” to indicate communication problems. Scott Barnes found that the use of these particular words helped to reset the conversation so that communication was improved. His findings can help speech pathologists promoting successful communication for people with aphasia and their family and friends.

Primary Progressive Aphasia

Primary Progressive Aphasia (PPA) is a type of dementia that affects communication. It is caused by progressive brain diseases. Unlike people with other types of dementia, people with PPA start having communication difficulties rather than memory problems. They may have difficulties with speaking, writing, understanding or correctly articulating words.

These difficulties are similar to the difficulties people with stroke induced aphasia have, but individuals

with PPA have no prospect of recovery.

At the moment, there is no medical cure for PPA. However, research shows that speech therapy can slow down the progression of the disease. Existing therapies aim at helping the person with PPA to maintain communication, and at teaching strategies to the families when communication problems increase. Overall, these therapies aim for the best possible quality of life for these people and their families.

Research Highlights from 2016

Studies of the efficacy of Aphasia Rehabilitation

Lyndsey Nickels

There are currently four national clinical trials that look at the effectiveness of different types of aphasia therapy. This is very exciting because these trials work together to improve the lives of people with aphasia.

Professor Lyndsey Nickels is involved in one of these trials called "COMPARE". Two types of aphasia treatment are being compared. The study is already running groups in Melbourne and the Gold Coast.

This year we will start treatment groups in Sydney (Macquarie University clinic). **Please get in touch if you would like to be involved in this trial!**

Treating writing in Primary Progressive Aphasia

Trudy Krajenbrink, Karen Croot, Cathy Taylor-Rubin and Lyndsey Nickels

People with Primary Progressive Aphasia have problems saying the right words, but some also have difficulties writing.

In this study, different treatment options for speaking and writing difficulties were investigated. Three individuals with PPA participated.

Improvements were found in spelling and speaking abilities, but regular practice was important to maintain the therapy benefits. Further research will try to improve the transfer of therapy benefits to real communication situations.

Semantic neighbours and aphasia

Solène Hameau

This year, Solène completed her PhD about the influence of semantic neighbours in picture naming in aphasia.



Solène Hameau, submitting her PhD thesis

Words that have similar meaning to a given word are called semantic neighbours (like orange and lemon). Part of Solène's thesis found that words that have *many* semantic neighbours are easier to retrieve from memory in aphasia, compared to words that have *few* semantic neighbours. However not all participants with aphasia showed that effect. It seems that the type of impairment of people with aphasia is important for the effect to happen.

Another study showed that, in a very short naming treatment with two individuals with aphasia, words with many semantic neighbours benefitted better from treatment compared to words with few semantic neighbours. Overall, these findings suggest that words with semantic neighbours are easier to retrieve and benefit better from treatment in aphasia.

'Assessment and Management of Progressive Aphasia' - 10th International Conference on Frontotemporal Dementias (Munich, Germany)
Cathy Taylor-Rubin and Karen Croot

Cathy and Karen were invited to give an educational workshop about Primary Progressive Aphasia (PPA) to health care professionals working with people with PPA.

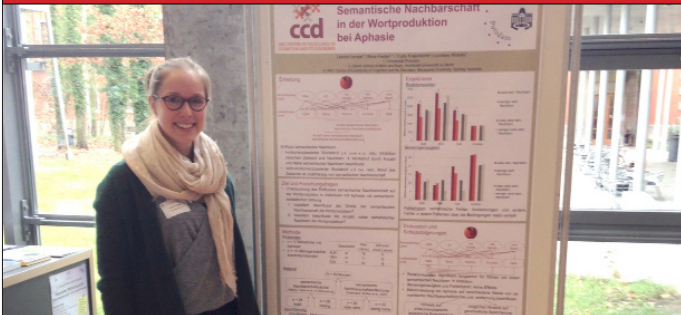


Left to right: Cathy Taylor-Rubin and Karen Croot

The workshop was held in Munich (Germany) and over 120 people registered. Additional resources to

accompany the workshop are available at: ccd.edu.au/research/language/aphasia/ppa-resources

Celebrations...Comings...Goings



Leonie Lampe presenting her poster at Panorama Patholinguistik (Potsdam, Germany)



Inga Hameister presenting her poster at CCD's 2016 Annual Workshop (Leura, Australia)

Congratulations!

Congratulations to Solène Hameau, Polly Barr, and Oksana Lyalka:

Solène submitted her PhD in September. She remains at Macquarie University working on a project 'Computational modelling of spoken word production'. This project is funded by an ARC Centre of Excellence in Cognition and its Disorders (CCD) Cross Program Support Scheme grant.

Polly submitted her PhD in December. She is continuing her work at Macquarie University as part of the Aphasia Research Group.

Oksana submitted her PhD in September (in Newcastle, UK). She is now based in Berlin, Germany, busy writing up papers for publication.

Congratulations also to Leanne (and partner, David), and Margaret (and partner, Adam) who were married recently!

Greetings and farewells

Welcome to Leonie Lampe, Leanne Ruggero, and

Cathy Taylor-Rubin:

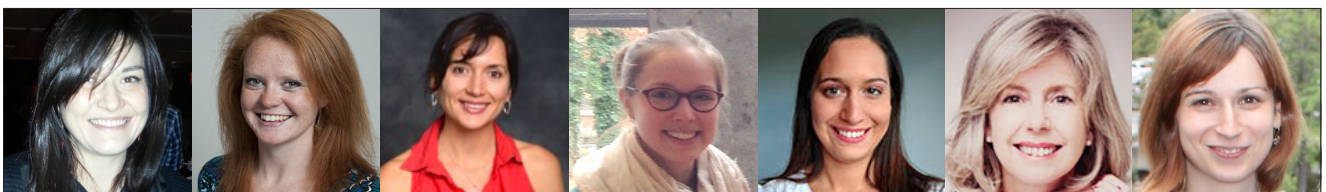
Leonie visited in 2016. She is currently in Germany completing her Masters of Science degree. She will commence her PhD with us later in 2017.

Leanne started her Masters of Research with us in July. She has previously studied psychology, linguistics and speech pathology. She worked for five years as a speech pathologist and is now returning to her interest in research.

Cathy started her PhD with us in December 2015. She has worked as a speech pathologist with adults with neurological disorders for over thirty years. She has developed a great expertise in PPA. She completed a Masters of Applied Science (Speech Pathology) in 2015, investigating conversation breakdown in PPA. She is now continuing her interest in PPA by combining research and clinical practice.

We also say farewell to Dr Nora Fieder:

Nora is now a postdoctoral research fellow in Berlin, Germany.



Left to right: Solène Hameau, Polly Barr, Oksana Lyalka, Leonie Lampe, Leanne Ruggero, Cathy Taylor-Rubin, Dr Nora Fieder

New publications for 2016 (continued)

Group therapy may not benefit language as much as we hope!

Nickels, L., McDonald, B., & Mason, C. (2016). *The impact of group therapy on word retrieval in people with chronic aphasia. Neurorehabilitation, 39(1), 81-95.*

This study took place at St Joseph's Hospital, Auburn. It was carried out by Lyndsey Nickels, Belinda McDonald and Catherine Mason. They were interested in the outcomes of traditional group-based aphasia treatment.

These group-based therapies have many benefits. However, it is not clear whether they really have an effect on word retrieval. They found that participants were felt more positive after treatment. Yet there was little clear evidence of improvements in word retrieval. This finding suggests that clinicians need to be cautious: only small language-related gains may occur with this type of treatment.

Treatment for problems with spelling in aphasia

Krajenbrink, T., Nickels, L., & Kohnen, S. (In Press). *No effect of orthographic neighbourhood in treatment with two cases of acquired dysgraphia. Aphasiology.*

Some people with aphasia have trouble spelling: even though they know the word and how it is spelled, they have difficulties holding the letters in memory for long enough. Somehow the correct letters fade from memory during spelling. This is known as 'graphemic buffer dysgraphia'.

Trudy Krajenbrink worked with two people with this disorder. She used treatment based on copy and recall. Both people improved on the words that they practiced spelling. However, regular practice seems necessary so that the words are not 'forgotten'. Therefore, it is important that the words treated are words that people will use in their everyday writing.

Coming up in 2017

Gestures and communication in aphasia

Ana Murteira

Gestures are very important in human communication. Gestures can add new information while speaking, or even fully replace speech. Speech pathology rehabilitation often uses gestures to promote communication in people with aphasia. For example, using gestures might help retrieving words. Ana's project aims at understanding how gesture can be best used to facilitate speech production in people with aphasia.

Living with PPA

Leanne Ruggero

People are getting more and more aware of PPA. However, we still don't know much about the impact of living with PPA on a person's life.

Leanne's research investigates whether the factors that help having a better quality of life are similar in PPA compared to stroke induced aphasia. Factors can include things such as 'having a support network', 'finding hobbies you enjoy', or 'maintaining independence'. Leanne is also looking at mood and communication confidence in PPA.

This project will give helpful insights in how to live better with PPA. It may also serve as an argument for requesting appropriate services for people with PPA.

Enhancing communicative effectiveness and satisfaction between people with PPA and communication partners

Cathy Taylor-Rubin

People with PPA experience a gradual and insidious deterioration of communication. This has dramatic effects on their lives and that of their partners. Behavioural interventions can make communication and quality of life better. The aim of this project will be to determine

which behavioural interventions are best at improving communication, well-being and support for people with PPA and their partners. Recently, some treatment programs have been successful in re-learning words that have been lost in PPA. This project seeks to better understand the influence of rates of adherence to treatment. It also aims at showing whether word learning can lead to improved connected speech. Finally it will investigate what techniques may facilitate generalisation of learned words to everyday communication.

Do you want to help?

Are you interested in helping us learn more about aphasia and develop effective treatments?

We are currently looking for:

- Older adults without aphasia for us to compare with people with aphasia
- Anyone with aphasia or Primary Progressive Aphasia. We're very happy to hear from everyone but we are particularly interested in:
 - Anyone with word retrieval problems (whether mild or more severe, fluent or nonfluent!)
 - Anyone who seems to have problems 'conceptualising' what they want to say
 - Anyone who is a nonlinear speller (e.g., may write the last letter of the word first)

If you or someone you know might be interested in helping our research by participating in a study, please contact us:

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